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DEPARTMENT OF WATER RESOURCES
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May 22, 2026

VIA EMAIL Sites-WR-Application@waterboards.ca.gov
State Water Resources Control Board
Administrative Hearings Office
1001 I Street
Sacramento, CA 95814

RE: **COMMENTS ON THE MARCH 20, 2026 DRAFT DECISION AND PERMIT CONDITIONALLY APPROVING THE WATER RIGHT APPLICATION FOR THE SITES RESERVOIR PROJECT**

Dear Board Chair, Members of the Board, and Presiding Hearing Officer:

From the outset of his administration, Governor Newsom has championed construction of Sites offstream reservoir in the hills of Glenn and Colusa counties. The proposed reservoir is named in the Governor's first water policy blueprint, the 2020 Water Resilience Portfolio. Sites was the first project to qualify under a 2023 law enacted by the Legislature and Governor Newsom to streamline judicial review of challenges to environmental review of certain water projects. The Governor and Department of Water Resources (Department) support the project because it would enhance water supply reliability for dozens of water districts around the state and provide environmental benefits, to be paid for by a bond California voters approved in 2014. We can't wait to protect our state from water shortages," the Governor has said of Sites.

With the Governor's strong sense of urgency in mind, the Department appreciates the opportunity to comment on the State Water Board's draft water right decision regarding the Sites project. Herein for your consideration are comments regarding the March 20, 2026 Draft Decision and associated Draft Water Right Permit (Draft Permit) on the petition for assignment of State-filed Application 25517, accompanying water right Application 25517X01, and petitions for release from priority of State-filed Applications 25513, 25514, 25517 (unassigned portion), 22235, 23780, and 23781 in favor of water right Application 25517X01 of the Sites Project Authority.

Executive Summary:

The Sites Reservoir Project (Sites) is a critically needed addition to California's water infrastructure. It is a modern reservoir designed to address the new reality of less predictable, more intense opportunities to capture water supply. Since the 1950s, Sites has been consistently evaluated as a key offstream storage site to enhance statewide water reliability. Sites is also a local project that will meet local water supply demands while providing water supply reliability across the state.

The evidence provided during the water right hearing demonstrates that water is available for Sites and that the reservoir's operations have been developed to avoid unreasonable impacts to fish and wildlife, especially in light of the public benefits (ecosystem, flood control, recreation and emergency supply), while also protecting existing water rights, including the State Water Project (SWP).

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The Department was pleased to see in the Draft Decision that the initial proposal is to grant Sites Project Authority's water right application. There are, however, conclusions in the Draft Decision and associated Draft Permit terms that, if left uncorrected, will undermine the soundness and defensibility of the State Water Resources Control Board's (State Water Board) decision, damage the capacity of the project to deliver water supply and other public benefits, and/or harm the Department's interests and water rights. More specifically, there are conclusions regarding the connection between Sites and the SWP and issues related to water levels and modeling that are not supported by substantial evidence in the hearing record, information within the State Water Board's knowledge and own decisions, or applicable law because they rely on a misunderstanding and misuse of the modeling results.

The primary issues addressed by the Department include the conclusions in the Draft Decision regarding (1) injury to senior water right holders (e.g., conflating water levels and depths in the South Delta and salinity-injury from export operations), (2) ambiguous permit language operative in anticipation of the adoption of the Bay Delta Plan Update, (3) the application of Area of Origin protections in the Draft Decision (i.e., asserting that Sites is an extension of the SWP), and (4) concerns with Sites-specific bypass flow conditions. The Department's recommended revisions to address its concerns with the Draft Decision and Draft Permit terms and the basis for those recommendations are discussed in detail below.

Comments:

I. Injury to Senior Water Right Holders

A. Concerns with the Draft Decision's Findings and Conclusions Regarding Injury Due to Water Levels in the South Delta

The evidence in the record demonstrates that Sites diversions will not have an effect on southern Delta water levels. The Draft Decision, however, makes several findings and conclusions regarding the rediversion of Sites water at the Delta Export Facilities that are not supported by the record. First, that the rediversion of Sites water will contribute to lowered water levels in the southern Delta that may injure legal users absent appropriate conditions. (Draft Decision at p. 55.) Second, the modeling conducted by Sites has significant problems that render the results unreliable. (*Id*. at p. 57.) Lastly, compliance with the Water Level Response Plan (WLRP) will not adequately mitigate the threat of injury to the southern Delta water users from rediverting Sites water. (*Id*. at p. 58.) As a result of these findings and conclusions, the Draft Order and Draft Permit Term 49 prohibit rediversion of Sites water when *water depths* in Delta channels are not adequate to support diversions by reasonable methods and authorize the Executive Director to approve *water depths* at specific measurement locations developed by the Authority in consultation with South Delta Water Agency (SDWA). (*Id*. at p. 59 [emphasis added].) The Department strongly urges the State Water Board to amend the Draft Decision to be consistent with past Board decisions, including the recent Order WR 2026-0001.

1. The Draft Decision's conclusion regarding potential injury due to water levels is not supported by the evidence in the record.

The Department disagrees that the "weight of the evidence in the record demonstrates that Sites Project Authority's proposed diversions will tend to contribute to lowered water levels in the southern Delta that may injure legal users absent appropriate conditions on Project operations." (*Id*. at p. 55.) This statement, in and of itself, is inaccurate as it refers to "diversions." The Department presumes that the Draft Decision is referring to the rediversion of Sites water.

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Also, it is not Sites operations that have any impact on southern Delta water levels (or salinity). Sites water will be rediverted by the Department at the SWP Banks Pumping Plant and will be conveyed through SWP facilities when the Department's regulatory and contractual obligations and permit requirements for the facilities are being met. (Exh. DWR-005 at p. 4, ¶11.) Describing Sites "Project operations" as having an impact in the south Delta makes it seem that Sites will be taking actions in addition to what the Department is already authorized to do. The Draft Order should be amended to accurately reflect the weight of the evidence in the record, that the rediversion of Sites water can and will be accomplished within all existing regulatory requirements governing the Department's operations in the southern Delta.

The rediversion of Sites water would only take place when the temporary barriers are in place. The Monitoring Special Studies (MSS) report demonstrates that the barriers more than mitigate for the water lowering effect of export operations, including high exports of up to 10,000 cubic feet per second (cfs), and certainly more than the small episodic drawdown due to the rediversion of Sites water. The MSS report was not available during the Sites hearing but was developed as part of the 2018 Bay-Delta Plan update. The results of that study effort should not be ignored in this context.

With regard to what magnitude of water level declines that cause injury to southern Delta diverters, the singular evidence in the record that provides a level of protection is the State Water Board-approved water levels of concern contained in the WLRP. (Exh. SITES-252.) The isolated bits of testimony provided by SDWA do not establish, as a matter of law, that the Board-approved WLRP does not assure an adequate water level for users in the southern Delta.

The only evidence demonstrating any impact associated with the rediversion of Sites water on water levels was not submitted by the SDWA, but by Sites itself. That evidence, as pointed out by the Draft Decision, involves modeling results that demonstrate the maximum average monthly difference in water levels between with-Sites rediversions and without, was 1.2 inches in August of critically dry years experienced upstream of the Grant Line Canal temporary barrier. (Exh. SITES-256c at slide 21.) It is important to note that this modeled 1.2-inch difference is in the context of a large tidal range in the south Delta of more than 36 inches.

The Draft Decision refers to a statement by Mr. Thomas Burke, who is not an expert in agricultural impacts or irrigation practices, that "even a 1.2-inch drop in water levels can prevent a grower from being able to irrigate under certain conditions[.]" (Draft Decision at p. 56.) No other analysis, either qualitative or quantitative, was provided to demonstrate how a 1.2-inch drop in water levels upstream of the Grant Line Canal temporary barrier (or even in general) could prevent a grower from irrigating. No evidence was provided of what the "certain conditions" Mr. Burke referred to are, or whether rediversion of Sites water would occur during those specific conditions. A general statement, without any supporting evidence, that a 1.2-inch drop in water levels causes injury is not substantial evidence. Providing a mere allegation or laying out a hypothetical possibility of harm in the future is insufficient to show injury. (*Central Valley Water Agency v. U.S.*, 327 F.Supp. 2d 1180. (E.D.Cali. 2004).)

The Draft Decision should be amended to recognize that the evidence in the record is that there are Board-approved water levels of concern that were developed to protect south Delta water users. The Department is required to operate in a manner that does not cause water levels to drop below the water levels of concern and there is no evidence that demonstrates the export of Sites water will prevent the Department from operating in compliance with the WLRP.

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2. Mr. Burke's critique of the DSM2 modeling conducted by Sites is flawed and not supported by substantial evidence.

Mr. Burke's critique of the DSM2 modeling is supported only by a few graphs and figures. Mr. Burke did not provide the modeling files or data he relied on until after the close of the hearing, he also failed to provide an adequate explanation of how he conducted his analysis so that it could be reproduced by another party. This does not meet the standards necessary to rely on Mr. Burke's testimony and, as such, the Draft Decision errs in giving the testimony the weight that it does. (See Evidence Code §§ 801(b) and 803.) Similar modeling and testimony by Mr. Burke was disallowed in the recent Yuba hearing because it was found to not meet the standards of expert testimony.

In fact, similar to the evidence and testimony presented by Mr. Burke in the Yuba hearing, Figure 10 of Mr. Burke's testimony (SDWA-2a at p. 16) concerning the difference between the v8.0.6 bathymetry and subsequent soundings or revised model inputs is likely based on a unit error between feet and meters. The figure's consistent factor of three difference is based on a misunderstanding of the metadata, a point that emerged in the subsequent Yuba and Delta Conveyance Project Change in Point of Diversion (CPOD) hearings. Accounting for the unit error, Figure 1 below shows that the differences between several recent collections of bathymetry, including a 2022 Cinquini and Passarino data set relied upon by Mr. Burke and a 2023 multibeam dataset collected by the Department of Water Resources. The DSM2 models are characteristic of ordinary revision in bathymetry and not Mr. Burke's contention of a large-scale discrepancy (See *Ibid*.).

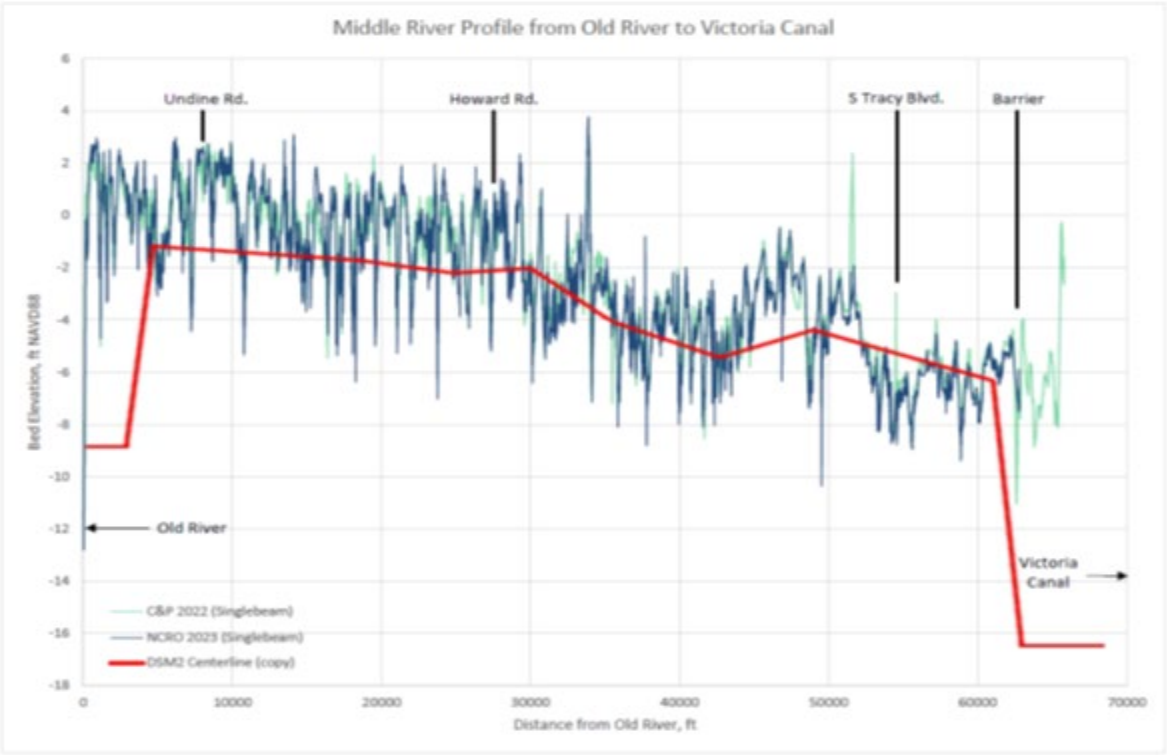


Figure 1:Comparison between original DSM2 8.0.6 minimum elevation (translated from NGVD29 to NAVD88) along Middle River, v8.2.2 and cross-sections derived from 2022 Cinquini and Passarino single beam geometry submitted by Mr. Burke and 2023 multibeam collection by the North Central Regional Office of DWR,

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With regard to Figure 11 of Mr. Burke's testimony, the labeled "DSM2 cross-section" in the testimony is not actually from DSM2 but rather is a self-drawn interpretation obtained by trying to emulate some of the geometry properties tabulated in DSM2 but using a simpler shape. A similar figure was withdrawn, revised, and resubmitted in the Delta Conveyance Project CPOD hearing. The spreadsheets submitted in the CPOD hearing suggested not only a units error but also the use of wrong geometry formulas for DSM2. Area was fit at cross-section layers but would not agree with DSM2 between those layers. The treatment of width, which is simple and linear in DSM2, is distorted. One geometry property (wetted perimeter) was ignored entirely.

When it comes to how DSM2 uses geometry, Mr. Burke's figures and calculations ascribe too much importance to the modeling relevance of bed elevations. The lowest point in a DSM2 cross-section is not queried by the model during typical simulations. Instead, the model queries geometry properties (width, area and wetted perimeter) at the water levels actually exercised in the simulation. The Department has since examined cross sectional area along the channel at a relevant low (3ft NAVD88) and high (6ft NAVD88) value, comparing the Sites version of DSM2 (8.0.6) input to a post MSS model input that uses 2022 bathymetry and to cross-sections developed from Mr. Burke's submission. (See Figure 2.) The differences are small between the two model versions, which indicates an ordinary update between the versions and not the large-scale discrepancy suggested by Mr. Burke's figures. The Department was not able to make these comparisons during the Sites hearing as the MSS modeling was not yet finalized. However, it is important to bring this to the State Water Board's attention as the Draft Decision is based on an incorrect understanding of DSM2 that can be easily demonstrated.1

Finally, though the labeling of the figure insinuates that depths can be an output, DSM2 does not produce depth as an output because of its high variability. Its input is meant to be representative over channel reaches and cannot be used to reverse engineer depth at a particular point such as the highly variable Undine Road Bridge. Accurate and useful interpretation of depth at specific locations requires taking water level output and evaluating it against high resolution local maps.

1 The Department presents this information to demonstrate Mr. Burke's and ultimately the Draft Decision's flawed critique of the DSM2 model. In doing so, the Department does not waive its due process argument that the Department's water rights and the implementation of its water rights were not within the proper scope of this hearing and the Department was not properly noticed that the adequacy of plans developed in compliance with its water rights terms and conditions were under review in this hearing.

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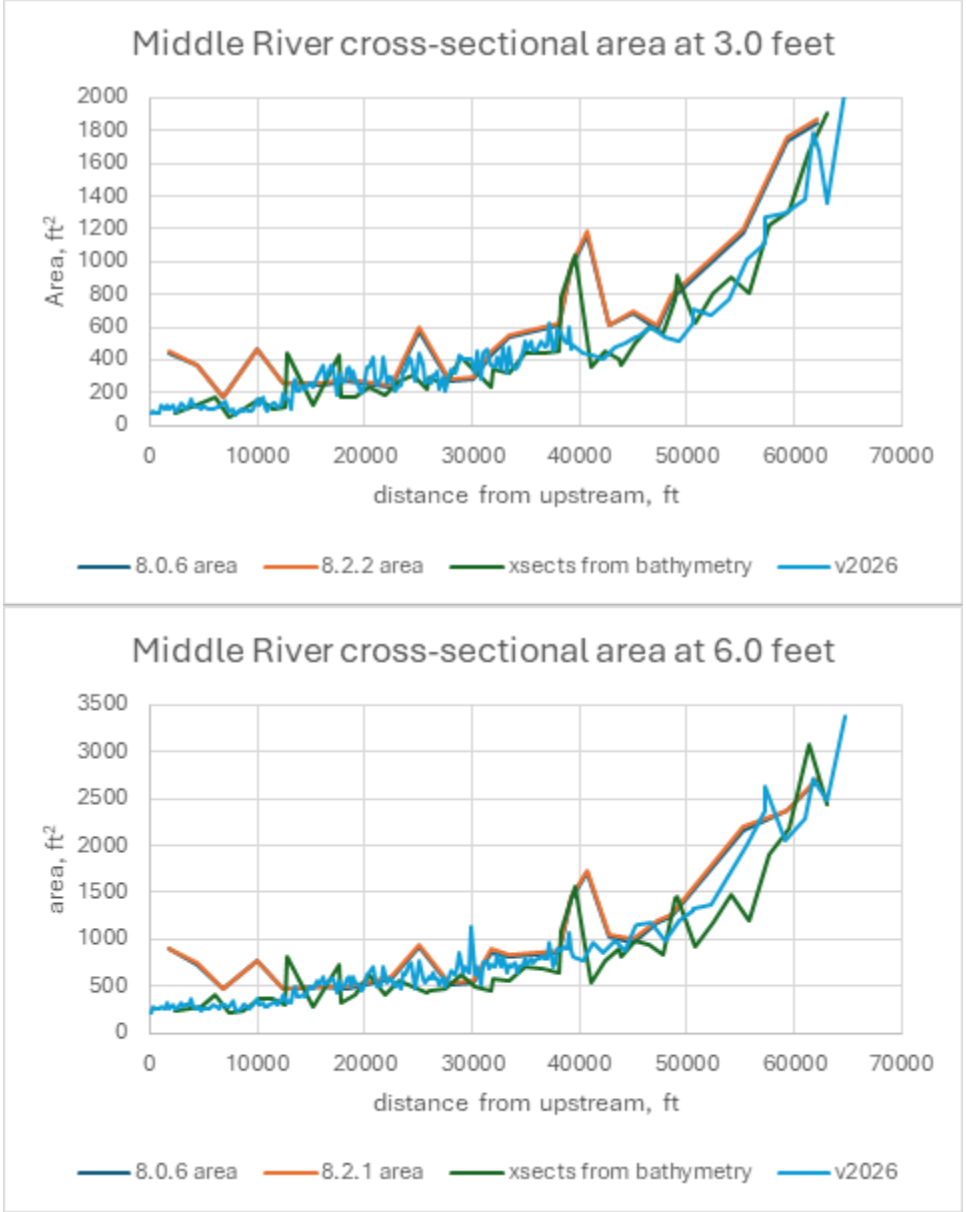


Figure 2: Comparison of channel wetted area along Middle River as represented in the model analyzed for a 3ft NAVD88 (top) and 6ft NAVD88 water surface elevation, which represent lower and higher tide levels. Lines indicate geometry based on v8.0.6, 8.2.1, a 2026 post-MSS release of DSM2 based on 2022 soundings and cross-sections derived from the 2025 soundings submitted by Mr Burke ("xsects from bathymetry").

Even taking Mr. Burke's criticism at face value, it does not demonstrate that DSM2 is unreliable. Especially regarding the DSM2 modeling conducted for the WLRP, if the model was unreliable in approximating water levels, then it would be easy to provide examples of that unreliability. However, no evidence was provided to demonstrate that the differences in bathymetry result in unreliable results. The lack of examples demonstrating unreliability with Sites DSM2 modeling or the Department's modeling of water levels is telling. Furthermore, Mr. Burke's testimony only points to two problematic places, with the focus on Middle River at Undine Road Bridge.

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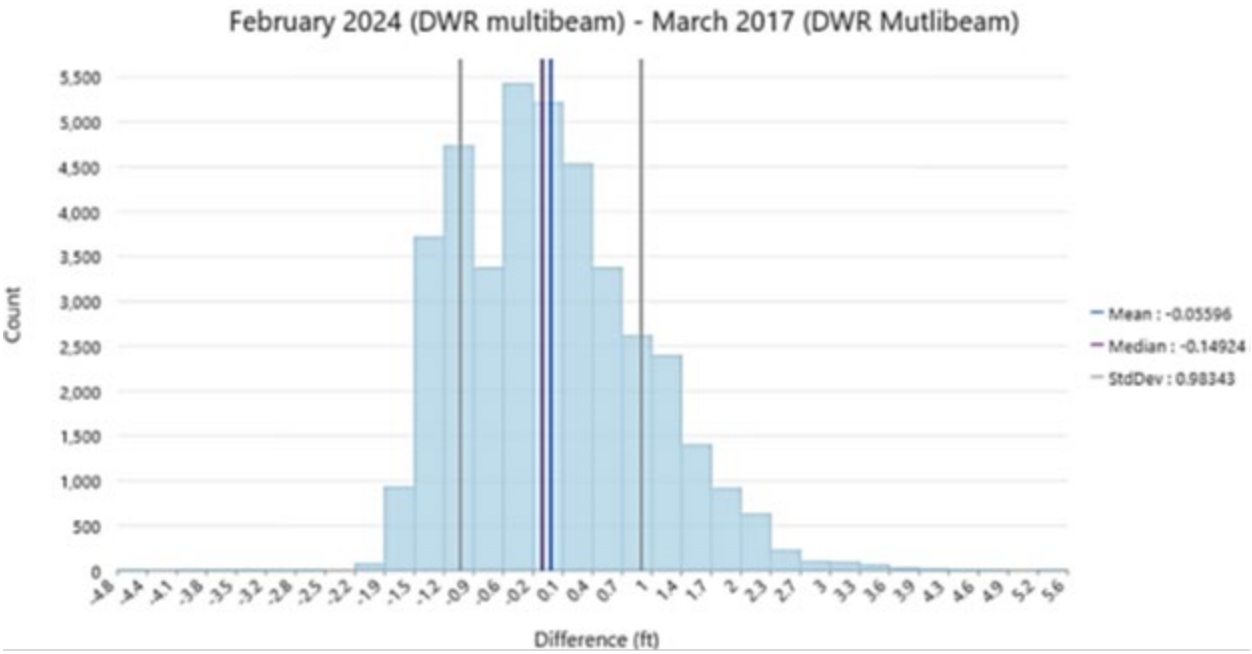
There is no evidence to suggest that the portion of the Middle River Mr. Burke focuses on is indicative of the entire south Delta. It is, in fact, not representative of the immediate area. The following picture and graph demonstrate that Middle River at Undine Road Bridge is subject to erosion and deposition between 2017 and 2024 that is patchy. The histogram and statistics indicate the change averages over the photo (which is around 600 ft) to near-zero change and in the direction of erosion. The remainder of the cited bathymetry report says the same thing about Middle River between Old River and Victoria Canal as a whole: the reach experienced an average change of -0.08 ft (average erosion), largely lateral meander that is largely self-cancelling over small reaches.

The Department's North Central Regional Office, Modeling Support Office and their collaborators (USGS, Cinquini and Passarino) maintain a robust bathymetry program for sediment and modeling purposes; the cadence of updates is largely driven by observed gaps and remedial needs.



Figure 3: Close up difference plots showing variation between two high resolution bathymetry collections from DWR North Central Regional Office in 2017 and 2024. Undine Road Bridge is shown upper right Red hues are accretion, blue are erosion. Excerpted from DWR (2024) Middle River – Old River to Undine Road Data Collected on February 12, 2024.

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Returning more specifically to the subject matter of the Draft Decision, no evidence or analysis was provided in the record to demonstrate how the model version used by Sites was not useful to demonstrate the incremental effects of exporting Sites water. The Draft Decision states that a "model that is not calibrated to accurately approximate measured conditions is unlikely to be useful as either a comparative or a predictive tool." (Draft Decision at p. 57.) The Department understands the general nature of this statement but ultimately finds it lacking in this context. The modeling results in the context of water levels and water quality were presented to demonstrate the incremental effects of exporting Sites water at the southern Delta Export Facilities. Again, no evidence was presented to demonstrate that a change in bathymetry would impact the model's ability to demonstrate the incremental effects of exporting Sites water. As one might expect, the results of the analysis presented by Sites were that a small increase in export operations results in a small increase in operational impacts. Those impacts were deemed by the Department to be well within the operational and regulatory constraints and would not cause the Department to operate outside the applicable requirements. No evidence was presented to demonstrate why the model version used by Sites was not adequate to perform this type of analysis.

The Draft Decision's conclusions regarding the model were not placed in context or compared with the "DSM2 Recalibration" report (CH2M HILL 2009), the main validation document for DSM2 v8.0.6 and disregard that the DSM2 model has been time-tested and its framework has been generally relied on and approved for analyzing projects within the Bay-Delta watershed. Even SDWA relied on a version of the DSM2 to provide its own evidence and testimony in this hearing. Concerns about DSM2 model performance were not contextualized based on standard calibration documents, which demonstrates a fundamental lack of understanding how DSM2 works, is calibrated and analyzed. Unfortunately, the Draft Decision does not consider the evidence regarding the lack of impacts of exporting Sites water and requires development of new standards for water depths.

The Department also does not understand how, with regard to impacts to water users in the southern Delta, the modeling is not a useful tool but, later in the Draft Decision, the modeling and analysis are sufficient for the State Water Board to rely on the Sites Project Final

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Environmental Impact Report to make its decision. The Draft Decision's findings and conclusions appear to be inconsistent and arbitrary.

The Department recommends that the AHO reconsider its criticism of the DSM2 version Sites relied on, specifically, and the DSM2 model generally. The evidence in the record and what has come to light since the hearing (i.e., the MSS) demonstrates that the DSM2 model (including the version relied on by Sites) is the best available science and tool to effectively understand the impacts of rediverting Sites water. The Department believes that a better understanding of the DSM2 model, its calibration, and the limits and flaws of Mr. Burke's testimony necessitates a revision to the Draft Decision and its conclusions regarding the DSM2's effectiveness and reliability.

3. The Draft Decision should rely on the well-established model frameworks and methods of analysis for projects within the Bay Delta watershed and not create a new, higher standard.

The Draft Decision concludes that the "reliance on long-term averaging may fail to identify potential injury to agricultural users in the Delta from increased Delta exports." Draft Decision at p. 57.) This focus on how averages can "hide" impacts represents a misunderstanding of the use and purpose of models.

Water project planning models play a foundational role in evaluating effects associated with proposed projects. The model frameworks and the methods of analysis have generally been standardized for projects within the Bay Delta watershed. The Sites Project Authority has followed an evaluation practice that has long been used by other agencies for their own regulatory processes, such as the Department's recent Incidental Take Permit (ITP) under the California Endangered Species Act and the State Water Board's staff report, which provides environmental coverage for the Bay-Delta Plan updates.

Monthly time step models like CalSim and SacWAM are specifically designed to simulate the general operations of water projects and compliance with flow and water quality requirements over a large sample of historical hydrologies. Layering on more detailed modeling, like DSM2 and HEC-5Q, allows for further simulating physical components of the system, including tides and undulations in coastal water level conditions. However, even including tides, these are still limited by the scale of information from CalSim and SacWAM. It is common practice for the environmental and technical documents comparing the effects of these alternatives to rely on monthly or seasonally aggregated results, because the purpose of effects analyses is to understand long-term trends, relative differences between alternatives, and systemwide responses rather than short-term operational decisions.

These models are not intended to predict precise daily values; rather, they represent long-term hydrologic patterns, operational behavior, and relative differences between alternatives. A single month in a single year can be dominated by model variability and reflect short-term operational model noise that has no planning-level significance. Monthly aggregation does not suppress meaningful effects; it removes short-term noise so that long-term effects can be evaluated. This is why agencies, including the Department in its ITP analyses and the State Water Board in its Phase 1 and Phase 2 Bay-Delta Plan evaluations, use monthly timestep models to support major permitting and policy decisions. Within the planning and permitting context, monthly modeling remains the appropriate, scientifically supported, and regulatory-accepted approach.

The State Water Board should be cautious about undermining the effects analysis framework that has successfully been employed by all project planning in the Bay Delta, including the

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Department's ITP and the Water Board's Bay Delta Plan staff report, by holding the Sites analysis to a higher standard.

4. The Draft Decision is Not the Appropriate Venue to Address the Adequacy of the Water Level Response Plan.

The Draft Decision notes that no party submitted direct evidence as to whether the water elevation criteria in the WLRP remain appropriate to prevent injury, which is true because the WLRP's adequacy was not an issue in the hearing. The adequacy of the WLRP was not properly within the scope of this hearing and the Department was not properly noticed that the exercise of its water rights was going to be reviewed for adequacy. The WLRP is a condition of the Department's water rights, which are not under review in this hearing.

Similarly, D1641's adequacy and all the other regulatory requirements controlling the SWP's operations were not before the AHO in this hearing. The State Water Board has approved the WLRP, demonstrating its adequacy. Just as the Draft Decision correctly recognizes that the Sites hearing is not the proper forum to adjudicate federal reserved water rights, the Draft Decision should not attempt to adjudicate the Department's water rights in this hearing. The proper question before the AHO was whether Sites water could be rediverted within the overall regulatory framework governing SWP operations. The answer to that question, based on substantial evidence in the record, is "yes."

The Draft Decision, however, concludes that the WLRP will not adequately mitigate the threat of injury to the Delta Parties from Sites export operations (Draft Decision at p. 58). First, the Department's DSM2 modeling conducted in compliance with the WLRP relies on outdated assumptions about channel geometry. Second, there is no requirement that the Department update and calibrate the modeling conducted for the WLRP and the Department's methods for calibrating the modeling conducted were called into question.

a) There is no evidence the DSM2 modeling conducted for the WLRP is outdated.

The conclusion in the Draft Decision that the WLRP relies on outdated information regarding channel bathymetry that "undermined the Authority's assessment of water level impacts" (Draft Decision at p. 59.) is not supported by the record and is a red herring.

On cross-examination, the Department's witness, Aaron Miller, PE, repeatedly answered that if transfers were currently being analyzed, the Department "would be using a grid that was developed as part of the monitoring special studies." (See Reb. Tr. Comb., p. 700:20-25.) To support its conclusion, however, the Draft Decision references a response by Mr. Miller to the question, "Do you know what it would have been, say, four years ago, the date of the bathymetry for the model that's not currently being adjusted, as you say, for the MSS portion of the obligations of DWR and the Bureau?" (See Reb. Tr. Comb., p. 701:12-18.) This question-and-answer is not proof that DSM2 modeling for the WLRP is and will be outdated. In fact, as alluded to by both the question and Mr. Miller, the Department has updated its DSM2 model to support the MSS required by the 2018 Bay Delta Plan update. As such, the evidence in the record is that the modeling required by the WLRP does not rely on outdated bathymetry and the Draft Decision's question of its validity on this point is in error, as well as inappropriate.

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b) The Department calibrates the model to simulate actual conditions but does not have real-time diversion and return flow data from the in-Delta water users.

The Draft Decision calls into question the integrity of the Department's calibration of its modeling and whether affected parties have the opportunity to know of any revisions and contest their validity. (Draft Decision at p. 59.) To support this critique, in part, the Draft Decision quotes Mr. Miller as saying that the Department staff "tune" the model "as they see fit ... to simulate actual conditions." (*Ibid*.) The Draft Decision appears to rely on this statement to question whether the Department's modeling efforts are reliable and not subject to arbitrary decisions, which is a mischaracterization of what Mr. Miller was communicating in his responses to the cross-examination questions.

In one instance, Mr. Miller stated that he and his staff "make sure that the model is representing the actual conditions as best as possible, looking at circulation patterns and so forth." (Reb. Tr. Comb., p. 703:22-25.) So, when the Department staff look to calibrate its models, the calibration is to match actual conditions (which can be validated by anyone reviewing the modeling results) as opposed to something more arbitrary like a particular result. With regard to what requires the most "tuning," Mr. Miller stated that it is the unknowns (factors that are not measured) that need to be tuned and referred to "south Delta diversions and return flows and water quality associated with those return flows." (*Id*. at p. 711:15-18.).

SWP water operations use the DSM2 model to evaluate potential water level and water quality changes associated with planned export of water transfers. For these evaluations the DSM2 model needs actual and projected flow and water quality data for Delta inflows and in-Delta diversions and return flows, among other data. Most data are readily available except for in-Delta diversion and return flow data. Even if such information were available in real-time, however, it would be some time before it could be statistically assembled into assumptions for multi-decade planning. Fortunately, these are assumptions that do not vary between project versus no-project scenarios so imperfections in assumptions will be largely self-canceling between the two scenarios.

Further, historically, there has been reluctance from in-Delta diverters to provide this data, so it must be estimated. Estimates have been developed for planning purposes, but these can often be improved at the time of modeling, just as a real-time weather forecast may include data unavailable in a climatic planning exercise. So, part of the calibration process with running the model for water levels and in particular water quality, is the need to evaluate how well the modeling is performing at simulating observed conditions. It should be noted that SDWA's picking of one or two locations to highlight any discrepancy between model results and actual conditions ignores the fact that the model performs very well for most locations in simulating observed conditions. At times, however, there is a need to adjust, or "tune", the diversions in the base model, to better represent circulation patterns observed in real-time, prior to analyzing the effects of planned transfers on water levels and water quality, as required by the water level and water quality response plans.

The Department would be happy to receive and use real-time diversion and return flow data from the in-Delta water users, but past efforts to obtain that data have been met with resistance. In essence, the very information that the Department needs to make refinements to represent actual conditions is held by the very parties the Draft Decision claims are prevented from considering and potentially contesting the refinements.

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5. The Draft Decision is Inconsistent with Prior State Water Board Orders.

Since Sites water is not SWP water, the export of Sites water should be treated the same as the export of other north-to-south water transfers. The Draft Decision appears to recognize Sites as similar to other transfers when it refers to past orders approving transfers to justify imposing terms and conditions related to the impacts of increasing exports. (See Draft Decision at p. 56.) However, the order also deviates from those previous orders.

For example, the State Water Board just issued Order WR 2026-0001, approving the extension of water right changes involving long-term transfers for the Lower Yuba River Accord (2026 Yuba Order). In the 2026 Yuba Order, the State Water Board approved the transfer of up to 200,000 acre-feet per year, concluding that the terms and conditions of the transfer, including compliance with the WLRP, would avoid injuring other legal users of water. The AHO that presided over the hearing for the extension of the Yuba Accord water is the same AHO that conducted the water right hearing for Sites.

The provision related to the rediversion of Yuba water in the 2026 Yuba Order remained almost exactly the same as the condition included in WR 2001-03-DWR (2001 Yuba Order). The 2001 Yuba Order was the first order approving what would become the Yuba Accord water transfer program. The 2001 Yuba Order concluded that "there is not a direct causal relationship between cross-Delta transfers … and alleged "harm" to Delta diverters." (2001 Yuba Order at p. 4.) The Draft Decision, on the other hand, appears to make the finding that there is a direct causal connection between the rediversion of Sites water and alleged harm to southern Delta diverters. The 2001 Yuba Order specifically requires the export of transfer water to be done in compliance with the WLRP. The 2001 Yuba Order correctly recognized that the export of the transfer water was the action of the Department and that the Department needed to comply with its own requirements. The Draft Decision, by contrast, attempts to characterize the rediversion of Sites water as a Sites "Project operation," which appears to be used to justify conditions in addition to what the Department must already comply with. This approach is inconsistent with the 2001 Yuba Order (and any Board Order approving water transfers). In concluding that the WLRP is inadequate to mitigate the threat of injury to the Delta Parties, the Draft Decision does not provide any analysis to demonstrate how the export of Sites water is unique or unlike other transfers. The finding of inadequacy is based on factors unrelated to the specific operations of exporting Sites water.

The Draft Decision also references Revised Decision 1641 (D1641), to support its conclusions that the rediversion of Sites water may injure legal users in the Delta. For D1641, the discussion regarding water levels was in the context of the Joint Points of Diversion (JPOD) petition. In that discussion, the Board found that, under most of the JPOD alternatives, there was no significant difference in the impact to southern Delta users. It was only at unlimited JPOD pumping with three permanent barriers in place that impacts to water levels at some locations in the southern Delta were demonstrated in the modeling. (D1641 at p. 104.) Without making any finding of injury or what would constitute an injury, D1641 directs the Department and Reclamation, in consultation2 with SDWA, to determine the actions the Department and Reclamation will take to ensure that water levels in southern Delta Channels are not lowered to elevations inadequate for diversion of water.

The Draft Decision is inconsistent with D1641 in that it ignores the fact that D1641 has already addressed the issue of protecting water levels impacts from increased exports. D1641 directed the Department and Reclamation to develop a plan to ensure water levels are not lowered to

2 The Department notes that D1641 made clear that consultation did not require SDWA's approval.

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elevations inadequate for the diversion of water in the southern Delta. That plan, including the installation of the temporary barriers, was developed and then approved by the Chief of the Division of Water Rights. The Draft Decision cannot claim consistency with D1641 in order to justify imposing terms and conditions to protect water levels when it disregards the condition D1641 required to address this very issue.

The Draft Decision should be amended to be consistent with the evidence in the record and recent orders approving the rediversion of water at the export facilities, as described above. Specifically, Draft Permit Terms 44, 46 and 49 should be deleted in their entirety and replaced with a term similar to the following:

> No rediversion under this Permit at the Clifton Court Forebay or Jones Pumping Plant (collectively, the Export Facilities) shall occur while the numeric Water Quality Objectives of the operative Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary are not being achieved. Rediversions of Permittee's water shall also comply with the various plans, including but not limited to the water level response plan and the water quality response plan, required under D-1641 as prerequisites for use of the Joint Points of Diversion by the Department of Water Resources (DWR) and the United States Bureau of Reclamation (USBR). Should new plans addressing the effects of operating the Export Facilities on water levels or water quality be developed in the future, Permittee shall be consulted in the development and implementation of the plans, and the rediversion of water pursuant to this Permit will be subject to the plans' provisions.

B. Concerns with Draft Permit Term 49

1. The Draft Decision and Draft Permit Term 49 Should Focus on Water Levels, Not Water Depths, When Determining Injury.

Focusing on water depths as opposed to water levels is a significant change from anything the State Water Board has ever decided or ordered and is not supported by the evidence in the record. The Draft Decision conflates water level and water depth. The term water level is a standard one, referring to the elevation of the free surface of the water as measured against a local or standard datum that is not the bed of the channel. The State of California usually uses NAVD88. The term "stage" tends to be almost interchangeable with water level. The term depth, however, refers to the distance from the water surface to the bed. Depth is far more variable than water level and not commonly used as the main variable in estuarine modeling. A reasonable analogy is a swimming pool: the surface of a pool is smooth and is managed for the entire pool and easy to characterize. The pool may nonetheless have rapidly changing depths and "concern" for a parent will be largely dictated by the depth markings on the wall.

Unfortunately, water level and water depth become conflated when pictures of shallow channels are used to suggest water levels are unusually low. Tides and their dynamics are a well-understood topic. Low water is linked to tidal forcing, conditions offshore, wind in Suisun Bay, and the physics of shallow water propagation. Natural conditions strongly constrain what can be achieved with water levels anywhere in the Delta. Temporary barriers prop up water levels beyond historical levels and make up for drawdown in water levels caused by exports. However, none of these variables directly impact the channel bed or water depth. Expanding the focus from water level to water depth changes the responsibility of Sites (and potentially other exporters) from mitigating the impacts export operations may have on water levels (which is accomplished by the temporary barriers) to mitigating the impacts that the natural process of siltation has on channel beds. Water depth is largely impacted by siltation, which is a natural

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process and there is no evidence in the record or otherwise that demonstrates changes in export operations significantly impact siltation rates.

The Department recommends focusing on water levels to determine injury and thus include the corresponding appropriate permit term.

2. Draft Permit Term 49 Inaccurately Characterizes the Comprehensive Operations Plan Required by the 2018 Bay-Delta Plan Update.

Draft Permit Term 49 refers to a regulatory program that manages operation of export facilities to prevent injury from inadequate water depths. This changes the focus of the 2018 Bay-Delta Plan update and refers to a different obligation and criteria than the State Water Board adopted. In particular, the 2018 Bay-Delta Plan requires the adoption and implementation of a Comprehensive Operations Plan (COP). The COP must "describe the actions that will fully address the impacts of SWP and CVP export operations on ***water levels*** and flow conditions ...." (AHO-341 at p. 36 (emphasis added).) As described above, water levels and water depths are not interchangeable terms.

Draft Permit Term 49 should be deleted in its entirety as it is not in compliance with the 2018 Bay Delta Plan update. In the alternative, it must be amended to refer to a regulatory program that protects water levels.

3. Draft Permit Term 49 Is Vague and Unreasonable.

Draft Permit Term 49 is vague. The Draft Decision fails to define "adequately support diversions" or "reasonable diversion," or how to address proving adequacy and reasonableness, who will make those determinations, and identify what diversions in the South Delta to which these subjective standards apply. No analysis is provided and no evidence is in the record to give any insight as to what is meant by "water depths in Delta channels are not adequate to support diversions by reasonable methods." There is no analysis that indicates that the AHO considered the lack of diversion maintenance or other potential affects. There is no evidence that Sites operation is causing siltation, which is likely the larger cause of interference with irrigation diversions. No specific locations were identified to support that the change in depth is a result of Sites operation versus natural conditions or conditions caused by other irrigation diversions. There is no evidence to support this broad and ambiguous term, nor is there guidance on how it would be enforced.

Draft Permit Term 49 is also unreasonable. SDWA provided no direct evidence of which water right holder and at which channel and at which water level or depth an injury occurs. And yet, Draft Permit Term 49 requires appropriate water depths without any explanation of what that means, how it was caused, or the environmental impacts of such a requirement. It also appears unrelated to the impacts, whether real or alleged, of exporting Sites water. It is unclear whether Sites has to ensure adequate water depths in parts of the Delta that do not experience impacts from export operations or if Sites is responsible for other irrigation diversions, for example in Grant Canal, lowering water levels. As there is no evidence to support or analyze the requirement contained in Draft Permit Term 49, the Department recommends that it be deleted in its entirety.

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F. The State Water Board's Decision Should be Consistent with Standard Modeling Practices Regarding Salinity-Related Injury from Export Operations

Modeling is not conducted to predict what the salinity is going to be on a particular date and at a specific location with project operations. Instead, modeling is conducted to understand whether, comparatively, the with-project scenario has impacts as compared to the without-project scenario. Averaging does not "mask" potential impacts, it is the only way to understand the overall implications of a project. The critique of this type of modeling approach undermines all current and future water supply planning, including the Bay-Delta Plan update and the State Water Board's use of models.

In fact, language from the summary in Appendix A2 of the 2018 Bay Delta Plan Update (Delta Simulation Model II (DSM2) Methods and Results) is instructive:

> DSM2 was run using a 15-minute time increment. The inputs to the model were monthly, with the Sacramento River and San Joaquin River inflows disaggregated to daily values in order to smooth the transition in flows between months. The analysis of effects is based on monthly values. The time increment of the surface water quality objectives described in the Bay-Delta Plan vary with the particular objective. For example, Bay-Delta Plan Table 1 objectives for municipal water quality use maximum mean daily values of the chloride concentration, whereas Bay-Delta Plan Table 2 objectives for agricultural water quality use maximum 14-day- or 30-day-running averages of the mean daily EC. If the time increment of an objective is less than monthly, it is possible that the objective could be exceeded even if the monthly results show no exceedances. However, operations typically are managed to meet objectives. In addition, even though the time increment for the water quality objectives does not always match the time increment of the DSM2 model, the model results still indicate whether changes in hydrology would hinder the ability to meet the water quality objectives by indicating whether EC is expected to increase versus decrease and whether any increases occur at a time when baseline EC is close to thresholds. (Appendix A2 at p. A2-74.)

The Department recommends that the Draft Decision take a similar approach and understanding as that described above.

II. Bay-Delta Plan Update and Delta Outflows

The Department understands the difficulty in approving a large water right application on the cusp of adopting a wholesale change to the Bay Delta Plan and its implementation. However, the Draft Decision's approach and the related Draft Permit Terms 30 and 31 create more questions than enforceable solutions. The reason provided for Draft Permit Term 30 is that it is uncertain as to when the State Water Board will adopt and implement the Bay Delta Plan Update. In light of this uncertainty, so goes the reasoning, Term 30 will require that 55 percent of unimpaired Delta outflow be met before Sites can divert. The Department understands the desire to protect against the uncertainty the Bay Delta Plan update is delayed, but there is no discussion or explanation provided as to why the State Water Board's continuing authority to amend Sites permit is not sufficiently protective.

If the Bay Delta Plan update is not adopted or implemented in the intervening time from the permit's issuance to when Sites is operational, there will presumably be an important and governing reason for it. If the reason for delay is outside the control of the State Water Board, it may be demonstrably unfair that Sites is held to a standard that no other water right holder is held to. If the reason for delay is due to the State Water Board's own action or inaction, then it is

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even more compelling to not to prematurely bind the Board's future decision-making or burden Sites unnecessarily.

The Department recommends changes to Draft Permit Terms 30 and 31 that do not unnecessarily or prematurely burden Sites by prohibiting diversions until a watershed-wide, as yet adopted, unimpaired flow requirement is met. As such, the Department recommends a more tailored approach that does not assign responsibilities to Sites for the whole watershed, makes it clearer that the Voluntary Agreement (VA) Pathway is available to Sites, and provides a more refined protection of Healthy River and Landscapes (HRL) flow commitments. The rationale for the Department's position is provided below.

A. Draft Permit Terms 30 and 31 Are Unclear, Not Supported by Adequate Analysis, and Should be Revised.

1. Concerns with Draft Permit Term 30 and the Department's Recommended Revisions

The Draft Decision does not demonstrate how applying a 55 percent of unimpaired flow requirement on only one water right permit will reasonably benefit fish and wildlife (i.e., balancing of benefits or an analysis of water supply impacts). This interim measure implements the 55 percent of unimpaired flow requirement in a way that is not contemplated in the December 2025 version of the Draft Bay Delta Plan Update. Specifically, the Bay Delta Plan update proposes a tributary-specific *inflow* requirement for watersheds not operating under the VA pathway, whereas the Draft Permit Term 30 instead requires a 55 percent unimpaired Delta *outflow*.

No analysis was provided to explain why the proposed diversion criteria and other proposed permit terms and conditions are not sufficient to protect fisheries. Subsection (d) of Draft Permit Term 30 appears to recognize that the Draft Permit 23 conditions may result in flows in excess of 55 percent of unimpaired Delta outflow. The Draft Decision, however, does not address how these protections (to the extent they are supported) are insufficient in the interim until the Bay-Delta Plan is updated.

There is no analysis as to how subsection (d) would work operationally or as to how this crediting process could be accomplished without injuring or otherwise adversely impacting other water right holders. The Department appreciates that this provision may help with reducing the water supply impacts of Draft Permit Term 30 (or Term 23), but without more analysis, the effectiveness or reasonableness of this provision is very uncertain.

Term 30 leaves it unclear whether Sites can join the VA Pathway. To best align with the draft Bay-Delta Plan and numerous state priorities, Term 30 needs to allow for Sites to have the ability to have access to all pathways of compliance for the updated Bay-Delta Plan, including the VA Pathway.

During the potential interim period between granting Sites Project Authority's water right permit and updating and implementing the Bay-Delta Plan, conditioning Sites diversion on Sacramento unimpaired flow is more appropriate and more consistent with what is being considered in the Bay-Delta Plan update rather than prohibiting Sites from diverting unless 55 percent of unimpaired Delta outflow is met.

DWR agrees with Sites in that a new subsection should be added to Draft Permit Term 30 providing that if the updated Bay-Delta Plan includes a VA Pathway and Sites is approved as a

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VA participant, then Sites should comply with its VA Pathway commitments in lieu of the requirements of subsections (a) and (b) of Term 30. This is important because the VA Pathway has the potential of being adopted and implemented before the State Water Board takes a regulatory action to implement the updated Bay-Delta Plan.

DWR also agrees with Sites that the current subsection (d) should be deleted. The Department appreciates the AHO's attempt to lessen the water supply impacts of several of the draft terms, but without additional analysis, it is uncertain as to whether subsection (d) could actually work in practice and whether such credits would be worthwhile from a water supply perspective.

2. Concerns with Draft Permit Term 31 and the Department's Recommended Revisions

The Sacramento River is not a fully appropriated stream system. Water Code sections 1205 through 1207 establish the procedure for the State Water Board to designate a stream system as fully appropriated either year-round or during specified months. The State Water Board has not made such a designation for the Sacramento River and the Draft Decision itself recognizes that there is water available for the Sites Project Authority Application. As it is currently drafted, Draft Permit Term 31 essentially concludes that there is no water available for Sites to divert when HRL flows are in the system. Draft Permit Term 31 appears to prevent Sites from diverting whenever HRL flows are in the system and thus is arguably overly prescriptive because there could be times when there are HRL flows in the system when other water that could be available for diversion is also present. Without providing an analysis showing that HRL flows are the only flows in the river, Draft Permit Term 31 essentially declares the Sacramento River fully appropriated when HRL flows are in the system. While the Department agrees that Sites should be prevented from diverting or taking advantage of HRL flows and protecting their functionality, there should still be opportunity for Sites to divert when appropriate conditions are met. The water availability analysis and evidence in the record support the conclusion that there is water available for Sites and Draft Permit Term 31 should be revised.

Secondly, the Department agrees that the HRL flow commitments must be protected from down and up-stream diversions. However, depending upon the water year type, time of year, and flexibilities of HRL (including those with Executive Director approvals), it is possible that at least some small volume of HRL flows could be present in the Sacramento River and the broader Bay-Delta system nearly year-round. The Draft Decision lacks analysis on the impacts to Sites project yield from implementation of Draft Permit Term 31. In the absence of such an analysis, it is not clear how the public and the State Water Board can discern whether Draft Permit Term 31 properly balances the competing demands. Given this, Draft Permit Term 31 should be amended to clarify that Sites cannot divert HRL flows.

One could interpret the current Draft Permit Term 31 language to be addressing two topics – the baseflows and HRL flow protection. As it is currently drafted, Draft Permit Term 31 arguably protects all base flows, regulated and unregulated, when HRL flow commitments are in the system. This approach has not yet been adopted by the State Water Board and it is premature to make decisions on how base flows will be protected via a water right permit before the State Water Board takes action to adopt an updated Bay-Delta Plan and implement that plan.

At this time, it is sufficiently protective of HRL flows to develop a provision that prohibits Sites from diverting to the extent they would be relying on HRL flow commitments. Put another way, Sites allowable diversions will be based on flow conditions that would be present in the system absent HRL flow commitments.

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III. Area of Origin Protections and Assignment of State Filing

The Department has not previously opined on the area of origin issue in this hearing because any such concerns have been addressed to the Department's satisfaction by the Sites Project Authority's willingness and support of the inclusion of the term that is Draft Permit Term 15, as well as the close-to-final operations agreement between the Sites Project Authority, the Department, and the U.S. Bureau of Reclamation (Reclamation).

However, the Department is concerned with the approach taken in the Draft Decision in applying the area of origin protections. Neither the Sites Project Authority nor the Department asserts that Sites is an extension of the SWP, and the administrative record is clear that the Sites Project Authority is independent of the SWP. The conclusory determination to the contrary in the Draft Decision is incorrect and unsupported by the record. Concluding that Sites is an extension of the SWP improperly attempts to expand the scope of the Sites water rights hearing in a way that is prejudicial to the Department's interests.

There is a more straightforward approach to applying area of origin protections. Specifically, applying the County of Origin Law of 1931 would provide an avenue to apply the area of origin protections consistent with statutory language and avoid any need to make specious arguments regarding Sites being an extension of the SWP or an end-run on area of origin protections due to south-of-Delta entities receiving a water supply benefit. The Department also notes that the water supply associated with the Stone Corral Creek and Funks Creek that is denied in the Draft Decision, is a key water supply explicitly designated for Colusa County, one of the counties of origin. For Sites to become a reality, the project must have local support and serve local needs. This water supply intended for a county of origin could help achieve the Draft Decision's stated public interest in prioritizing area of origin uses over exports.

A. The Draft Decision Should Recognize and Apply the County of Origin Law of 1931.

The issue before the State Water Board in determining whether to approve the release of a state filing is not whether south of Delta contractors will increase their water supply reliability. Rather, the issue is whether Sites initial diversion of water, as opposed to a later rediversion, would deprive the county of origin of the water needed for the county's future development. If the AHO and State Water Board want to apply area of origin-like protections to Sites, it may do so by applying Water Code section 10505 and without improperly conflating Sites with the CVP and SWP.

Water Code section 10505 requires that the State Water Board, before approving to release a state filing, judge whether the application would deprive the county in which the water covered by the application originates of such water which is necessary for the development of the county. This is the original area of origin law.

The Draft Decision lacks this analysis and makes the unsubstantiated statement that Sites would "reduce the amount of water available for future in-basin uses." The Draft Decision also asserts the unsubstantiated claim that Sites would be allowed to divert when the SWP and Central Valley Project (CVP) cannot because of area of origin protections. (Draft Decision at p. 35.) The Draft Decision should be amended to recognize that no party has presented evidence consistent with the analysis required by section 10505 that Sites will indeed deprive the county(ies) of origin of water necessary for development. Under the State Water Board's ongoing jurisdiction over water rights, it may at some future time when presented with such

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information and analysis judge whether Sites actually deprives the county of origin of the water it needs for development and at that time modify the water right accordingly.

It is also important to point out that Draft Permit Term 15 states that no Sites diversions are authorized when the Delta is declared to be in balanced conditions. Put another way, Sites is only authorized to divert when the system is deemed to be in "excess conditions." Excess conditions can be defined as those periods when releases from upstream reservoirs plus unregulated flow exceed the water supply needed to meet legal uses of water in the Sacramento Basin, Delta water quality and outflow requirements, and Delta exports. "Legal uses of water in the Sacramento Basin," in turn, means the water users protected by the area of origin laws. As long as the Department and Reclamation are responsible, fully or not, for meeting water quality objectives in the Delta, Draft Permit Term 15 will be protective of area of origin users.

Furthermore, Section 10505.5 arguably provides the State Water Board with the authority to include a condition in any state filing permit that the use of water outside the county of origin is not authorized to the extent it is necessary for the development of the county.

B. Characterizing Sites as an Extension of the CVP and/or SWP is Inappropriate, Unnecessary, and Would Have Significant Policy and Legal Implications.

The record does not support the conclusion that Sites would be operated, in part, as an extension of the CVP and SWP to enhance deliveries to CVP and SWP contractors. Using that logic, it can be argued that all north-to-south water transfers operate, in part, as an extension of the CVP and SWP. And, yet the AHO did not make this assertion during the recent hearing on the Yuba Accord. The Department has taken care and effort to ensure Sites does not operate in a manner that adversely impacts the SWP. It has expended this effort in large part because Sites is not part of the SWP and thus cannot be considered an extension of the SWP.

The Department also takes issue with the Draft Decision's description of how Sites will coordinate with the SWP and, specifically, how it paints coordination and exchanges with the CVP and the SWP with the same brush. For the SWP, coordination with Sites is almost exclusively driven by the need to avoid adverse impacts to the SWP and, in the spirit of Water Code section 1810, to facilitate delivery of Sites water to Sites participants south of the Delta. The purpose of the exchanges between Sites and Oroville is to help increase Sites project yield and to back up water in Oroville for north of Delta public benefits. Any benefits to the SWP would be incidental. The evidence submitted in the hearing does not support the assertion that Sites operations will or are intended to enhance SWP flexibility.

The Department requests that the discussion of Sites as an extension of the SWP be removed as it has potential consequences that go beyond the noticed scope of this hearing, and as such should not have been considered consistent with due process requirements.

C. The Export of Previously Stored Water from Sites Would Not Violate the Area of Origin Protections.

No evidence was presented in the hearing that supports the assertion in the Draft Decision's public interest argument that Sites would be able to divert even in circumstances where area of origin demands are not being met and the CVP and SWP would be prohibited from diverting water. There is only one reference to a discussion that occurred during rebuttal cross-examination to support this assertion. (Draft Decision at p. 34 (citing discussion at Rebuttal Transcripts Combined (Reb. Tr. Comb.), pp. 199:24-201:13).) The referenced

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discussion involves a question by a Protestant about whether CVP-allocated water in Sites could be exported when CVP water could not. The water subject to this discussion was not an initial diversion but rather a release of previously stored water. The question was not explicitly answered. But even inferring the answer to be that Sites water would be treated differently from CVP water does not support the assertion that Sites provides an opportunity for south of Delta contractors to do an end-run area of origin protections.

First, it must be kept in mind that when discussing the export of Sites water the water at issue is previously stored water, not an initial diversion. Previously stored water in Sites could have been diverted in a high flow water year, when that water was not needed for area of origin protections. The ability to store that water would have been paid for by Sites participants and absent that investment, the water would have flowed down the system for some other beneficial use. Thus logically, it would no longer be available for area of origin purposes. The fact that the now stored water (developed water) can be exported does not violate the area of origin protections. Area of origin laws do not create a right to previously stored water for area of origin water users. (*The State Water Resources Control Board Cases* (2006) 136 Cal.App.4th 634, 771-772; *El Dorado Irrigation District v. State Water Resources Control Board* (2006) 142 Cal.App.4th 937, 976; *Phelps v. State Water Resources Control Board* (2007) 157 Cal.App.4th 89, 111.) Simply put, the export of previously stored water is not subject to the area of origin protections and cannot be an end-run around such protections.

Even in curtailment scenarios, the export of previously stored water is not an end-run on area of origin protections, as no one other than Sites has a right to that water. Moreover, the Department will not redivert Sites water unless it can be done consistent with all applicable regulatory requirements governing the SWP. The Draft Permit also conditions the rediversion of Sites water on consistency with the Bay Delta Plan and its water quality objectives. In this regard, the rediversion of Sites water is not an end-run on area of origin protections related to salinity control in the Delta.

It is also uncertain what the scenarios are that the Draft Decision is referring to when it states that Term 15 would not address a scenario where CVP and SWP diversions, but not Sites Project operations, are restricted by area of origin protections. (Draft Decision at p. 35.) Currently, the only scenarios where the CVP and SWP's diversions are restricted are when there is insufficient water to meet the Sacramento in-basin demands (i.e., area of origin users) and Delta water quality and outflow standards. But, as explained above, this is precisely when Term 15 applies and Sites is not allowed to divert. The scenarios that are referred to in the Draft Decision must be explained in order to understand the argument being made. The record does not contain an example, and it is unclear when this situation would occur.

The Draft Decision also states that diversions to Sites would remove water from the system otherwise available to supply existing junior rights and reduce the amount of water available for future in-basin uses. The Draft Decision states these impacts but does not refer to or provide any analysis that supports the statement. This is the type of analysis that Section 10505 requires.

The Department recommends that the State Water Board provide further analysis of its public interest argument that Sites would be able to divert even in circumstances where area of origin demands are not being met and the CVP and SWP would be prohibited from diverting water.

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D. The Subordination Agreements Would Not Confuse the Administration of the Water Rights Priority System, and Should be Upheld

The Draft Decision states that the subordination agreements would confuse the implementation of the rule of priority in curtailment situations. (Draft Decision at p. 36.) Sites model of operations is built around diverting during times of excess, so it is unclear as to when Sites would be seeking to divert during times of curtailment. Also, it is unclear as to what the hydrologic conditions might be in which the State Water Board would have to work through curtailing some post-1977 diverters and not all.

In working through its curtailment process, the State Water Board may determine that all permit holders after a certain date (post-1977) must be curtailed. If any of the entities that entered into a subordination agreement with Sites have a priority date after the date in which the Board determined for curtailment, then that entity and all permit holders with priority junior to that entity, along with Sites, must be curtailed. As the curtailment date moves up or down the priority list, more or less subordination entities will be curtailed, respectively. As long as an entity that has entered into a subordination agreement with Sites is curtailed, Sites will be curtailed as well. This approach arguably negates any confusion.

The Department understands that the State Water Board must responsibly plan for all scenarios, but the Department questions whether it is in the public interest to dismiss the negotiated agreements of multiple parties because, in theory but not likely, there could be confusion.

E. Precluding Assignment Over Potential Exceedances with Water Quality Objectives is Unnecessary and Arbitrary.

The Draft Decision concludes that assignment of the state-filed application is precluded because Sites is in conflict with methylmercury water quality objectives due to the projection that Sites operations are likely to cause or contribute to exceedances. This conclusion is unnecessarily harsh and demonstrates a degree of arbitrariness as to when public interest applies and when it does not, as well as to what is considered a “conflict” of a water quality objective.

A potential exceedance does not necessarily mean a project is in conflict with water quality objectives. As the Draft Decision appears to recognize later in the Decision when discussing the methylmercury issue, Sites has the ability to achieve consistency with water quality objectives through the development of a Methylmercury Mitigation Plan. (Draft Decision at p. 132.) If this was not the case, then the Draft Decision is approving an application contrary to law. (See Water Code § 13247.) If the Draft Decision concludes that it can approve Sites Project Authority’s application in compliance with water quality control plans, then it appears arbitrary and erroneous to conclude in the context of assignment that Sites is in conflict with applicable water quality objectives.

Further, Sites is consistent with the California Water Plan and a necessary upgrade to California’s water infrastructure. It is needed to modernize and equip California to capture California’s new reality of unpredictable and intense high flow situations. The 2020 Water Resilience Portfolio and the 2023 California Water Plan update both reference the need to advance Proposition 1 storage projects and that Sites meets California’s need for smart surface water storage. (AHO-2 at p. 3; AHO-3 at p. 5; SITES-090 at pp. 4-5.)

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The public interest standard applied in section 3.2.1 is surprisingly absent in the Draft Decision when it comes to determining whether the potential for an exceedance of a water quality objective necessarily prohibits the assignment here. The Department finds this arbitrary as to when the public interest applies to whether an assignment should be made and when the conditions set forth in Water Code sections 10504 and 10505 should be strictly adhered to. Thus, the Department recommends that the Draft Decision be revised to address the public interest standard.

F. Draft Permit Term 27 Should be Amended to Remove the Reference to the Sacramento-San Joaquin River Delta

As discussed above, the area of origin protections do not apply to previously stored water. Sites is not proposing to appropriate water for export from the Delta. Instead, Sites is proposing to redivert previously stored water at the southern Delta export facilities. The distinction is important as area of origin water users in the Delta should have no right to or priority over Sites previously stored water. Accordingly, the "Sacramento-San Joaquin River Delta" should be removed from the Draft Permit Term 27 as shown below.

> Appropriation of water under this Permit for export from the Sacramento River ~~or the Sacramento-San Joaquin River Delta~~ is subject to the rights of water users within said systems to all of the water reasonably required to adequately supply the beneficial needs within said systems, regardless of when such use is initiated.

G. Recommendation Regarding Area of Origin.

If the State Water Board deems it necessary to apply area of origin protections to Sites, the County of Origin Law provides sufficient legal authority and a pathway for the Board to make the necessary findings of fact and law. As stated above, sections 10505 and 10505.5 provide the State Water Board with the authority to consider and protect area of origin water users. The Draft Decision should be amended to include an analysis of whether Sites deprives the county(ies) of origin of the water needed for development. If the State Water Board is concerned about future increases in use or new water rights, then the Board can develop a term that protects the counties of origin in those circumstances. Draft Permit Term 27 may be appropriate as long as the Sacramento-San Joaquin Delta is removed from the term.

IV. Bypass Flow Criteria at the Points of Diversion

A. The Draft Decision Does Not Rely on Best Available Science or Proper Balancing of Benefits to Support the Need for Protections Greater Than Offered by the Sites Project Authority and Included in the California Department of Fish and Wildlife's Incidental Take Permit

The Draft Decision states that the diversion criteria imposed by the Sites Incidental Take Permit (ITP) issued by the California Department of Fish Wildlife are insufficient for the State Water Board's purpose of avoiding unreasonable impacts to fisheries and its public trust obligations. However, the State Water Board does not follow the best available science, nor do they demonstrate how additional obligations provided in the Draft Permit will enhance fisheries beyond protections provided in the Site's ITP. One reason provided is that the ITP is not designed to maintain or enhance fisheries. The other reason provided is that the State Water Board must look at all species and not just threatened or endangered species. While these considerations may be true, it does not necessarily mean the State Water Board must increase

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flow obligations without any scientific support that the increase will lead to enhancement of non-listed species. Instead, the considerations highlighted by the Draft Decision mean that the State Water Board may consider more, such as preservation and enhancement of fish and wildlife, in its balancing of interests and decision-making than just the avoidance of jeopardy. The Department makes this point as the Draft Decision and related Draft Permit terms appear to focus on the necessity for a higher standard of protection as opposed to the obligation to conduct a fuller and more robust balancing of interests. (See Water Code § 1257.) The Department is concerned that in focusing on the perceived higher standard of protection, the Draft Decision attempts to achieve the standard at the cost of balancing the competing interests.

1. The State Water Board's Proposed Extended Bypass Flow Criteria Is Without Scientific Basis

The Draft Decision expands the flow dependent diversion criteria outlined in the ITP to cover additional months in order to protect fall-run salmon. However, it provides no analysis regarding the necessity of this protection to maintain or enhance fall-run population or how it considered the relative benefits of the criteria versus the water supply impacts. The Draft Decision just notes that the ITP protections were not designed specifically to protect fall-run. Yet, the Board ignores the Sites Environmental Impact Report analysis, demonstrating that the proposed project authorized by CDFW will not have significant impacts on other non-listed species.

2. The Bend Bridge Pulse Flows in Addition to the Flow Dependent Diversion Criteria Are Not Analyzed or Supported by the Evidence

The Draft Decision requires compliance with the Bend Bridge pulse protection measure as described in the Sites Final EIR in addition to the flow-dependent diversion criteria required by the ITP. Sites originally contemplated Bend Bridge pulse protection measures in its Final EIR, but CDFW identified a different operational regime to protect sensitive species. Under CDFW's operational regime, pulse protections were no longer necessary because the diversion criteria accomplished the same objectives.

In requiring the pulse flow in addition to the flow-dependent diversion criteria, the Draft Decision relies on limited scientific rationale and there is no analysis in the record regarding the need for this addition or for the water supply impacts associated with it. In fact, there is no analysis anywhere that combines the pulse flow with the ITP's flow-dependent diversion criteria. Without supporting evidence and analysis of the benefits to be achieved or the water supply costs, it is uncertain whether this requirement underwent the proper balancing.

3. The Wilkins Slough Bypass Flow Does Not Rely on Best Available Science

The Draft Decision increases the bypass flow requirement from the ITP-required 10,930 cubic feet per second (cfs) to 14,125 cfs for the months of December through April (Draft Permit Term 23). The Draft Decision prefers the del Rosario study over the Michel et al. (2021) study that was relied on in the ITP. The primary distinction between the Michel et al. (2021) study and Rosario study is that the former paper examines how salmon survival varies as a function of flow whereas the latter paper only documents observations in monitoring program. Further, the Michel et al. (2021) paper explicitly modeled survival at Wilkin's Slough as a function of flow finding that survival does not increase for flows above 10,000 cfs (see Figure 3 in Michel et al 2021):

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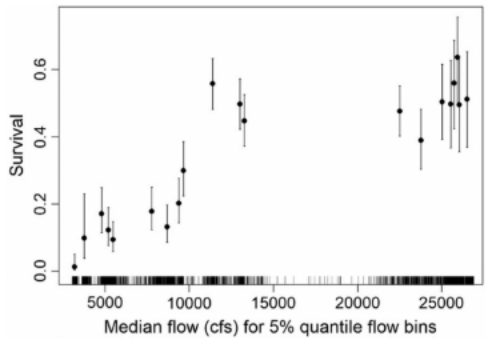


Fig. 3. Survival as a function of flow. Survival estimates (points) with 95% confidence intervals (bars) for groups at 5% quantile bins of experienced flow, plotted at the median value of bins (in cfs) on the *x*-axis. Flow experienced per fish is indicated by vertical tick marks along the *x*-axis.

The findings of Michel et al. 2021 corroborate the findings of Hassrick et al. 2022 showing that survival increases as a function of flow as well at an inter-annual level but in years with high flow (see Figure 8 panel A), survival does not vary significantly (see Figure 8 panel C). Note, Michel's findings not only apply to winter-run but to all salmon. Therefore, the Board should not dismiss the Site's ITP as only being protective for listed species-especially given that the paper was based on several runs of salmon:

Table 1. Wild and hatchery tagged fish groups included in our analysis from 2013 to 2019.

Population	Origin	Year	Release dates	Release location	*N*	Genetic population origin
Mill Creek	Wild	2013	Mid-April to mid-May	MCRT	48	74% CCV fall-run 26% CCV spring-run
Coleman	Hatchery	2013	Mid-April	CNFH	285	100% CCV fall-run
Mill Creek	Wild	2015	Mid-April to mid-May	MCRT	110	44% CCV fall-run 56% CCV spring-run
Coleman	Hatchery	2016	Early-April to late-April	CNFH	540	100% CCV fall-run
Mill Creek	Wild	2017	Mid-April to late-April	MCRT	24	100% CCV fall-run
Coleman	Hatchery	2017	Early-April to late-April	CNFH	370	100% CCV fall-run
Sacramento River	Wild†	2017	June 6	RBDD	33	100% CCV fall-run
Sacramento River	Wild†	2018	Early-May to early-June	RBDD	207	100% CCV fall-run
Livingston Stone	Hatchery	2019	March 26	NFBC	199	100% Sacramento winter-run
Coleman	Hatchery	2019	April 11	CNFH	140	100% CCV fall-run
Coleman	Hatchery	2019	Late-May	RBDD	480	100% CCV fall-run
Total		2013–2019	Late-March to early-June		2436	

Notes: CCV, California's Central Valley. Release locations are further described in Fig. 2. Genetic population assignments made using protocols outlined in Clemento et al. (2011).
† Fish captured in rotary screw traps in the Sacramento River and tagged were assumed to be wild, although some hatchery fish may have been misidentified and incidentally tagged.

The Rosario paper examines how catch timing in the monitoring programs varies with intra-annual flow. It has far-more limited set of years examined (1999-2007) and does not explicitly examine survival as a function of flow. The application of the Rosario paper is limited to understanding when winter-run may reach the Delta with Wilkin's slough flow data as surrogate for when flows upstream facilitate migration downstream-not as a measure of survival upstream. In fact, the Rosario et al. concludes that the findings of their paper are applicable for understanding protections in the Delta (Page 18):

"In our identification of the flow threshold that triggers significant migration of winter-run juveniles in the Delta, managers can use the timing of the first flow events of the season that are at least 400 m3 s-1, measured at Wilkins Slough, to indicate when this endangered species is likely in the Delta system. These high flow events could signal the need for protective measures until winter-run juveniles leave the Delta. The regularity in their departure time from the Delta could help identify the time-span when protection for winter-run should be in effect"

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In addition to points provided above, another limitation of the Draft Decision is that it includes the assumption that 14,125 cfs provides additional benefits to non-listed salmonids but provides no evidence that the timing and magnitude beyond the CDFW ITP is “protective”. Note, the Rosario paper itself analyzed winter-run sized salmon-it was not applicable for non-listed salmon although Rosario acknowledges that length-at-date winter run may include other runs.

Further, there are multiple factors that affect survival of salmonids. For example, Hassrick et al. (2022) examined the importance of different factors that affect winter-run abundance:

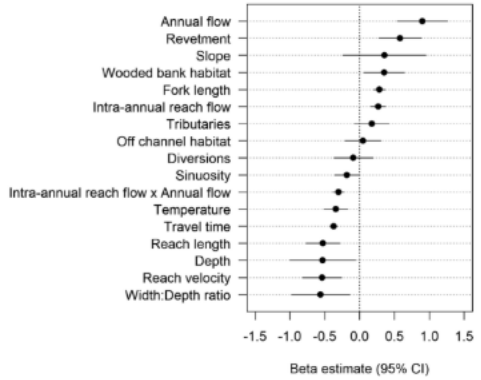


FIGURE 7. Parameter estimates (±95% CI) of slope coefficients (i.e., β estimates) for each covariate in the selected model. The CIs that overlap zero indicate no significant effect.

The Draft Decision fails to analyze the importance of other factors and how commitments in the Sites ITP would not only benefit protected species and non-protected species as well. For example, the Sites ITP includes a robust restoration program that includes off-channel habitat, woody banks, etc. Based on Hassrick et al. 2022, flow and habitat enhancements are both likely to provide survival benefits.

In short, the Draft Decision fails to rely on best available science in concluding that 14,125 cfs is warranted to protected listed and non-listed species. The best available science shows that survival increases with flow near the Site’s intake but there are no additional survival benefits beyond 10,000 cfs. The Draft Decision provides no additional analysis that the 14,125 cfs, or the timing of implementation, will provide additional survival benefits beyond that identified by the studies (Michel et al. 2021; Hassrick et al. 2022).

The Department recommends that the Board rely on conditions included in the Sites ITP for the issuance of its decision. Note, the Sites ITP includes a Condition of Approval (8.7.1) that calls for a robust science program to understand how proposed operations will affect survival. The State Water Board should rely on this effort, and other studies identified in the Sites ITP to better understand if flow threshold should be modified once Sites operations goes online.

4. The State Water Board Should Use the Same Flow Criteria Required by the Sites ITP.

As stated above, the Department is concerned that the Draft Decision incorrectly focuses on establishing a standard of protection that the State Water Board must meet as opposed to conducting a full and robust balancing of competing interests. The focus on meeting a particular standard of protection, in turn, results in a lack of analysis and support for choosing to impose greater fishery protections than the Sites ITP at an unknown cost to water supply and other

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benefits provided by Sites. The Department recommends that the State Water Board rely upon the analysis and requirements of the Sites ITP.

V. Recommended Changes to Other Draft Permit Terms

A. Draft Permit Term 4

The Department recommends changes to Draft Permit Term 4 related to place of use. As written, that term limits the place of use for fish and wildlife purpose to Yolo Bypass and refuge areas.

Through exchanges with the SWP and CVP, Sites could release water in spring and early summer which would go to help meet regulatory requirements and/or contractual obligations. A concern with the limitation in Draft Permit Term 4 is that, in situations where Sites releases water for fish and wildlife purposes, the term appears to limit the place of use to only the areas identified below. This could exclude releases to the Sacramento River for water quality or flow purposes, which may be part of exchanges with the SWP and CVP.

The Department recommends modifying Draft Permit Term 4 by either (1) removing the fish and wildlife limitation completely, or (2) adding Sacramento River downstream of the Dunnigan Pipeline outlet through Delta as an authorized place of use for fish and wildlife purpose.

B. Draft Permit Term 22

Draft Permit Term 22 states that Sites shall continue to comply with the 2024 ITP diversion requirements until Draft Permit Term 22 is amended. While the term provides a process for updating the term, it does set up the possibility that Sites ITP and water right permit would be in conflict. This should be an unacceptable result. A better result would be to condition the Sites water right permit on compliance with any ITP issued for the project, including any amendments or updates. There can be a public process to understand the ITP's updates or modifications, but there should be no opportunity for conflict.

C. Draft Permit Term 29

Draft Permit Term 29 states that no diversion is authorized when any numeric water quality objective is not being met. This puts an undue burden on Sites as it makes Sites dependent on compliance actions of others and hydrologic conditions that are unrelated to Sites operations. This term should be modified to, at least, better define the water quality objectives that are covered by the term and allow Sites to divert when it is implementing its responsibility to meet the objectives consistent with Bay-Delta Plan.

The Department has reviewed the Sites Project Authority's proposed revisions to Draft Permit Term 29 and supports those proposed changes.

D. Draft Permit Terms 45, 46, 48 and 49

These draft permit terms all discuss the rediversion of water at the Export Facilities but do not clarify that it is the rediversion of water "under this Permit." Each term should, at the least, be amended to clarify that it is only referring to water rediverted under Sites water right permit.

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E. Draft Permit Term 51

Draft Permit Term 51 states that no water shall be exchanged with DWR if that exchange results in DWR violating any law, regulation, biological opinion, incidental take permit, or court order applicable to the SWP. This term is unnecessary. DWR is responsible for and capable of determining whether it is operating in compliance with its legal obligations. The Department recommends Draft Permit Term 51 be deleted in its entirety.

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The Department strongly supports the Sites Reservoir Project and the State Water Board's approval of Sites Project Authority's water right application. Sites is an important addition to California's water infrastructure to improve California's water supplies and modernize water management for both the public and the ecosystem. We urge the AHO and State Water Board to develop a Decision and Permit that ensures both adequate protections and the viability of the Sites Reservoir Project. If you have any questions regarding these comments, please contact Erick Soderlund by email at Erick.Soderlund@water.ca.gov or by phone at 916-820-7609.

Sincerely,

Karla Nemeth

Karla A. Nemeth
Director, Department of Water Resources