Common Response 6.2
Baseline and No Project Alternative

Introduction

This introduction provides important context to this common response. A similar introduction is provided in each common response to ensure that the reader has the appropriate context when reviewing common responses. For ease of reference, a table of contents is included after this introduction to guide readers to specific subject areas.

Protecting the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) watershed and its many beneficial uses of water is one of the State Water Resources Control Board's (State Water Board) primary responsibilities and top priorities. In response to declines of several native aquatic species since the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Watershed (Bay-Delta Plan or Plan) was last comprehensively updated, the State Water Board commenced a process to update the Bay-Delta Plan for the Sacramento River and its tributaries, Delta eastside tributaries (including the Calaveras, Cosumnes, and Mokelumne Rivers), and Delta for the reasonable protection of fish and wildlife beneficial uses, referred to as the Sacramento/Delta Update to the Bay-Delta Plan. The Bay-Delta Plan identifies beneficial uses of water to be protected in the Bay-Delta watershed, water quality objectives and program of implementation to achieve the reasonable protection of those beneficial uses, monitoring, evaluation, and special study provisions. The State Water Board's proposed action to update the Bay-Delta Plan is supported by a Staff Report/Substitute Environmental Document (Staff Report), which provides an evaluation of the environmental impacts and economic effects in support of consideration of different alternatives to update the Bay-Delta Plan to achieve reasonable protection of fish and wildlife beneficial uses in the Sacramento/Delta. The Staff Report is functionally equivalent to an Environmental Impact Report under the California Environmental Quality Act (CEQA) but also provides the additional analyses that support the State Water Board's consideration of the action under the Clean Water Act and Porter-Cologne Water Quality Control Act.

Development of the final Staff Report and final draft Bay-Delta Plan were informed by several opportunities for public comment over multiple years. This common response may address issues that were raised during any of those public comment periods. In September 2023, the State Water Board released the 2023 draft Staff Report evaluating different alternatives for the Sacramento/Delta Update to the Bay-Delta Plan for public review and comment. Following release of the 2023 draft Staff Report, the State Water Board released draft amendments to the Bay-Delta Plan in October 2024 (2024 draft Plan) for public review and comment that incorporated alternatives identified in the 2023 draft Staff Report with revisions based on public comments. The State Water Board released revised draft Plan updates in July 2025 (July 2025 revised draft Plan) but delayed public comment on that version of the Plan pending further updates, though some parties did submit public comments on the July 2025 draft that are part of the State Water Board's response to comments. In December 2025, the State Water Board released Chapter 13, *Revised Proposed Plan Amendments*, as a limited recirculation of the 2023 draft Staff Report (2025 partially recirculated draft Staff Report) together with the December 2025 revised draft Plan for public review and comment. These documents reflect the updated proposed project, referred to as the revised proposed Plan amendments, which brings together in the Bay-Delta Plan program of

implementation a voluntary agreement (VA) pathway that incorporates commitments identified in the Healthy Rivers and Landscapes (HRL) proposal and would apply to specified HRL water rights, and a regulatory pathway based on the proposed Plan amendments that would apply to other water rights and to any HRL water rights no longer covered under the VA pathway. In August 2026, the State Water Board released a final draft Bay-Delta Plan that included refinements to the revised proposed Plan amendments based on public comments received on the December 2025 revised draft Plan. At the same time, the State Water Board released this final Staff Report, including responses to comments previously received on the draft Staff Report. The final Staff Report informs the State Water Board's consideration of adoption of the Sacramento/Delta updates to the Bay-Delta Plan.

With respect to the CEQA impact conclusions, it is important that they be understood in the context of the overall nature of the proposed project, which is intended to be an environmental restoration action. CEQA only considers changes that could negatively impact the existing environment and does not recognize or offset negative changes with improvements that could result from an environmentally beneficial project. Here, the impacts that could potentially result from implementation of the restoration action occur in a system that has been highly altered, and the project would be expected to improve conditions for native fish and wildlife in the Sacramento/Delta watershed over time. However, the project will also result in changes in hydrology and changes in water supply that could result in some potentially significant adverse environmental impacts at certain times and locations that must be analyzed under CEQA. These potentially significant environmental impacts should be viewed in light of the overall purpose and goals of the Sacramento/Delta update to the Bay-Delta Plan.

The State Water Board reviewed and considered all comments and developed common responses to address recurring comments and common themes.

This common response addresses comments regarding the project baseline, including modeling assumptions used in Sacramento Water Allocation Model (SacWAM) for the baseline scenario that is used to evaluate the potential environmental impacts of the Sacramento/Delta Update to the Bay-Delta Plan. This common response also discusses regulatory assumptions and the project baseline and describes the No Project Alternative.

This common response addresses the following topics and themes:

- Overview and project baseline
- Federal and State Endangered Species Act requirements
- Points of comparison for the VA analyses
- Vernalis boundary condition
- Temporary urgency change petitions
- No Project Alternative
- Trinity River

This common response references related common responses as appropriate where recurring comments and common comment themes overlap with other subject matter areas. For responses to comments concerning the Sacramento Water Allocation Model, please see Common Response 6.1, *Sacramento Water Allocation Model and Changes in Hydrology and Water Supply*. For information on CEQA, please see Common Response 7.1, *General CEQA and Approach to the Analysis*. For information on the alternatives analysis, please see Common Response 7.24, *Alternatives Analysis*.

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Overview of Project Baseline

Some commenters questioned the assumptions used to define the project baseline for the Staff Report analyses and how those assumptions were incorporated into the regulatory pathway and VA pathway analyses. Many such comments focused on the assumptions included in SacWAM that affect modeled operations of the Central Valley Project (CVP) and State Water Project (SWP), including changes that occurred while the Staff Report was under development. This section and the following sections provide background regarding changes to CVP and SWP operational constraints resulting from reconsultations under the federal Endangered Species Act (ESA) and California Endangered Species Act (CESA) and description of how the project baseline and its representation in SacWAM were defined.

CEQA requires a description of the physical environmental conditions in the vicinity of the project as they exist at the time the Notice of Preparation (NOP) is published (January 24, 2012 [supplemental NOP for the Sacramento/Delta update to the Bay-Delta Plan]), or if no NOP is published, at the time environmental analysis is commenced. (Cal. Code Regs., tit. 14, § 15125.) This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence.

The project baseline is the primary point of comparison for evaluating the environmental impacts of the alternatives evaluated in the Staff Report. The environmental analyses utilize a quantitative and qualitative approach to compare the potential impacts to baseline conditions. For the quantitative evaluations, SacWAM is used to simulate the project baseline in order to compare those against the Plan amendments and alternatives as modeled in order to estimate expected changes in hydrology and water supply that could result. Other models are also used for specific resources areas that rely on the SacWAM modeling. The SacWAM representation of the project baseline is referred to in this common response as the “SacWAM baseline.” The assumptions used for the SacWAM baseline include regulatory requirements and other conditions as they have largely been implemented for the majority of the Sacramento/Delta Bay-Delta Plan update process, as described below in the *SacWAM and Existing Conditions* section. The same project baseline assumptions, including SacWAM baseline assumptions, are used throughout the Staff Report to evaluate the estimated expected environmental impacts of the Plan amendments and other project alternatives.

For qualitative analyses, baseline conditions are consistent with the quantitative analyses and generally defined by the conditions present at the time the NOP was issued, or current conditions. Establishment and analysis of baseline conditions may be constrained in some instances by data availability; in these instances, the most current readily available information is used. Other analyses consider the relevance of changes in information that may have occurred since the issuance of the 2012 NOP, where appropriate. Qualitative analyses follow an approach parallel to the quantitative analyses: they compare potential impacts to narrative descriptions of resource conditions that may vary over time. For many resources, project-related changes in resource-specific parameters could not be modeled directly, but the magnitude of effect could be inferred from changes in hydrologic conditions. For each resource area, the analyses use the same baseline for all alternatives. The project baseline and CEQA analysis is described further in Staff Report

Section 7.1.5.2, *Baseline, Evaluation Approach, and Modeling Tools*, and in Common Response 7.1, *General CEQA and Approach to the Analysis*.

SacWAM and Existing Conditions

SacWAM is a hydrologic and system operations model that helps estimate the potential changes to hydrology and water supply that could occur as a result of the Sacramento/Delta Plan amendments. SacWAM simulates flow and diversions in the Sacramento/Delta watershed under historic hydrologic conditions. Chapter 6, *Changes in Hydrology and Water Supply*, describes the changes in hydrology and water supply that could occur as a result of the 35, 45, 55, 65, and 75 scenarios. Section 9.5, *Changes in Hydrology and Water Supply*, describes the changes in hydrology and water supply that could occur as a result of the proposed VAs. Section 13.4, *Changes in Hydrology and Water Supply*, describes updated SacWAM modeled changes in hydrology and water supply that could occur as a result of the revised proposed Plan amendments, including the starting point for the regulatory pathway (55 w/WSAs scenario) and the VA pathway (VA scenario) that builds on analyses included in Chapter 6 and Section 9.5 of the Staff Report.

The SacWAM baseline (also referred to in the Staff Report as "existing conditions" or "baseline scenario") is the SacWAM model simulation including assumptions and results representing the project baseline. The SacWAM baseline is a reasonable representation of existing conditions during the development of the revised proposed Plan amendments. The SacWAM baseline assumptions include requirements as they have been generally implemented during the majority of this planning process to represent existing conditions and provide a basis of comparison for the potential changes to hydrology and water supply that could occur as a result of the alternatives considered in the Staff Report for the Sacramento/Delta updates to the Bay-Delta Plan.

The *Federal and State Endangered Species Act Requirements* section below explains that since the planning process for the Sacramento/Delta updates started, the Bureau of Reclamation (Reclamation) and Department of Water Resources (DWR) have modified CVP and SWP operations respectively (collectively Projects), including in response to reconsultations under ESA and CESA, which affects reservoir operations, streamflows, and exports and flow conditions in the Delta. It was not until late 2024/early 2025 with the implementation of the December 2024 Record of Decision (ROD) for CVP and SWP Coordinated Long Term Operations (LTO) and the December 2024 California Department of Fish and Wildlife (CDFW) Incidental Take Permit (ITP) for the SWP that the Projects implemented significant changes to operations compared to the Staff Report baseline. This occurred well after the planning process for this project began and after the draft Staff Report was released in 2023. More minor enduring changes that occurred before this time were however, incorporated into baseline as described further below and in Chapters 6 and 13 of the Staff Report. Section 6.2.1, *Baseline Assumptions*, provides a detailed description of the approach used to simulate baseline conditions in SacWAM. These requirements are summarized in Table 6.2-1 of the Staff Report and are described in more detail in the *Federal and State Endangered Species Act Requirements* section.

SacWAM version 2023.06.12 was used to support the 2023 draft Staff Report analyses, including the potential effects of the 35, 45, 55, 65, and 75 scenarios evaluated in Chapter 6, *Changes in Hydrology and Water Supply,* Chapter 7, *Environmental Analysis*, and Chapter 8, *Economic Analysis and Other Considerations*, and the VA scenario evaluated in Chapter 9, *Proposed Voluntary Agreements.* This version of SacWAM simulates flow and diversions in the Sacramento/Delta under hydrologic conditions that occurred from 1922 through 2015. The 1923 through 2015 range is used for all

incremental analyses and scenario comparisons. The year 1922 is not used because it is identical across all scenarios. SacWAM version 2025.08.28 was used to support the 2025 partially recirculated draft Staff Report analyses, including the potential effects of the starting point for the 55 w/WSAs scenario and the VA scenario. These results are summarized throughout Chapter 13, *Revised Proposed Plan Amendments*, and provided in detail in Appendix H1, *Sacramento Water Allocation Model Methods and Results for the Revised Proposed Plan Amendments.*

Since the release of SacWAM version 2023.06.12 to support the 2023 draft Staff Report, minor refinements were made to SacWAM as part of SacWAM version 2025.08.28 to incorporate input from stakeholders during the public comment process and other refinements. Model changes include extension of the period of simulation through 2021 and changes to modeling assumptions for CVP contractor priorities as well as minor changes to assumptions for operations of Contra Costa Water District, Oroville Reservoir, Folsom Reservoir, and Delta depletions. Additionally, the new 55 w/WSAs scenario was developed to represent the starting point for the regulatory pathway. See Section 13.4.2.1, *Sacramento Water Allocation Model (SacWAM) General Updates* and Appendix H1a, *Sacramento Water Allocation Model Methods*, for a detailed explanation of these model changes. Documentation is available for the SacWAM version used to support the 2023 draft Staff Report (^SacWAM 2023) and for the latest SacWAM version which incorporates stakeholder input and other refinements (^SacWAM 2026).

While the underlying assumptions regarding baseline conditions remained unchanged between the SacWAM model versions, to enable comparison of the 55 w/WSAs scenario to the flow scenarios analyzed in Chapter 6, *Changes in Hydrology and Water Supply,* and Chapter 7, *Environmental Analysis*, SacWAM version 2025.08.28 was also used to simulate the potential effects of the 35, 45, 55, and 65 scenarios. These results are presented in Appendix H1a3, *Sacramento Water Allocation Model Results for Updated Unimpaired Flow Scenarios*.

As a result of model refinements between the 2023.06.12 and 2025.08.28 versions of SacWAM that affect both the modeled baseline and flow scenarios, results for baseline and the 35, 45, 55, and 65 scenarios generated using SacWAM version 2025.08.28 (presented in Appendix H1a3, *Sacramento Water Allocation Model Results for Updated Unimpaired Flow Scenarios*) differ slightly from results previously generated using SacWAM version 2023.06.12 (presented in Chapter 6, *Changes in Hydrology and Water Supply*, and Appendix A1, *Sacramento Water Allocation Model Methods and Results*). The same version of SacWAM should be used to compare results for different scenarios to baseline and different scenarios to one another in order to isolate differences between scenarios versus differences in SacWAM versions. The relative differences between the modeled flow scenarios and baseline (changes compared to baseline) are similar between the 2023.06.12 and 2025.08.28 versions of SacWAM for most summaries of results.

Since the release of the 2025 partially recirculated draft Staff Report, additional minor refinements were made to SacWAM as part of SacWAM version 2026.05.29. This version of SacWAM was used to model the effects of potential operational changes pursuant to both Reclamation's 2025 ROD for CVP and SWP LTO and DWR's operations pursuant to the 2024 ITP as amended in 2025 (2025 ITP), as described further below. The updates that apply to all scenarios generally result in a very limited scope of changes to model results, with potentially larger effects in specific locations during specific months of the simulation. For previously modeled scenarios including baseline, these updates produce only minor changes in results and support the same conclusions presented in Sections 13.4.3, *Changes in Hydrology*, and 13.4.4, *Changes in Surface Water Supply*, with limited exceptions. The updates made to support analysis of sensitivity to the 2025 ROD and ITP have larger effects on

the operations of CVP and SWP, as described in Section 13.4.6, *Sensitivity Analysis for 2025 Record of Decision and 2025 Incidental Take Permit*. The updates made to SacWAM as part of SacWAM version 2026.05.29 are described in detail in Appendix H1a6, *Sensitivity Analysis for 2025 Record of Decision and Incidental Take Permit Amendments*. Results for the simulations are presented in Section 13.4.6, *Sensitivity Analysis for 2025 Record of Decision and 2025 Incidental Take Permit*, Appendix H1a6, and Appendix H1a7, *Sacramento Water Allocation Model Results for 2025 Record of Decision and Incidental Take Permit Amendments*.

Additional information on SacWAM is provided in Chapter 6, Section 9.5, and Section 13.4, each titled *Changes in Hydrology and Water Supply*, and in Common Response 6.1, *Sacramento Water Allocation Model and Changes in Hydrology and Water Supply*.

Several commenters asserted that the Staff Report's analysis is flawed because the modeling of the baseline scenario changed between the release of the 2023 draft Staff Report and the 2025 partially recirculated draft Staff Report as a result of the use of different model versions. However, as described in Staff Report Section 13.4.2.2, *Baseline Condition*, and discussed in more detail below, the SacWAM baseline assumptions have not changed and remain the same between the analyses presented in the 2023 draft Staff Report and those presented in the 2025 partially recirculated draft Staff Report. Although minor refinements were made to SacWAM as part of SacWAM versions 2025.08.28 and 2026.05.29 compared to SacWAM version 2023.06.12, differences between the model versions represent refinements of the model itself and do not reflect changes in assumptions used to model the project baseline.

Federal and State Endangered Species Act Requirements

This section provides an overview of Reclamation's and DWR's CVP and SWP operational changes in response to ESA and CESA reconsultations.

Under ESA Section 7, federal agencies must ensure that any action they authorize, fund, or carry out ("agency action") is not likely to jeopardize the continued existence of any species listed under the ESA as either in danger of extinction ("endangered species") or likely to become an endangered species ("threatened species") or will not destroy or adversely modify its critical habitat. To implement this prohibition, Section 7 requires that the federal agency consult with the National Marine Fisheries Service (NMFS) for marine species and the U.S. Fish and Wildlife Service (USFWS) for all other listed species. As part of this consultation, either NMFS, the USFWS, or both, depending on the listed species at issue, prepare a biological opinion (BiOp) evaluating the effects of the agency action on listed species and stating whether the project is likely to jeopardize their continued existence or adversely modify their critical habitat. If NMFS or the USFWS determine that the action is likely to jeopardize the continued existence of one or more listed species or adversely modify its critical habitat, the BiOp will include reasonable and prudent alternatives (RPAs) to the agency action that will avoid jeopardy. If NMFS or USFWS determine that an action is not likely to jeopardize the continued existence of a listed species or its critical habitat, those agencies will issue non-jeopardy BiOps.

CESA (Fish & G. Code, § 2050 et seq.; Cal. Code Regs, tit. 14, § 783 et seq.) expresses state policy to conserve, protect, restore, and enhance any endangered or threatened species or its habitat. Under CESA, the California Fish and Game Commission is responsible for maintaining a list of threatened and endangered species. (Fish & G. Code, § 2070.) CESA generally prohibits *take* (defined, in part, as hunt, pursue, catch, capture, or kill) of listed species, although it may allow for take incidental to

otherwise lawful activities. (Fish & G. Code, § 2080 et seq.) In accordance with section 2081 of the California Fish and Game Code, a permit from CDFW is required for projects "that could result in the incidental take of a wildlife species state-listed as threatened or endangered." If an otherwise lawful activity will take state-listed species, but the party implementing the action received an Incidental Take Statement or ITP under ESA that also meets CESA's requirements, CDFW can issue a "consistency determination" finding that no further authorization or approval is necessary (Fish & G. Code, § 2080.1). If there is no federal ESA approval or the ESA approval is inconsistent with state law, an ITP from CDFW is required (Fish & G. Code, § 2081).

The CVP and the SWP are the two largest water projects in California and consist of an extensive series of dams, power plants, diversions, canals, gates, and other facilities, with each having pumping plants located in the southern Delta that export millions of acre-feet of water to the Central Valley and, in the case of the SWP, to southern California. The CVP and the SWP are operated in a coordinated fashion under the Coordinated Operations Agreement (COA) and, relying on the COA, Reclamation has historically described both projects in Section 7 ESA consultations on proposed changes in LTO and sought ESA coverage for both projects.

Beginning in 1989, the protracted decline of Delta aquatic species led to the listings and proposed listings of multiple fish species under the ESA and CESA including winter-run Chinook salmon (endangered, CESA 1989, ESA 1990); Delta smelt (threatened, ESA/CESA 1993, endangered CESA 2009); steelhead (threatened ESA 1998); spring-run Chinook salmon (threatened ESA/CESA 1999); green sturgeon (threatened ESA 2006); longfin smelt (threatened CESA 2009, ESA endangered 2024); and white sturgeon (CESA candidate for listing 2024). In May 2008, Reclamation and DWR requested reinitiation of ESA Section 7 consultation with USFWS and NMFS on the Coordinated LTO of the CVP and SWP as to whether the proposed CVP and SWP operations would jeopardize listed species. In December 2008, USFWS issued a BiOp concluding that the proposed operations were likely to jeopardize the continued existence of the Delta smelt and adversely modify its critical habitat. In June 2009, NMFS issued a BiOp concluding that the proposed operations were likely to jeopardize the continued existence of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, California Central Valley steelhead, and the Southern Distinct Population Segment of North American green sturgeon, and were likely to destroy or adversely modify their critical habitats. NMFS also concluded that the proposed operations were likely to jeopardize Southern resident killer whales. To avoid jeopardy to the species and adverse modification of their critical habitats, USFWS and NMFS included RPAs with the 2008 and 2009 BiOps, which were required operational changes to the proposed agency action for the protection of the species.

In August 2016, Reclamation and DWR requested reinitiation of consultation with USFWS and NMFS on LTO. In October 2019, USFWS and NMFS released non-jeopardy BiOps on CVP and SWP LTO concluding that Reclamation's proposed revised operations were not likely to jeopardize threatened or endangered species or adversely modify their critical habitat. The LTO proposal resulting in the 2019 BiOps incorporated some components of the RPAs that were included with the 2008 and 2009 BiOps; however, it did not include several key components of the RPAs or included less restrictive provisions than the RPAs. In 2020, following issuance of the 2019 BiOps, Reclamation adopted a ROD (2020 ROD). The State of California and environmental groups brought challenges to the 2019 BiOps and 2020 ROD in federal District Court under the federal Administrative Procedures Act and, for the first time, CDFW was unable to find consistency with the federal ESA consultation and issued a separate CESA ITP for the SWP (2020 ITP).

In 2021, the federal administration changed and Reclamation agreed to voluntarily remand the 2019 BiOps for a reinitiation of consultation. However, because the litigation was ongoing and the BiOps would still technically be in place during the new consultation, in November 2021, the state and federal governments agreed on an interim operations plan (IOP) for the coordinated operations of the CVP and SWP through September 30, 2022, and stayed the litigation. The IOP provided additional protections for species pending the outcome of the new consultation and was extended twice with the final extension being through December 31,2024 or the issuance of new BiOps, whichever came first. As described in Chapter 6 and Chapter 13.4, both titled *Changes in Hydrology and Water Supply*, and further below, because of the litigation and IOP, the changes allowed for in the 2019 BiOps were never fully implemented. In late 2024, NMFS and USFWS issued new BiOps and Reclamation adopted a new ROD (2024 BiOps and 2024 ROD). The federal litigation on the 2019 BiOps was subsequently dismissed as moot. Currently, DWR operates the SWP in accordance with the 2024 ITP for the SWP with subsequent amendments described below (CDFW 2024). Operations under the 2024 ITP are largely consistent with those under the preceding 2020 ITP, except for amendments issued in 2025 and 2026, also described below.

Changes to requirements for fall X2, OMR reverse flows, limits to Delta exports based on the San Joaquin River inflow to export ratio (I:E), DCC gate closures, and other major changes between the 2008/2009, 2019, and 2024 BiOps and associated changes to the LTO ROD are described below. In addition to those changes, the 2024 LTO ROD included conditions from the Drought Protection Program (DPP) agreement between Reclamation and the Sacramento River Settlement Contractors (Settlement Contractors), including reducing water supplies to the Settlement Contractors up to 500,000 acre-feet in certain critically dry years when storage in Lake Shasta is sufficiently low.

In addition, on December 4, 2025, pursuant to direction included in Action 5 of federal Executive Order 14181, Reclamation once again modified operational constraints included in the ROD for the LTO of the CVP and SWP and adopted a new ROD (2025 ROD) but without a new Section 7 ESA consultation. These modifications included adding flexibility to reduce restrictions on exports based on OMR reverse flow conditions and elimination of fall X2 requirements. In addition to the 2025 ROD changes, CDFW approved two amendments in 2025 to the 2024 ITP for SWP operations (2025 ITP) including: 1) a one-year modification to remove the requirements for fall X2 in exchange for a summer food and habitat action, and 2) flexibility to reduce OMR flow restrictions at certain times (CDFW 2025a, CDFW 2025b). (The 2025 ROD and 2025 ITP are referred to collectively as the 2025 ROD/ITP.) DWR has also submitted a 2026 ITP amendment request to CDFW to permanently remove the requirements for fall X2 (DWR 2026). In July 2026 CDFW approved an additional one-year modification to the ITP (CDFW 2026). CDFW is continuing to process the request for a permanent amendment to the ITP and expects to make its decision on the request by December 2026. See Common Response 1.3, *Revised Proposed Plan Amendments*, for more discussion on the 2025 ROD/ITP.

As described further below, SacWAM does not include the recent changes under the 2024 LTO ROD and 2025 ROD/ITP in the project baseline. The process for the Sacramento/Delta updates to the Bay-Delta Plan has been ongoing since 2012, and the baseline assumptions for the project incorporate ESA and CESA regulatory requirements as they were implemented during the majority of the planning process. The 2024 ROD and ITP were adopted in late 2024 and then further modified with the more recent 2025 and 2026 changes to the LTO ROD and SWP ITP. The baseline assumptions, including LTO and associated regulatory requirements, are described in more detail in the following subsections. The project baseline is also described in Staff Report Section 6.2.1, *Baseline Assumptions*, and Section 13.4.2.2, *Baseline Condition*.

Fall X2 and Salinity Control

The 2008 USFWS BiOp (^USFWS 2008) included an action to provide improved Delta smelt habitat during September and October following above normal and wet water years, commonly referred to as "fall X2," where X2 is the location in the Bay-Delta, expressed as the distance in kilometers (km) from the Golden Gate Bridge, where the tidally averaged bottom salinity is 2 parts per thousand. Lower values of X2 reflect lower Delta salinity levels, which generally correspond with higher Delta outflow that is providing improved habitat protection for native fish species. The 2008 USFWS BiOp required maintenance of X2 no greater than 74 and 81 km following wet and above normal years, respectively. The fall X2 provisions of the USFWS 2008 BiOp were developed as an adaptive management action, to be tested and refined, and reconsidered by USFWS. However, the action was not fully implemented due to litigation and subsequent long-term modification as part of a reconsultation that changed the action to maintaining X2 no greater than 80 km in September and October following wet and above normal years(^USFWS 2019 BiOp).

The CDFW 2020 ITP (^2020 ITP) also added a block of flow to support Suisun Marsh Salinity Control Gate operations during June through August for the benefit of Delta smelt along with the above described fall X2 action. These provisions were unchanged in the 2024 LTO ROD/BiOps and ITP. However, they were changed in the 2025 LTO ROD and short-term changes have been approved in 2025 and 2026 ITP amendments as discussed above.

Because the fall X2 requirements of the 2008 USFWS BiOp were provisional and not fully implemented and subsequently changed the SacWAM baseline does not include these provisions and instead incorporates the 80-km fall X2 action from the 2019 USFWS BiOp and 2024 ROD/USFWS BiOp and the summer action from the CDFW 2020 and 2024 ITPs following wet and above normal years to best reflect the conditions that existed for the majority of this planning process. The baseline does not include the more recent changes to fully remove fall X2 that were included in the 2025 ROD and 2025 and 2026 ITP amendments because, as noted above, those changes took place well after the planning process for this project began and after the 2023 draft Staff Report.

Old and Middle River Reverse Flows

As discussed in Section 2.4.5, *South Delta Exports and Old and Middle River Reverse Flows*, exports and other diversions from the south Delta include Banks, Jones, Victoria Canal, and Old River Pumping Plants. The disparity between pumping rates and streamflow in the San Joaquin River creates net reverse flows, i.e., water flows upstream ("backwards"), on the OMR, which causes fish and food production to be drawn towards the pumps and subject to entrainment and associated mortality. Net OMR reverse flow restrictions were introduced in the USFWS 2008 BiOp (RPA Actions 1 through 3), the NMFS 2009 BiOp (RPA Action IV.2.3), and the CDFW 2009 ITP (Conditions 5.1 and 5.2) to avoid jeopardy to Delta smelt, salmonids, and longfin smelt, respectively. Similar OMR requirements were included in the 2019 BiOps and 2020 ITP, with some changes to provide for more prescriptive triggers and formalized procedures for OMR management. Court orders were issued related to OMR management pursuant to the 2019 BiOps that did not affect the modeling assumptions. Similar OMR provisions were also included in the 2024 ROD/BiOps and ITP, with some substantive changes to add OMR restrictions to protect longfin smelt that were not included in the 2008 or 2019 USFWS BiOps (longfin smelt were listed under the federal ESA in 2024 and thus not included in either the 2008 or 2019 USFWS BiOps). More substantive changes to OMR management were also included in the 2025 ROD and ITP amendments. The additional longfin smelt OMR

restrictions included in the 2024 ROD/BiOps and the changes to OMR management included in the 2025 ROD and ITP amendments are not included in the baseline because changes did not take effect until 2025 and later after the 2023 draft Staff Report. The baseline OMR reverse flow limitations apply from as early as November through as late as June 30 and include restrictions on reverse flows to no more negative than -5,000 cubic feet squared (cfs), except for high-flow periods when OMR reverse flows may be as high as -6,250 cfs, with increasingly positive limits based on triggers related to entrainment risk of Delta smelt, longfin smelt, and salmonids.

San Joaquin River Inflow to Export Ratio

The 2009 NMFS BiOp included restrictions on Delta exports during the April-to-May peak outmigration period for San Joaquin River basin steelhead. At that time, the 2009 BiOp restricted the ratio of San Joaquin River flow at Vernalis to the combined amount of water exported (the inflow to export ratio [I:E]) to be between 1:1 and 4:1 based on water year type or 1,500 cfs, whichever is greater.

As described in Chapter 6, *Changes in Hydrology and Water Supply*, the 2019 BiOps and 2020 LTO ROD (Reclamation 2020) proposed the removal of the I:E limits that were included in the 2009 NMFS BiOp. A similar export limit to increase spring Delta outflows was applied to the SWP operations in the 2020 CDFW ITP. The 2020 CDFW ITP requirement limited SWP exports according to the SWP's share of the San Joaquin I:E requirement as previously defined in the NMFS 2009 BiOp, with some additional offramps that allow for somewhat greater exports in wet years. While the CVP I:E requirements were proposed to be removed in the 2019 BiOps and 2020 LTO ROD, court orders and other actions associated with litigation on the 2019 BiOps and 2020 LTO ROD resulted in this component not being implemented until 2025 under the 2024 LTO ROD. As a result, the CVP was effectively operating to the 2020 CDFW ITP I:E (spring Delta outflow) requirement that applied to the SWP, which resulted in San Joaquin I:E constraints on CVP exports generally limiting I:E to between 1:1 in drier conditions up to 4:1 in wetter conditions for all of April and May similar to constraints that had been in place since 2009.

In late 2024, Reclamation received updated LTO BiOps and adopted an updated ROD (Reclamation 2024) that did not include the San Joaquin I:E restrictions on CVP exports during the spring. When the 2024 LTO ROD superseded the 2020 LTO ROD in December 2024, the court order applicable to the 2020 ROD was no longer in effect meaning that in 2025, for the first time since 2009, the more stringent I:E provisions were no longer in effect for the CVP. The 2024 CDFW ITP for operations of the SWP retains the 2020 CDFW ITP I:E (spring Delta outflow) requirements for the SWP's proportional share of combined CVP and SWP exports until such time as the HRL flow and habitat commitments are implemented under the VA pathway. At that time, the ITP I:E requirements would be eliminated in favor of the HRL export reductions.

Because the CVP had effectively been operating to the 2020 ITP spring Delta outflow requirement applied to the SWP until 2025, the SacWAM baseline incorporates the San Joaquin I:E limit as formulated in the 2020 ITP but applied to both SWP and CVP exports. This is a reasonable assumption as these conditions are closest to recent operations and are largely consistent with conditions that existed at the time the NOP was issued for this project and the conditions that have existed for the majority of this planning process. Removing the San Joaquin I:E limitations on CVP exports from the SacWAM baseline would substantially increase CVP exports in April and May, with a concurrent decrease in Delta outflow and increase in net negative (reverse) OMR flows, which

collectively would not represent CVP and SWP LTO conditions at the time of the NOP or for the majority of this planning process.

In summary, the SacWAM baseline incorporates the San Joaquin I:E limit as formulated in the 2020 CDFW ITP and applied to both SWP and CVP exports because these model assumptions are closest to recent operations and are largely consistent with conditions that existed at the time the NOP was issued for this project. Although there have been changes over time in the I:E limits for CVP operations as formulated in the BiOps and LTO RODs, the CVP had effectively been operating with provisions consistent with the 2020 CDFW ITP spring Delta outflow requirement applied to the SWP until 2025.

Head of Old River Barrier Spring Installation

Starting in 1992, DWR installed a temporary rock barrier in Old River at the junction of the San Joaquin River and the head of Old River (Head of Old River Barrier or HORB) during peak outmigration spring months of April and May to increase survival of juvenile salmon and steelhead by blocking the entrance to Old River and exposure to mortality from the SWP and CVP pumping facilities, poor habitat conditions, and increased predation pressure (2009 NMFS BiOp, DWR 2023). Installation of the spring HORB generally occurred in April and was maintained through May but was not installed during years with higher San Joaquin River flows (e.g., 7,000 cfs). The 2008 Proposed Action for coordinated operation of CVP and SWP included spring HORB installation as part of the South Delta Temporary Barriers commitment (Reclamation 2008) and was reflected in the NMFS 2009 BiOp. The 2019 and 2024 CVP and SWP LTO and associated BiOps do not include requirements for spring HORB installation.

The SacWAM baseline does not include operation of spring HORB. Since 2017, the spring HORB has not been installed due to high San Joaquin River flows or due to the removal of spring HORB as a commitment in the CVP and SWP LTO or as a requirement in an associated BiOp (DWR 2023).

Delta Cross Channel

As discussed in Section 5.4.6.1, *Delta Cross Channel Gates,* since 2009 the LTO and associated NMFS BiOps have included a DCC gate closure requirement during October 1 through November 30 to reduce loss of early migrating Sacramento River basin-origin juvenile salmonids entering into the interior Delta based on the Knights Landing Catch Index or Sacramento Catch Index. Further, it requires the DCC gates to be (1) closed from December 1 through January 31, except to prevent exceeding a State Water Board Water Right Decision 1641 (D-1641) water quality threshold, (2) closed from February 1 through May 20, and (3) closed for a total of 14 days during May 21 through June 15. As described above, the SacWAM baseline assumes the DCC gate closure requirements because those requirements have not substantively changed since the 2009 NMFS BiOp.

Comments on Baseline Assumptions and Federal and State Endangered Species Act Requirements

Several commenters expressed concerns that the project baseline was changed between the release of the 2023 draft Staff Report and the 2025 partially recirculated draft Staff Report, that the Staff Report used multiple baselines, and that the Staff Report should have defined baseline conditions as they existed in 2009 when an NOP was released for the proposed Bay-Delta Plan updates for San Joaquin River flows and Southern Delta Salinity.

As described in the *Overview of Project Baseline* section, CEQA requires a description of the physical environmental conditions in the vicinity of the project as they exist at the time the NOP is published or if no NOP is published, at the time environmental analysis is commenced (Cal. Code Regs., tit. 14, § 15125.). Where necessary to provide the most accurate representation practically possible of the project's potential impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence.

The NOP for the Sacramento/Delta Plan update was published on January 24, 2012 (supplemental NOP for the Sacramento/Delta update to the Bay-Delta Plan). For the purposes of quantitative analyses based on modeled changes in hydrology, consistent with CEQA guidelines and agency discretion, the State Water Board established a baseline at the time of the release of the 2023 draft Staff Report that is very similar but not identical to physical environmental conditions as they existed in 2012, with changes in Project operations as they have been implemented for the majority of this planning process and prior to 2023. The SacWAM baseline assumptions represent ESA and CESA requirements and Project operations at the time of the 2023 draft Staff Report. The SacWAM baseline is necessary to provide an accurate representation of potential impacts that could occur from the Plan amendments and is supported by substantial evidence described in the following sections of the Staff Report: 13.4.2, *Modeling Approach*; Appendix H1a, *Sacramento Water Allocation Model Methods*; Section 6.2, *SacWAM Model Assumptions*; and Section A1.1.5.1, *Baseline Scenario*. By using a baseline that represents existing conditions at the time of the 2023 draft Staff Report and is very similar to physical conditions as they would have existed in 2012, the analyses avoid underestimating water supply impacts that may have otherwise been observed under some of the alternatives compared to the baseline.

As described above, there were no changes in the SacWAM baseline assumptions regarding ESA and CESA requirements between the 2023 draft Staff Report and 2025 partially recirculated draft Staff Report. However, in addition to the project baseline, other points of comparison are used in the Staff Report and Scientific Basis Report Supplement for accounting for the flows proposed to be provided under the VA pathway, analyzing the expected benefits of the VA pathway, or analyzing the effects of the Sacramento/Delta updates in combination with the updates to the San Joaquin River flow objectives approved in 2018 or the proposed Tuolumne River HRL. These other points of comparison are described below under *Points of Comparison for VA Analyses*.

Multiple commenters asserted that the baseline assumptions used in the Staff Report were inaccurate or out of date in light of changes in ESA and CESA requirements that occurred during the planning process. Commenters suggested that the project baseline should have instead used other iterations of ESA and CESA requirements at various times during the planning process.

Some commenters suggested the Staff Report should use the 2008/2009 BiOps assumptions as the project baseline, which they asserted were more protective for fish and wildlife, including higher Delta outflow requirements. Some commenters also suggested that the project baseline should represent conditions that existed when the State Water Board first issued an NOP in 2009 and supplemental NOP in 2012. As discussed above, the project baseline represents existing conditions during the development of the revised proposed Plan amendments in order to effectively evaluate project alternatives and expected outcomes. Thus, the project baseline includes ESA and CESA regulatory requirements as they were implemented during the majority of this planning process and prior to the release of the 2023 draft Staff Report and continuing to the end of 2024 when significant changes to LTO operations were implemented. The 2008/2009 BiOps present conditions that were never fully implemented such as the fall X2 requirements in the 2008 BiOp as described above. Changes to the Staff Report are not warranted in response to these comments.

The differences between the baseline and the 2008/2009 BiOps condition are described in detail in Chapter 6, *Changes in Hydrology and Water Supply*. The major differences are changes in fall Delta outflow requirements between the BiOps, with somewhat minor differences in export constraints in wetter years and other minor differences that have little to no effect on the modeling. Specifically, the higher fall Delta outflow conditions of the 2008 BiOp are not included in baseline in recognition that these requirements were not fully implemented, have changed, and that those changes are likely to persist as described above. Not including the higher fall Delta outflow conditions of the 2008 BiOp in baseline ensures that the water supply effects of the Plan amendments and other alternatives are not underestimated. However, elimination of these outflows in the baseline also affects the resulting increases in Delta outflows expected under the proposed VAs compared to baseline during the winter and spring due to changes in spills and other effects.

Other commenters suggested the project baseline should assume the requirements of the 2019 BiOps, without including requirements of the 2020 ITP. Several commenters suggested that applying the I:E limit in the 2020 ITP to both the CVP and SWP represents hypothetical conditions rather than actual, existing conditions, and that this assumption affects the model results of water supply impacts. As discussed above, because the CVP had effectively been operating to the 2020 CDFW ITP spring Delta outflow requirement applied to the SWP until 2025 (and similar conditions before that that were included in the 2009 NMFS BiOp), the SacWAM baseline incorporates the San Joaquin I:E limit as formulated in the 2020 CDFW ITP but applied to both SWP and CVP exports since these conditions are closest to recent operations and are largely consistent with conditions that existed at the time the NOP was issued for this project. By incorporating the San Joaquin I:E limit as formulated in the 2020 ITP conditions for both the CVP and SWP, the Staff Report adequately captures existing conditions at the time of the release of the 2023 draft Staff Report. Changes to the Staff Report are not warranted in response to these comments.

Several commenters asserted that the project baseline is outdated and should be updated to reflect the requirements of the 2024 BiOps. Some commenters suggested that the baseline should be updated to reflect other conditions that have changed since 2023, or possible future conditions that could occur as a result of future water rights, diversions, infrastructure, and climate change. As explained above, the project baseline includes regulatory requirements as they were implemented in recent years prior to the release of the 2023 draft Staff Report (and continuing until the end of 2024 when significant changes to LTO operations were implemented) to represent existing conditions during the development of the revised proposed Plan amendments. Changes to ESA and CESA requirements are reflected in various scenarios that are compared to the baseline. This comparison adequately discloses the interaction of the changes in ESA and CESA requirements with

the project that have occurred. The Staff Report includes informational evaluation and sensitivity analyses to explore how recent changes and potential future conditions could influence the project's outcomes.

CEQA, does not mandate "a uniform, inflexible rule for determination of the existing conditions baseline. Rather, an agency enjoys the discretion to decide, in the first instance, exactly how the existing physical conditions without the project can most realistically be measured, subject to review as with all CEQA factual determinations, for support by substantial evidence" (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 328).

A lead agency is not required to continuously revise its baseline as circumstances change, nor is it required to speculate on future conditions, projects, regulations, BiOps, third-party agreements, or other changes that are not reasonably foreseeable. To ensure that the State Water Board provided the most accurate picture practically possible of the project's likely impacts, the Staff Report identified relevant environmental conditions at various points in the process. The Staff Report and SacWAM documentation describe baseline assumptions and durable changes that had occurred since the publication of the NOP, while acknowledging ongoing activities with unknown outcomes at the time.

Commenters also critiqued the regulatory assumptions used to evaluate the 55 w/WSAs scenario and the VA pathway described in Chapter 13, *Revised Proposed Plan Amendments*. Commenters asserted that unlike the alternatives presented in the 2023 draft Staff Report and the project baseline, the 55 w/WSAs scenario and VA pathway described in Chapter 13 do not include San Joaquin I:E constraints on CVP exports from April through May beyond those included in D-1641. Commenters stated that these scenarios should be based on the same regulatory assumptions as those included in the 2023 draft Staff Report. However, while the assumptions for the SacWAM baseline remained consistent across all analyses and alternatives evaluated in the Staff Report, the modeling of the 55 w/WSAs scenario and VA scenario presented in Chapter 13 reflect the updated project description and current regulatory requirements. As discussed above, the SacWAM baseline includes the 2020 I:E limits applied to both the SWP and CVP. Because the revised proposed Plan amendments do not include any additional I:E requirements for either the CVP or the SWP beyond D-1641 requirements (consistent with Alternative 4a) additional I:E requirements for the CVP are not included in the model scenarios representing the revised proposed Plan amendments given that those requirements have been removed from the LTO with the 2024 ROD. Because the 2024 CDFW ITP continues to include these I:E requirements for operation of the SWP, consistent with the 2020 ITP, and only identifies that the requirements would be removed with implementation of the HRL export reductions, the Staff Report assumes those requirements continue under the regulatory pathway. However, given that it is possible that under a regulatory pathway these requirements would be removed from the SWP as well, a sensitivity analysis is included in Appendix H1a5, *Sacramento Water Allocation Model Results for Export Constraint Sensitivity Analysis*.

Commenters also stated that modeling of the baseline and VA pathway should have incorporated the DPP components of the 2024 LTO. As described above, the DPP agreement includes reducing water supplies to the Settlement Contractors under certain conditions. At the time the revised Plan amendments were proposed, there was uncertainty regarding how implementation of the DPP would interact with other changes resulting from the 2024 BiOps since many of the commitments described in the DPP depend on factors beyond the governance of the VA pathway. Additionally, as described above, a lead agency is not required to continuously revise its baseline as circumstances change. The DPP may result in more Shasta carryover storage and temperature benefits during

some critically dry years, but appropriate modeling assumptions regarding the implementation of the Shasta Operations Framework remain unclear. Please refer to Staff Report Chapter 13*, Revised Proposed Plan Amendments*, for qualitative analysis of the potential effects of the DPP.

Some commenters recommended revisions to the Staff Report to incorporate the 2025 ROD/ITP into the project baseline. The specific changes under the 2025 ROD/ITP were not modeled and evaluated in the 2025 partially recirculated draft Staff Report released for public review and comment on December 12, 2025, because those changes occurred at nearly the same time as the release of the 2025 partially recirculated draft Staff Report. In addition, the 2025 ROD/ITP are not included in the project baseline because they do not represent conditions that existed at the time of the NOP nor during the majority of the planning process for the Sacramento/Delta updates to the Bay-Delta Plan. However, the final Staff Report has been updated to provide information on the possible effects of the 2025 ROD/ITP that is in addition to the information and analyses provided in Chapter 13*, Revised Proposed Plan Amendments*, of the 2025 partially recirculated draft Staff Report. Several sections have been updated with new information about the possible changes that could occur under the revised proposed Plan amendments in combination with the 2025 ROD/ITP, including Section 13.4, *Changes in Hydrology and Water Supply*; Section 13.5, *Beneficial Environmental Effects*; and Section 13.7, *Environmental Analysis*.

The HRL flows are intended to be additive to required flows under D-1641 and resulting flows under the 2024 LTO ROD and 2024 NMFS and USFWS BiOps rather than the 2025 ROD/ITP. As such, because changes under the 2025 ROD/ITP could reduce the base upon which the HRL flow commitments are intended to be added the revised proposed Plan amendments include a new base flow balancing provision for CVP/SWP operations (referred to as the LTO base flow balancing provision), which is discussed in more detail in Staff Report Section 13.3, *Revised Proposed Plan Amendments*, and Common Response 1.3, *Revised Proposed Plan Amendments*. The provision requires an increase in HRL flow commitments to make up for reductions in Delta outflows caused by changes in SWP and CVP operations compared to base conditions analyzed in the Staff Report and Scientific Basis Report Supplement in support of the VA pathway. (Base conditions are described below under *Points of Comparison for VA Analyses*.) The additional analyses presented in Chapter 13, *Revised Proposed Plan Amendments*, show the effects of not having the LTO base flow balancing provision. However, the LTO base flow balancing provision is expected to ensure that the benefits to Delta outflows under the VA pathway from the VA commitments, as they were proposed as additive to flows in 2023, are achieved.

The LTO base flow balancing provision would not apply under the regulatory pathway because the regulatory pathway flow requirements are not additive to base flows but instead are independent requirements for tributary and Delta outflow levels based on unimpaired flows. Under the regulatory pathway, the State Water Board has the authority to impose specific water right requirements if needed to implement the narrative interior Delta flow objective. During annual and periodic reviews, the State Water Board will assess the need for any changes to the Bay-Delta Plan or its implementation to ensure the reasonable protection of fish and wildlife beneficial uses, including in response to the 2025 ROD/ITP or future changes.

Points of Comparison for VA Analyses

In addition to the project baseline, other points of comparison are used in the Staff Report for describing and analyzing the effects of the HRL proposal. However, these other points of comparison are not the basis of the impact conclusions presented in the Staff Report.

In particular, as described in the revised proposed Plan amendments and Appendix B.1, the VA flow commitments are intended to be additive to flows required by D-1641 and flows resulting from implementation of the 2024 LTO ROD and 2024 BiOps where applicable,[1] other regulatory requirements, and other non-regulatory flows that would be present absent HRL flow commitments as analyzed in the Scientific Basis Report Supplement supporting the VA pathway and the Staff Report. This condition is referred to as the "base" in the main body of the Plan and the "reference conditions" in Appendix B.1. The Memorandum of Understanding Advancing a Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan, and Other Related Actions (MOU) originally identified that flows would be additive to flows required by D-1641 and flows resulting from implementation of the 2019 BiOps. Since that time the HRL participants have requested that provisions referencing the 2019 BiOps be modified to reflect the 2024 LTO updates, which are largely consistent with the 2019 LTO and BiOps (DWR has prepared a memo [DWR 2025] summarizing the differences [see Appendix H1a, Section H1a.3.2, *Sensitivity to LTO of the CVP and SWP*]). Following the HRL participants' request to change the VA pathway base flow conditions from the 2019 BiOps to reflect the 2024 LTO updates to the ROD and BiOps, Reclamation adopted the 2025 LTO ROD, as discussed above, that relied on the 2024 BiOps but made further changes that would affect the base/reference conditions.

The HRL flows were assumed to be additive to the flows analyzed in the 2023 Final Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements and assumed to be part of the base in the Staff Report. To make clear that the base for the VA pathway flows does not include the 2025 ROD changes, the revised proposed Plan amendments, including Appendix B.1, specify that the base/reference conditions for the VA pathway flows are flows resulting from implementation of the 2024 ROD and BiOps (2024 ROD/BiOps) where applicable. Any references to the 2024 BiOps as part of the base/reference conditions in this Staff Report and response to comments is intended to reflect the 2024 ROD. Also, some documents that were produced before the change from the 2019 BiOps to the 2024 ROD/BiOps were not updated to refer to the 2024 ROD/BiOps. Chapter 13, *Revised Proposed Plan Amendments*, includes the updated language for the revised proposed Plan amendments for this and other issues.

The final draft Bay-Delta Plan was also updated to clarify that the base/reference conditions is not intended to include increased diversions from new water supply projects, including water right applications and change petitions approved after 2025, that are not part of the VA pathway but instead subject to the regulatory pathway and the inflow and inflow-based Delta outflow requirements in Sections 4.4.2.2 and 4.4.2.6 of the Plan.

The VA pathway base is different than the project baseline in that the base is the theoretical assumed starting point for accounting purposes upon which HRL flow contributions would be added, rather than a reflection of current or prior existing conditions or baseline. The baseline is the primary point of comparison for evaluating the environmental impacts of the alternatives evaluated

[1] Because the HRL proposal includes tributaries and water right holders that are not associated with the CVP and SWP, the statement "where applicable" is included.

in the Staff Report. The major difference between the baseline and VA pathway flow base is the applicability of I:E constraints that limit exports during April and May. The I:E export limits have the effect of restricting exports and increasing Delta outflow during April and May. In the VA pathway flow base that assumes the 2024 ROD/BiOps condition, exports are higher on average in January through June than the project baseline, and Delta outflow is lower on average in these months, because the 2024 ROD/BiOps does not include the I:E requirements from the 2020 ITP or 2009 BiOps applied to either the CVP or the SWP (see above section on *Federal and State Endangered Species Act Requirements* for more details). Therefore, the VA pathway base assumes that the I:E requirements do not apply to the CVP or SWP. Instead, the VA pathway includes an HRL flow commitment for reduced exports that would account for a portion of the effects of removed I:E constraints on interior Delta flows and Delta outflow.

The 2024 LTO also includes other relatively minor differences in cold water pool management on the Sacramento River, minimum instream flows on Clear Creek, American River water temperature management strategies, and OMR management. The 2024 LTO ROD also included provisions to implement HRL export reductions for two years prior to approval of HRL commitments by the Board ("Early Implementation").[2] In addition, the 2024 LTO ROD includes provisions to implement the HRL commitments after approval by the Board. If the HRL commitments are not approved, then Reclamation would conduct operations consistent with 2024 LTO ROD, which does not include a spring outflow or I:E action absent adoption of the VA pathway. The differences between the 2019 BiOps and the 2024 LTO are generally minor, and they would not substantially affect the incremental analysis of the modeling and therefore are not reflected in any of the SacWAM modeling scenarios evaluated in Staff Report Chapter 13, *Revised Proposed Plan Amendments* (see Appendix H1a, *Sacramento Water Allocation Model Methods,* Section H1a.3.2, *Sensitivity to LTO of the CVP and SWP,* for additional discussion of differences in modeling assumptions and results between the 2019 BiOps and 2024 LTO).

The difference between the project baseline and the VA base (2024 ROD/BiOps condition) reduces the magnitude of expected increases in Delta outflows under the VA pathway when comparing the HRL flow commitments to the project baseline and the analytical reference point in the Scientific Basis Report Supplement, as do other details associated with the HRL proposal, including whether flows are accounted for as Delta outflow or not. These differences have been disclosed and appropriately evaluated in the Scientific Basis Report Supplement and Staff Report.

The Staff Report also assesses benefits of the VA flow commitments in Section 9.6, *Beneficial Environmental Effects of Proposed VAs*, relative to the USFWS 2008/NMFS 2009 BiOps condition (referred to as the "2008–2009 BiOps condition"), which is the point of reference used for both the 2017 Scientific Basis Report and the Scientific Basis Report Supplement. The 2008-2009 BiOps condition represents the flows resulting from implementing D-1641 and the CVP and SWP BiOps issued in 2008/2009 for long-term CVP/SWP operations, as modeled. The differences between the baseline and the 2008-2009 BiOps condition are described in detail in Chapter 6, *Changes in Hydrology and Water Supply*. The major differences are changes in fall Delta outflow requirements between the BiOps, with somewhat minor differences in export constraints in wetter years and other minor differences that have little to no effect on the modeling.

[2] Subsequent to the signing of the 2024 ROD, Reclamation proposed to remove Early Implementation of the HRL Delta export reduction in its Action 5 Operations Plan for the LTO of the CVP and SWP (Reclamation 2025). Reclamation did not carry out the Early Implementation action during water year 2025.

Specifically, the higher fall Delta outflow conditions of the 2008 BiOp are not included in the project baseline in recognition that these requirements have changed and that those changes are likely to persist. Not including the higher fall Delta outflow conditions of the 2008 BiOp in baseline ensures that the water supply effects of the Plan amendments and Low and High Flow alternatives are not underestimated. However, elimination of the 2008 BiOp fall Delta outflows in baseline also affects the resulting increases in Delta outflows expected under the proposed VAs compared to baseline during the winter and spring due to changes in spills and other effects. Staff Report Section 9.3.6, *Points of Comparison for VA Flow Assets*, provides additional information about the 2008-2009 BiOps condition.

In addition to flow commitments, the VA pathway includes HRL non-flow habitat restoration actions. For VA benefit analyses, the effects of habitat restoration are evaluated relative to the habitat produced by the physical conditions and regulatory requirements existing as of December 2018, to correspond with the habitat accounting requirements. More information on VA habitat accounting can be found in Common Response 1.3, *Revised Proposed Plan Amendments*.

Some commenters conflated the project baseline with the other points of comparison used in the Staff Report and Scientific Basis Report Supplement for describing and analyzing the effects of the VA pathway. Multiple commenters stated that the Staff Report's environmental analysis relies on a different baseline for the VA pathway than the flow scenarios, which commenters asserted is not an appropriate approach to the analysis. Others asserted that the 2019 BiOps condition and 2024 ROD/BiOps condition are not an appropriate baseline for evaluating the environmental impacts and beneficial environmental effects of the VA pathway because existing Delta outflows are often greater than the flows required under the 2019 BiOps condition and 2024 ROD/BiOps condition, and the VA flow assets may therefore include certain flows that would be provided in the absence of the VA pathway. These commenters appear to have confused the project baseline with the other points of comparison described above (including the 2008-2009 BiOps condition, 2019 BiOps condition, and 2024 ROD/BiOps condition) that differ from the project baseline. The baseline is the primary point of comparison for evaluating the environmental impacts of the alternatives evaluated in the Staff Report, and the same baseline is used for the analysis of each alternative evaluated in the Staff Report. Changes to the Staff Report's analyses are not warranted in response to these comments.

Some commenters suggested that a different baseline should be used to evaluate the environmental impacts and beneficial environmental effects of the VA pathway. Some commenters asserted that the Staff Report's baseline diminishes the VA flow commitments, and that the project baseline underestimates both the water supply impacts and beneficial environmental effects from changes in Delta outflow under the VA pathway. As described above, the project baseline includes regulatory requirements as they were implemented for the majority of this planning process and in recent years prior to the release of the 2023 draft Staff Report (and continuing until the end of 2024 when significant changes to LTO operations were implemented) to represent existing conditions during the development of the revised proposed Plan amendments and is appropriate for the Staff Report's analyses. In addition, the use of the same baseline to evaluate the effects of each alternative allows for a comparison of the environmental impacts of each project alternative. For example, Appendix H4, *Impact Summary Table for Alternatives*, presents a summary of the potential environmental impacts of the proposed Plan amendments, Low Flow Alternative, High Flow Alternative, proposed VAs, and No Project Alternative compared to the revised proposed Plan amendments. Changes to the Staff Report's analyses are not warranted in response to these comments.

As discussed in Section 9.5.2, *VA Modeling Approach*, it is possible that the changes in exports and associated changes in interior Delta flows between the 2019 BiOps condition (as well as in the VA scenarios) and the baseline (and 2008-2009 BiOps condition) as modeled in SacWAM may overestimate actual increases in exports based on comparison to CalSim II analyses of the same regulatory change. As discussed in Section 9.5.3.9, *Delta Inflows, Exports, Interior Delta Flows, and Delta Outflow Results*, changes in water supplies to the San Joaquin Valley region under the modeled VA scenarios are largely driven by BiOp and ITP constraints, namely that the baseline includes I:E constraints whereas the VA accounting is based on the 2019 BiOps condition which excludes these constraints, rather than resulting from the addition of the HRL commitments to the Bay-Delta Plan.

Some commenters noted that the Staff Report's incremental analysis of the VA pathway based on SacWAM results differed from an incremental analysis based on the results of modeling conducted by the DWR using CalSim 3. The only point of comparison included in DWR's CalSim modeling of the VA pathway was a scenario that includes the 2019 BiOps and excludes the 2020 ITP. Because the flow conditions that would have resulted from implementing the 2019 BiOps in the absence of the 2020 ITP and other actions described above under *Endangered Species Act and California Endangered Species Act Requirements* never occurred during the preparation of the Staff Report, the 2019 BiOps scenario simulated by CalSim 3 would have been an inappropriate baseline for the environmental analysis. As described above, the SacWAM baseline incorporates the San Joaquin I:E limit as formulated in the 2020 CDFW ITP but applied to both SWP and CVP exports since these conditions are closest to recent operations and are largely consistent with conditions that existed at the time the NOP was issued for this project and the conditions that existed during the majority of this planning process. Changes to the Staff Report's analyses are not warranted in response to these comments.

Vernalis Boundary Condition

As discussed in Section 6.2.1, *Baseline Assumptions*, of the Staff Report, the SacWAM boundary condition at Vernalis was developed using a CalSim 3 simulation based on the *2021 Delivery Capability Report* (^DWR 2022) specified to include D-1641 Vernalis minimum monthly flows and salinity requirements. Some commenters were concerned that the modeled Vernalis boundary condition did not include all required flows under the 2009 NMFS BiOp, such as Stanislaus River minimum flows. In addition, commenters were also concerned that the boundary condition did not include the pulse flow included in the 1995 Bay-Delta Plan and D-1641 during April and May or the Vernalis Adaptive Management Plan (VAMP) flows that were allowed to be implemented under the San Joaquin River Agreement (SJRA) until 2011 (see Common Response 1.2, *Water Quality Control Planning Process*, for more information on VAMP and the SJRA). However, as described in *SacWAM and Existing Conditions* and *Federal and State Endangered Species Act Requirements* above, the boundary condition is intended to represent the existing conditions during the preparation of the Staff Report and the revised proposed Plan amendments. To the extent that there were enduring changes to flow requirements that occurred before the 2023 draft Staff Report those changes were included in the baseline similar to the changes to fall X2 discussed above. Specifically, the changes the Stanislaus River flow requirements from the 2009 BiOp to the 2019 BiOp were included to reflect relatively minor changes in these requirements that have been in place since 2019. These changes are also included in both the baseline and the evaluation of the flow scenarios so these assumptions have no effect on the relative impacts assessment between baseline and the scenarios. As discussed in Common Response 1.2 the 1995 Bay-Delta Plan April and May pulse flows that are

included in D-1641 have never been fully implemented and including it would have produced unrealistically high flow assumptions from the San Joaquin River at Vernalis. Likewise, the VAMP flows should also not be included as part of the boundary condition as the SJRA ended in 2012.

Commenters also asserted that because CVP and SWP exports and other Delta flows are affected by changes in flow at Vernalis, the boundary condition has consequences for modeled operations in SacWAM. However, because the current project does not affect Vernalis flows, it is appropriate to maintain a fixed boundary flow condition for the purposes of an incremental analysis of alternatives compared to baseline.

To inform the analysis of environmental benefits in Chapter 9, *Proposed Voluntary Agreements*, and Chapter 13, *Revised Proposed Plan Amendments*, the Water Supply Effects (WSE) model[3] was used to produce incremental changes in flow that would result at Vernalis with implementation of the flow requirements on the Lower San Joaquin Tributaries and the Tuolumne River VA. These incremental changes in flow were determined relative to the WSE model baseline, which was developed primarily based on the CALSIM II model. Some commenters pointed out that structural differences between CALSIM II and CalSim 3 (which SacWAM is based on) cause flow results at Vernalis to diverge between the two models and using results from both models together would be inconsistent. However, this issue is avoided because the incremental changes in flow determined using WSE were added on top of the existing SacWAM Vernalis boundary condition developed using CalSim 3, instead of using the WSE Vernalis flows directly as the SacWAM boundary condition. This approach is well within the lead agency's discretion to select a baseline and a methodology.

Temporary Urgency Change Petitions

Some commenters noted that the State Water Board has approved multiple temporary urgency change petitions (TUCPs) in recent years related to CVP and SWP D-1641 requirements and suggested that the project baseline should incorporate the effects of TUCPs. The State Water Board did not incorporate TUCPs in the baseline but did consider them in the *No Project Alternative* that would occur in the absence of a Bay-Delta Plan update (see below).

It is inappropriate to incorporate assumptions regarding TUCPs in the project baseline. TUCPs that waive Delta standards are legally unavailable absent a drought declaration by a California Governor, a subsequent discretionary action by a California Governor to issue an Executive Order that waives compliance with the Porter-Cologne Water Quality Control Act under the Emergency Services Act (Gov. Code, § 8550 et seq.) and a further discretionary approve by the State Water Board relying upon the hypothetical Executive Order, with findings appropriate to that Executive Order. As discussed in more detail in Common Response 1.3, *Revised Proposed Plan Amendments*, Water Code section 1435 provides that a water right permittee or licensee who has an urgent need to change the point of diversion, place of use, or purpose of use from that specified in the permit or license may petition for a conditional temporary change order. The State Water Board's regulations clarify that requests for changes to permits or licenses other than changes in the point of diversion, place of use, or purpose of use may also be filed. Before approving a temporary urgency change, there must be

[3] WSE is a spreadsheet-based, hydrologic water balance model for the Lower San Joaquin River (LSJR) and its tributaries, the Stanislaus, Tuolumne, and Merced Rivers. The WSE model was originally developed by SWRCB to support its efforts for updating the Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary in 2018 (2018 Bay-Delta Plan).

CEQA compliance, and the State Water Board must make several findings. In order to approve a TUCP to modify requirements of D-1641 implementing the Bay-Delta Plan, the Governor must have declared a drought emergency and then further issued an Executive Order that suspended the requirements of Water Code section 13247 requiring state offices, departments, and boards to comply with state-approved water quality control plans during any activities that may affect water quality and then also waived CEQA compliance for such actions. A Governor may also make, amend, and rescind orders and regulations during an emergency (Gov. Code, § 8567). In light of the proposed Plan amendments, which differ from the status quo in that DWR and Reclamation are no longer almost solely responsible for meeting Delta standards, it would be highly speculative to incorporate assumptions in the project baseline about the conditions under which a future Governor might declare a drought, waive requirements, and impose further requirements or restrictions in order to model when and how future TUCPs, if any, might apply to modify effects on Delta outflow and salinity conditions, etc. Moreover, the inclusion of TUCPs in the baseline modeling is unnecessary to evaluate the incremental effects of the project and its alternatives compared to the baseline.

No Project Alternative

The CEQA Guidelines provide that the potential impacts of not approving a proposed project be evaluated under a No Project Alternative. "The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project" (Cal. Code Regs., tit. 14, § 15126.6(e)(1)). When the project is the revision of an existing regulatory plan, such as the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, the No Project Alternative will be the continuation of the existing Plan as currently implemented into the future (Cal. Code Regs., tit. 14, § 15126.6(e)(3)(A)). In general, the existing Plan and the projects initiated under the existing Plan would continue until the new Plan amendments are approved. The No Project Alternative analysis must discuss the existing conditions "as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (Cal. Code Regs., tit. 14, § 15126.6(e)(2)).

Alternative 1 is the No Project Alternative. For the purposes of the Staff Report's analysis, the No Project Alternative assumes the continued implementation of the State Water Board's 2006 Bay-Delta Plan, as implemented by D-1641 (revised March 15, 2000), with the existing hydrology and water supply conditions described in Chapter 2, *Hydrology and Water Supply*. However, No Project Alternative conditions differ from the existing condition baseline because existing flows in the Sacramento/Delta watershed, including baseline Sacramento/Delta flows, are generally substantially higher than the minimum flows required under the current Bay-Delta Plan and D-1641 and other regulatory requirements. Existing Delta outflows are often higher than minimum required Delta outflows (MRDO) (see Chapter 3, *Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations*, for additional discussion) and often include unprotected Delta outflows that could be diminished in the future as a result of further development of existing water rights and new water rights in the absence of additional instream flow protections, which could be exacerbated by climate change. In addition, there are very limited existing requirements for inflows in the Bay-Delta Plan, and many streams have limited or no requirements that prevent flows from being substantially

or entirely reduced. Therefore, under the No Project Alternative, Delta inflows and Delta outflows would be expected to be reduced over time to levels below baseline conditions.

In addition, the No Project Alternative, because it reflects the status quo, assumes that flows and water quality conditions required under D-1641 could be suspended at times through approval of possible TUCPs that could occur during future drought and drought recovery periods. If approved by the State Water Board, future TUCPs could result in diminished Delta inflows and Delta outflows that are lower than flows required under D-1641 at times, and associated increases in salinity levels. Under D-1641, DWR and Reclamation assumed almost the entire responsibility for meeting existing Delta outflow and salinity objectives and therefore have subsequently submitted TUCPs to the State Water Board requesting modification of these obligations during drought periods and drought recovery periods. The purpose of these TUCP requests was in large part to provide for maintaining CVP and SWP reservoir storage supplies for salinity control, minimal water supplies, and temperature management for the protection of the fishery. Exhaustion of these supplies is exacerbated in drought conditions due to the focused responsibility of DWR and Reclamation to meet these requirements rather than those obligations being distributed broadly over the watershed.

The State Water Board did include TUCPs in its consideration of the No Project Alternative because it has approved multiple TUCPs in recent years related to the Projects' D-1641 requirements, including TUCPs submitted by the Projects in 2014, 2015, 2016, 2021, 2022, and 2023 (petitions were also submitted in 2008/2009). California law identifies TUCPs as limited to urgencies that cannot otherwise be avoided through the exercise of due diligence (Wat. Code § 1435, subd. (c)). However, under the No Project Alternative it is foreseeable that the State Water Board may receive and could approve TUCPs during future drought and drought recovery periods. It is not possible to precisely quantify the effect that potential TUCPs could have on Delta outflow and salinity conditions under the No Project Alternative, given that the scope and extent of TUCPs could be variable consistent with the experience of prior TUCPs. As discussed above, the ability to consider TUCPs involving changes to water right requirements to implement water quality objectives is also contingent on temporary suspension of other requirements through Executive Orders issued pursuant to proclaimed states of drought emergency or other mechanisms that are uncertain. However, it is reasonable to assume that if the Projects remain almost solely responsible for meeting D-1641 flow requirements, then future TUCPs could be submitted and could result in temporary approvals of reductions to certain D-1641 flow requirements and increases in allowable flow dependent salinity levels.

Although increased diversions and diminished flows in the Sacramento/Delta watershed are reasonably expected to occur in the future in the absence of additional regulatory requirements, it is not possible to precisely quantify the expected increase in diversions and reduction in Delta inflows and Delta outflows that would occur under the No Project Alternative. The degree to which increased diversions would occur depends on the types, amounts, and timing of additional water diversions and any constraints placed on those diversions. Therefore, a range of conditions and effects is possible under the No Project Alternative. At one end of the range, future diversions under the No Project Alternative would be similar to baseline conditions. This scenario is unlikely because there are currently numerous infrastructure project proposals involving new or modified storage reservoirs and points of diversion in the Sacramento/Delta watershed, and it is foreseeable that Delta outflows would be reduced in the future as a result of additional water development projects. At the other end of the range, future diversions could reduce flows to regulatory minimums, including MRDO. The likely future condition would be somewhere in between, meaning that water

users likely would increase diversions beyond current levels but not to minimum required flows (including MRDO) for all months and hydrologic conditions. This likely future condition is assumed in the analysis presented in Section 7.24, *Alternatives Analysis*.

Additional information on the No Project Alternative and other alternatives evaluated in the Staff Report is provided in Section 7.2, *Alternatives Description*, Section 7.24, *Alternatives Analysis,* and Section 13.7.1.4, *Alternatives Analysis*. Also see Common Response 7.24, *Alternatives Analysis*, for responses to comments on the Staff Report's alternatives analysis.

Trinity River

Imports from the Trinity River to the Bay-Delta watershed are incorporated into the modeling in the Staff Report. Several commenters stated that the modeling relies upon an inaccurate baseline that artificially inflates imports from the Trinity River to the Bay-Delta watershed by not including existing flow constraints and protections that apply on the Trinity River. These comments misconstrue how the Trinity River imports were incorporated into the modeling by assuming that the actual imports from the modeling period of record of 1922-2015 are used. Instead, the hydrology for this period is used while applying current baseline regulatory requirements. Section 7.7.9 of the SacWAM documentation (^SacWAM 2023, ^SacWAM 2026) describes the baseline flow requirements on the Trinity below Lewiston, which includes the 2000 ROD for Reclamation's operations of the Trinity River Division and the 2017 Long-Term Plan to Protect Adult Salmon in the Lower Klamath River ROD, which documents Reclamation's operational framework for implementing disease-management flows, including fall flow augmentation from Trinity Reservoir. However, it does not include Humbolt County's entitlement for 50 thousand acre-feet (TAF) of water to be released from Trinity Reservoir into the Trinity River pursuant to the Trinity River Division Act because this provision has never been implemented. Information in Chapter 2, *Hydrology and Water Supply,* referenced by some commenters, presents background setting information explaining that water is imported to the Sacramento Watershed from the Trinity River. It is not intended to describe any modeling. Additional information regarding average imports from 2005-2021 following implementation of the Trinity ROD has been added to Chapter 2. This addition does not affect any of the analyses. SacWAM documentation for the Trinity ROD implementation, and Appendix A1, *Sacramento Water Allocation Model Methods and Results,* Table A1-134, shows that long-term average Trinity River imports as modeled are lower than that 1986–2021 average imports at 482 TAF/yr; the modeled imports are lower than the observed imports over this period because the Trinity ROD was signed in 2000, which reduced imports from the Trinity, and SacWAM assumes a fixed set of regulations over the entire period of simulation that includes the 2000 and 2017 Trinity and Klamath ROD requirements.

For information about the Trinity River, including how the Bay-Delta Plan update relates to the Trinity River, please refer to Common Response 1.5, *Trinity River*.

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