

Long-Term Operation of the State Water Project in the Sacramento-San Joaquin Delta, Suisun Marsh, and Suisun Bay

ADDENDUM TO THE FINAL ENVIRONMENTAL IMPACT REPORT (SCH No. 2023060467) TO MODIFY CONDITION OF APPROVAL 9.1.3 DELTA SMELT SUMMER-FALL HABITAT ACTION IN 2025 UNDER INCIDENTAL TAKE PERMIT No. 2081-2023-054-00

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August 2025

ICF. 2025. *Addendum to the Final Environmental Impact Report (SCH No. 2023060467) to Modify Condition of Approval 9.1.3 Delta Smelt Summer-Fall Habitat Action in 2025 Under Incidental Take Permit No. 2081-2023-054-00.* August. (ICF 104469.0.014.) Sacramento, CA. Prepared for California Department of Water Resources, Sacramento, CA.

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Acronyms and Abbreviations

Term	Definition
°C	degrees Celsius
BiOp	biological opinion
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cHAB	cyanobacteria harmful algal bloom
CVP	Central Valley Project
D-1641	Decision 1641
DCG	Delta Coordination Group
Delta	Sacramento–San Joaquin Delta
DSM2	Delta Salinity Model II
DWR	California Department of Water Resources
EDSM	Enhanced Delta Smelt Monitoring Program
EIR	environmental impact report
FEIR	final environmental impact report
ITP	incidental take permit
km	kilometer
mm	millimeter
NDOI	Net Delta Outflow Index
NTU	Nephelometric Turbidity Unit
<i>P. forbesi</i>	<i>Pseudodiaptomus forbesi</i>
ppt	parts per thousand
psu	practical salinity unit
Reclamation	U.S. Bureau of Reclamation
Rkm	river kilometer
SCHISM	Semi-Implicit Cross-scale Hydroscience Integrated System Model
SMSCG	Suisun Marsh Salinity Control Gates
<i>Summer-Fall Action</i>	Delta Smelt Summer-Fall Habitat Action
SWP	State Water Project
TAF	thousand acre-feet
USFWS	U.S. Fish and Wildlife Service
WY	water year

1.1 Introduction

The California Department of Water Resources (DWR, permittee) is submitting a Major Amendment Request to the California Department of Fish and Wildlife (CDFW) for its incidental take permit (ITP) for the Long-Term Operations of the California State Water Project (SWP) (California Department of Fish and Wildlife 2024; Permit No. 2081-2023-054-00). The ITP, referred to hereafter as the 2024 LTO ITP, was issued in 2024 and provides incidental take coverage for the effects of SWP operations on five fish species listed under the California Endangered Species Act (CESA)—Longfin Smelt (*Spirinchus thaleichthys*), Delta Smelt (*Hypomeus transpacificus*), winter-run Chinook Salmon (*Oncorhynchus tshawytscha*), spring-run Chinook Salmon (*O. tshawytscha*), and White Sturgeon (*Acipenser transmontanus*) in: (1) the Sacramento River from its confluence with the Feather River downstream to the legal Sacramento–San Joaquin Delta (Delta) boundary at the I Street Bridge in the city of Sacramento; (2) the Delta (i.e., upstream to Vernalis and downstream to Chipps Island); and (3) Suisun Marsh and Bay (see Figure 1-1). This request is DWR’s first request for an amendment to ITP 2081-2023-054-00.

This Environmental Impact Report (EIR) Addendum provides California Environmental Quality Act (CEQA) coverage for DWR’s request for a Major Amendment (Amendment 1) to the 2024 LTO ITP, in which DWR requests to modify Condition of Approval (COA) 9.1.3, *Delta Smelt Summer-Fall Habitat Action (Summer-Fall Action)*, which includes development of an annual Summer-Fall Action Plan.

COA 9.1.3 is intended to improve survival, growth, and recruitment of Delta Smelt through enhancement of habitat conditions and food web transport to the low-salinity zone during the fall of wet and above normal years. Suisun Marsh and Grizzly Bay represent high-quality habitat due to their complex bathymetry with deep channels close to shoals and shallows, and in proximity to extensive tidal or freshwater marshlands and other wetlands.

COA 9.1.3 also requires DWR to develop a plan in collaboration with the U.S. Bureau of Reclamation (Reclamation), and subject to written approval by CDFW, to operate the SWP to achieve operational requirements described in the bullets below, and implement additional actions, as available, including monitoring, science, and food enhancement actions to enhance Delta Smelt habitat (Summer-Fall Action Plan). The Summer-Fall Action Plan is developed based on hydrologic, operational, and temperature forecasts using the best available modeling.

The Summer-Fall Action Plan is required to include, and DWR is required to adhere to, the following minimum requirements (California Department of Fish and Wildlife 2024:100):

- **Improve Fall Low-Salinity Habitat (Fall X2):** To increase the amount of low-salinity zone habitat for Delta Smelt in wet and above normal hydrologic year types, DWR shall, in coordination with Reclamation, maintain a 30-day average $X2 \leq 80$ kilometers (km) from September 1 through October 31.

- **Operate Suisun Marsh Salinity Control Gates:** To address effects on habitat for juvenile Delta Smelt and increase habitat and food access for Delta Smelt in summer and fall (June–October) in Suisun Marsh and Grizzly Bay during above normal and below normal years, and dry years following wet or above normal years, DWR shall operate Suisun Marsh Salinity Control Gates (SMSCG) for 60 days, to maximize the number of days that Belden’s Landing three-day average salinity is equal to, or less than, 4 practical salinity units (psu), to maximize the spatial and temporal extent of Delta Smelt low-salinity zone habitat in Suisun Marsh and Grizzly Bay. Operation of the SMSCG shall occur between June 1 and October 31 in years which operation of the SMSCG is required. In dry years following below normal years, DWR shall operate SMSCG for 30 days to maximize the number of days Belden’s Landing three-day salinity is equal to or less than 6 psu to maximize the spatial and temporal extent of Delta Smelt low-salinity zone habitat in Suisun Marsh and Grizzly Bay.

The Summer-Fall Action as described in Reclamation’s 2024 Proposed Action, 2024 U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BiOp), and the 2024 LTO ITP includes a flow action, known as Fall X2, which sets a requirement for the location of the 2-psu isohaline, and a toolbox of additional actions, including operation of the SMSCG, to maintain appropriate low-salinity habitat for Delta Smelt. The purpose of the Fall X2 action is to move the low-salinity zone (0.5–6 psu) into Suisun Bay where Delta Smelt historically and primarily reared during the summer and fall months of wetter year types. The Fall X2 action is implemented during September and October of wet and above normal water years. The action is achieved through a combination of SWP and Central Valley Project (CVP) reservoir releases and export reductions. A Fall X2 action was initially required in the 2008 USFWS BiOp.

To address scientific uncertainty, the 2008 USFWS BiOp included an adaptive management framework and the development of a robust science and monitoring program to better understand how Delta Smelt would respond to the Fall X2 action. In 2012, USFWS initiated the development of several life cycle modeling efforts to better understand the factors that affect Delta Smelt population growth rates. These efforts led to two published life cycle models (Polansky et al. 2021; Smith et al. 2021). The first of these models has been repeatedly explored using alternative versions to test the robustness of its predictor variables (Polansky et al. 2023, 2024). The results of all of these life cycle model variations support the hypothesis that Delta outflow in the summer, rather than fall, is the better predictor of Delta Smelt survival. The best information available suggests that high summer flows help align different habitat needs of Delta Smelt habitat while also increasing food subsidies, supporting Delta Smelt growth and survival (Smith and Nobriga 2023). Similar effects may happen if flows are high enough in the fall, but the response of Delta Smelt lessens because water temperatures cool into more appropriate ranges and the prey subsidy is reduced as prey populations seasonally senesce. This newer information means the species benefits originally anticipated for the Fall X2 action are unlikely to translate to improved Delta Smelt population growth rate. A modified Fall X2 action was incorporated into the Summer-Fall Action in the 2019 BiOp and 2020 LTO ITP, and again in the 2024 BiOp and 2024 LTO ITP, adding to the SMSCG operation and other tools acknowledging the advancements in the Delta Smelt Life Cycle Model and expected benefits of summer habitat.

DWR has prepared this Addendum for the proposed change to ITP COA 9.1.3 to comply with CEQA (Pub. Resources Code, § 21000 et seq.), augmenting the 2024 *Final Environmental Impact Report for Long-Term Operations of the State Water Project* (2024 FEIR) (California Department of Water Resources 2024, State Clearinghouse No. 2023060467). As described in this Addendum, the proposed revisions to the 2024 LTO ITP do not require revisions to the conclusions or findings presented in the 2024 FEIR because no new or substantially more intense or severe significant environmental impacts or potentially significant environmental impacts would occur.

1.1.1 Proposed Alternative Action

For water year (WY) 2025, DWR is proposing an alternative implementation of the Summer-Fall Action. The proposed alternative action includes the following:

- Off-ramp implementation of the September and October Fall X2 requirement (80 km) as described in the 2024 LTO ITP;
- Prior to the conclusion of the 60-day SMSCG action, DWR, in coordination with CDFW, will evaluate biological and physical conditions to determine if any additional SMSCG operation days in August would be necessary to support suitable rearing conditions through the end of September. Key biological and physical conditions considered include:
 - Salinity (1-6 PSU) and resulting habitat area
 - Delta Smelt distribution and abundance in context of FWS supplementation modeling memo (USFWS 2025a)
 - Food abundance;
- Operate to SWRCB D-1641 for September and October;
- Develop a science and funding plan for implementation of pilot food enhancement actions in WY 2026 to be scaled up through WY 2028, involving optimizing operations of managed wetlands during summer and fall to increase food export into the channels of Suisun Marsh; and
- Commit funding to support additional hatchery production of Delta Smelt in WY 2026.

Collectively, the revisions to the Summer-Fall Action are referred to hereafter as the Proposed Alternative Action.

No changes to SWP facilities or other operations are proposed.

1.1.2 Proposed Interim SMSCG Operations

For water year (WY) 2025, DWR is proposing to operate the SMSCG for up to three days beyond the 60 days they will be operated as part of the 2025 Summer-Fall Action. The three days of gate operation were added in consideration of extending Delta Smelt habitat conditions beyond when the gate operations cease. The dates of the additional days of SMSCG operations will be August 23-August 25.

1.1.3 Adaptive Management

The Proposed Alternative Action for 2025 provides an opportunity to compare testing of variations of SMSCG with and without Fall X2 Summer-Fall Actions for adaptive management purposes. In 2023, the Fall X2 action was implemented in September and October along with SMSCG operations through mid-October. In 2024, Fall X2 was implemented in September only (and not October) along with SMSCG operation through September. Operation of the SMSCG during the late summer period has been shown to improve low salinity area and conditions for Delta Smelt with respect to aligning low salinity water with other important habitat features like high prey density and turbidity that tend to occur in Suisun Marsh (Sommer et al. 2020), and potentially leading to positive bioenergetic effects on Delta Smelt (Smith and Nobriga 2023). A with-and-without comparison of implementing the Fall X2 action in September and October, and with and without SMSCG operations allows for DWR to test Summer-Fall Action performance with respect to Delta Smelt abundance, growth, and habitat conditions between 2025 and previous years' operations (2023, 2024) using the USFWS Delta Smelt Life Cycle Model and/or bioenergetics models.

The Delta Coordination Group (DCG)¹ team is responsible for reviewing the annual Summer-Fall Action Plan and associated Monitoring and Science Plans developed by DWR and Reclamation. Since 2021, DCG has been using a structured decision-making framework to evaluate potential actions that included consideration of performance objectives and regulatory constraints. In 2025, however, analyses of potential summer alternative actions to the Fall X2 action were completed in separate forums from DCG. Primary management objectives for 2025 focused on an action plan that may increase Delta Smelt survival through summer suitable habitat attributes including low salinity, high turbidity, and relatively cooler water temperatures. Objectives and hypotheses assume that there are Delta Smelt in Suisun Marsh that may benefit from summer actions and/or that Delta Smelt would move into the marsh due to expansion of low salinity conditions.

The following hypotheses for SMSCG operations and food enhancement actions were developed:

- Operating the SMSCG during the summer and fall will increase the duration and area of low salinity water with appropriate turbidity, and potentially temperatures, which result in higher growth and survival.
- Operating the SMSCG during the summer and fall will increase biomass of calanoid copepods, specifically *Pseudodiaptomus forbesi* (*P. forbesi*), in Suisun Marsh through increased transport of freshwater species from upstream, which will result in higher Delta Smelt growth and survival.
- Food subsidy actions are hypothesized to increase localized prey availability for Delta Smelt in Suisun Marsh, resulting in opportunities for higher growth and survival of juvenile and sub-adult life stages.

¹ The DCG includes representatives from the five agencies and SWP/CVP contractors.

Both the management objectives and hypotheses remain relatively unchanged for the Proposed Alternative Action from previous plans developed by DWR and DCG, with the exception that operations in summer, and not fall, are anticipated to result in higher Delta Smelt survival. DWR and Reclamation will continue to implement the Summer-Fall Habitat Monitoring and Science Plan² through October 2025, which was peer-reviewed by an independent panel of experts in 2024 ([available on Delta Science Council website](#)).

1.2 Background

The SWP facilities in the Delta provide for delivery of water to areas within and immediately adjacent to the Delta, and to regions south of the Delta consistent with applicable laws, contractual obligations, and agreements. DWR stores, diverts, and conveys water in accordance with DWR's existing water rights to deliver water pursuant to water contracts and agreements up to full contract quantities. The main SWP features in and around the Delta are Suisun Marsh and Bay facilities, the Harvey O. Banks Pumping Plant, Clifton Court Forebay, John E. Skinner Delta Fish Protective Facility, Barker Slough Pumping Plant, and SMSCG. The SWP also includes the ongoing operation of existing facilities in coordination with the CVP. The locations of the various facilities of the SWP in the Delta are shown in Figure 1-1.

CDFW approved the 2024 LTO ITP on November 04, 2024, for the potential take of five CESA-listed fish species associated with the long-term operation of the SWP facilities in the Delta. DWR's Notice of Determination for the 2024 FEIR, prepared to support the ITP, was filed with the State Clearinghouse on October 28, 2024.

The 2024 FEIR evaluated five alternatives, including the No Project Alternative and Proposed Project. The Proposed Project includes a suite of operations-related elements to minimize impacts on aquatic species and additional actions to benefit CESA-listed fish species in the Delta, including the Delta Smelt Summer-Fall Action described in COA 9.1.3.

Monitoring data indicate that hatchery Delta Smelt represent the majority, if not the entire, population of Delta Smelt in the wild. Over the past five years, daily average temperatures in many regions of the estuary frequently exceed levels that impair smelt growth (greater than 22 degrees Celsius [°C], Figure 1-2). While temperatures in summer 2025 cannot be predicted, the least stressful water temperatures in June through September in previous years were observed in Suisun Bay and Suisun Marsh, where SMSCG actions are intended to directly benefit Delta Smelt. The SMSCG is intended to provide increased habitat where suitable water temperatures overlap, and the greater habitat heterogeneity and extensive tidal wetlands in Suisun Marsh may provide thermal refugia in microhabitats not detected by continuous sondes (Enright et al. 2013).

² [Summer-Fall Habitat Action Monitoring and Science Plans and Structured Decision Making Approach Peer Review \(ca.gov\)](#)

A recently published life cycle model analysis shows that Delta Smelt summer survival is strongly correlated with summer outflow, whereas fall survival is weakly correlated to fall outflow (Polansky et al. 2024). Thus, the statistical life cycle model best explaining Delta Smelt population growth includes summer outflow but not fall outflow (Polansky et al. 2024). USFWS summarized the previously published life cycle model summer and fall flow results (Polansky et al. 2021, 2023, 2024) for the analysis of the Proposed Action in their LTO BiOp, concluding that the Fall X2 component of the Summer-Fall Action is not supported as being likely to result in a detectable change in Delta Smelt survival based on the life cycle modeling (U.S. Fish and Wildlife Service 2024:133). In short, the Proposed Alternative Action for 2025's off-ramp from implementing X2 at 80 km in September and October is not anticipated to have effects on Delta Smelt survival.

U.S. Fish and Wildlife Service estimated that, at minimum, there would need to be a September Delta Smelt juvenile population size of 56,254 in order that sufficient individuals survive to support a broodstock collection target of 25 adult Delta Smelt in February (USFWS 2025a). As of August 2025, only two Delta Smelt have been collected to date (June 20 and July 15), yielding median estimated population sizes of approximately 800 individuals (EDSM, Figure 2-2). These monitoring results indicate efforts to supplement the population have not yet been successful in meeting broodstock targets, and the Proposed Alternative Action is not anticipated to have effects on Delta Smelt survival or meeting broodstock targets.

All other provisions of the 2024 LTO ITP would remain in effect, and all operations would continue to comply with applicable laws, contractual obligations, and agreements. All provisions in the amended 2024 LTO ITP and operation of the SWP will continue to protect the five species covered under the 2024 LTO ITP after the proposed revisions to the ITP are accepted by CDFW and the ITP is amended.

1.3 Purpose of the Environmental Impact Report Addendum

According to Section 15164(a) of the CEQA Guidelines, the lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 requiring preparation of a subsequent EIR have occurred. Section 15162 of the CEQA Guidelines lists the conditions that would require the preparation of a subsequent EIR rather than an addendum. These include the following:

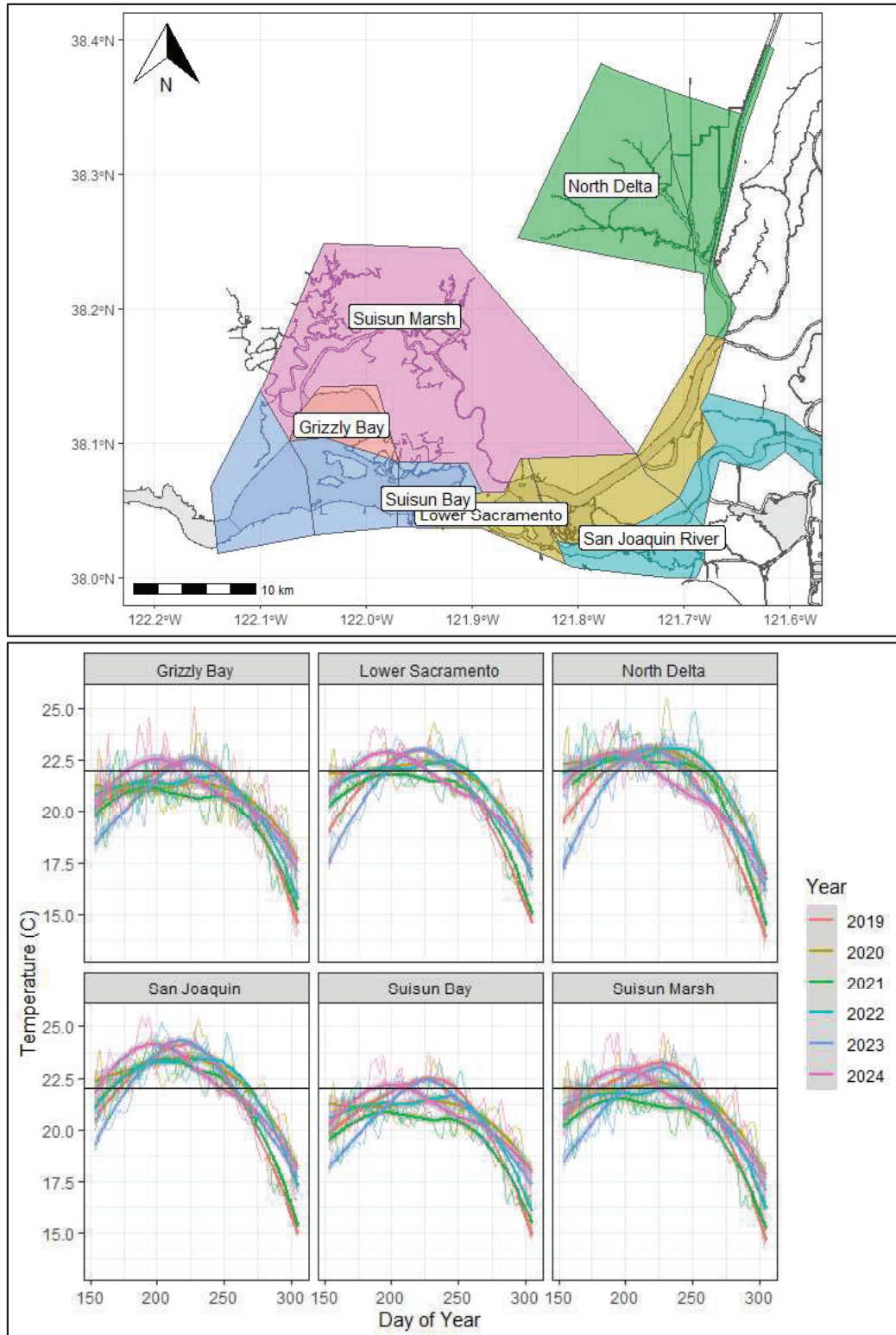
1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time of the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the Project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

This Addendum concludes that the proposed change to COA 9.1.3 of the 2024 LTO ITP does not trigger any of the CEQA Guidelines Section 15162 conditions described above. The proposed change to the ITP does not require revisions to the conclusions or findings presented in the 2024 FEIR because no new or substantially more intense, severe significant environmental impacts, or potentially significant environmental impacts would occur.

The level of protection for the five covered species, as well as other aquatic species evaluated in the 2024 FEIR will not change as a result of the requested amendment to COA 9.1.3 of the 2024 LTO ITP. The requested amendment to COA 9.1.3 would modify the Delta Smelt Summer-Fall Action in 2025 as described in Section 1.1.1, *Proposed Alternative Action*. DWR does not propose changes to any other ITP conditions.

Figure 1-1. Locations of Facilities Relevant to Proposed Project Operations in the Delta, Suisun Marsh, and Suisun Bay



Source: DWR continuous monitoring sondes. Note: The horizontal black line indicates water temperature of 22 °C.

Figure 1-2. Upper Panel: Map of Regions in the Delta, Suisun Marsh, and Suisun Bay where Delta Smelt were Historically Found in Summer and Fall. Lower Panel: Daily Average Temperature (thin lines) and General Temperature Trends (thick lines) in each Region.

2.1 Summary of Previous Environmental Review Process

The effects on the environment of long-term operations of the SWP facilities in the Delta and issuance of an ITP to provide incidental take coverage for five CESA-listed fish species were addressed in the 2024 FEIR.

The analyses presented in the 2024 FEIR concluded that the Proposed Project and the alternatives considered would have either no impact or a less-than-significant impact on the environment, depending on the resource category evaluated (e.g., DWR identified no impact on Aesthetics and less-than-significant impacts on Aquatic Biological Resources; see Appendix 3A and Chapter 6 of the 2024 FEIR). DWR selected the Proposed Project as the long-term operations of the SWP.

Further, the Proposed Project included measures to meet the legal standard under CESA to minimize and fully mitigate the take of listed species consistent with DWR's application for an ITP. The Proposed Project provides flow management in Old and Middle rivers to minimize entrainment into the SWP pumping facilities; freshwater outflow in the spring, summer, and fall; and other actions to benefit CESA-listed fish species. The Proposed Project is expected to better protect CESA-listed and other special-status aquatic species than historical operations.

The Proposed Project was determined to have no impacts or less-than-significant impacts on all environmental resources evaluated and includes measures that minimize and fully mitigate impacts on CESA-listed fish species. Therefore, the long-term operation of the SWP and issuance of the ITP:

1. Will not degrade environmental quality, substantially reduce habitat, cause a wildlife population to drop below self-sustaining levels, reduce the number or restrict the range of special-status species, or eliminate important examples of California history or prehistory.
2. Does not have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
3. Will not have impacts that are individually limited but cumulatively considerable.
4. Will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

The environmental analyses and findings presented in the 2024 FEIR reflect the independent judgment of DWR as the lead agency under CEQA.

2.2 Environmental Analysis

This section of the addendum analyzes the potential effects on the physical environment from implementing the proposed change to the *Delta Smelt Summer-Fall Habitat Action* (ITP COA 9.1.3). This analysis has been prepared to determine whether any of the conditions in Section 15162 or 15163 of the State CEQA Guidelines (as described in Section 1.3, *Purpose of the Environmental Impact Report Addendum*) would occur as a result of the proposed major revisions to the ITP.

2.2.1 Topics Considered in This Addendum

The proposed changes are described in detail in Section 1.1.1, *Proposed Alternative Action*, and would modify the Delta Smelt Summer-Fall Action by operating the SMSCG for 30 days beginning on August 26, 2025; off-ramping the Fall X2 action in September and October 2025 while operating to D-1641 water quality requirements; and developing a science and funding plan for implementation of pilot Suisun Marsh food enhancement actions in WY 2026 to be scaled up through WY 2028. Section 1.1.2, *Proposed Interim SMSCG Operations* includes operating the SMSCG for three additional days in August from August 23 through August 25, which follows the required Summer-Fall Action SMSCG operation that occurred from June 23 through August 22.

These proposed changes would not substantially modify the actions evaluated in the 2024 FEIR. Therefore, the proposed changes would not result in new significant impacts or a substantial increase in the intensity or severity of environmental effects for any of the following topic areas:

- Aesthetics
- Agriculture/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology/Soils
- Greenhouse Gas Emissions
- Growth Inducement
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems
- Wildfire
- Environmental Justice
- Climate Change Resiliency and Adaptation

Additional analysis on biological resources related to the proposed change is provided in the analysis below.

2.2.2 Analysis of the Request to Modify the Delta Smelt Summer-Fall Action

2.2.2.1 Analysis of Effects on Delta Smelt

Hydrodynamic Modeling

To quantify the potential difference between the Proposed Alternative Action and the current Delta Smelt Summer-Fall Action in the 2024 LTO ITP (COA 9.1.3), this analysis used three-dimensional hydrodynamic models of flow and Delta Smelt habitat developed after implementation of the 2024 Delta Smelt Summer-Fall Action. 2024 was used as a proxy for conditions in 2025 because both years had a Sacramento Valley Hydrologic Index classification of “Above Normal” based on the May 1, 50 percent exceedance forecast, and the hydrology at the beginning of the summer was relatively similar. In 2024, the SMSGC were operated similarly to the Proposed Alternative Action, with operations from July 1 through August 31, and September 6 to September 30 (described as ‘July-Sept SMSGC’ in Table 2-1). Fall X2 was managed to an 80 km target in September (described as ‘Sept X2’ in Table 2-1), as per the current language for COA 9.1.3 from the 2024 LTO ITP (but not in October). The lack of fall X2 in October and additional SMSGC operations during 2024 makes this not a perfect baseline based on the ITP but provides a point of comparison, and it is expected that the benefits of a two-month fall X2 would be the same or greater.

After the 2024 Delta Smelt Summer-Fall Action, DWR used the Semi-Implicit Cross-scale Hydrosience Integrated System Model (SCHISM) (Zhang et al. 2016) to model the flow, salinity, and low-salinity zone habitat area that was achieved with the 2024 action, as well as the habitat that would have been achieved with only a SMSGC action (as proposed in this amendment, i.e., the SMSGC, No X2 scenario), only an X2 action (i.e., the No SMSGC, X2 scenario), or no action at all (i.e., the No-Action scenario; Table 2-1). This allowed DWR to quantify the benefits of both the X2 action and the SMSGC action separately in an above normal water year type (California Department of Water Resources and U.S. Bureau of Reclamation 2025).

Table 2-1. SCHISM Modeling Assumptions of the Delta Smelt Summer-Fall Action in 2024.

Scenario	Description	Water Year Type	Adjustments To Scenario	SMSGC Gate operation	Start	Compensating flow (NDOI cfs)
Historical (SMSGC, X2)	Jul-Sept SMSGC, Sept X2	AN	X2=80km (+)	Tidal	01 Jul	500/1000**
No SMSGC, X2	Sept X2	AN	X2=80km (+)	None	NA	500/1000**
SMSGC, No X2	Jul-Sept SMSGC	AN	NA	Tidal	01 Jul	500/500**
No-Action	No SMSGC operations, no X2	AN	NA	None	NA	

Notes: ** 500 cfs used for 60 days starting July 1; 1,000 cfs starting September 6.

NDOI = Net Delta Outflow Index; SMSGC = Suisun Marsh Salinity Control Gates; cfs = cubic feet per second.

Current Delta Smelt Spatial Distribution and Population Status

In WY 2025, 124,946 Delta Smelt were released in the Lower Sacramento River and the Cache Slough Complex from mid November 2024 to February 2025, with a total of 80 recaptures to date spread widely across the estuary (most recent catch on March 17, 2025), including the CVP fish facilities, Cache Slough Complex, lower Sacramento River, Suisun Marsh, Suisun Bay, and Sacramento Deepwater Ship Channel (see preliminary distribution data at <https://rosiestuff.shinyapps.io/smelmap/>). Monitoring data indicate that hatchery Delta Smelt represent the majority, if not the entire, population of Delta Smelt in the wild. Due to significant issues in identification of larval Delta Smelt in recent years, the Enhanced Delta Smelt Monitoring (EDSM) 20-mm (Phase 2) Survey did not conduct sampling in spring 2025, so no population abundance estimates are available. However, the CDFW 20-mm Survey and the Tracy Fish Collection Facility have detected several osmerids preliminarily identified as Delta Smelt, but that were genetically confirmed to be Wakasagi, not Delta Smelt. Two juvenile Delta Smelt were caught in Suisun Marsh, one on June 20 (genetically confirmed) and one on July 15 (pending genetic confirmation) (Figure 2-1). In 2024, two juvenile Delta Smelt were collected as part of the Phase 3 EDSM sampling, with one in Suisun Bay near Grizzly Bay on August 7 and the other in Suisun Marsh on November 13. This is consistent with historical observations that the species tends to be in low-salinity areas during summer/fall (Hobbs et al. 2019) and is representative of the likely distribution of most Delta Smelt during the 2025 Proposed Alternative Action. Population abundance indices from the Phase 3 EDSM sampling have been zero in nine out of eleven weeks to date, with indices of 879 (95% confidence interval: 94–3,499) in Week 3 and 817 (83–3,317) in Week 7 (Figure 2-2).

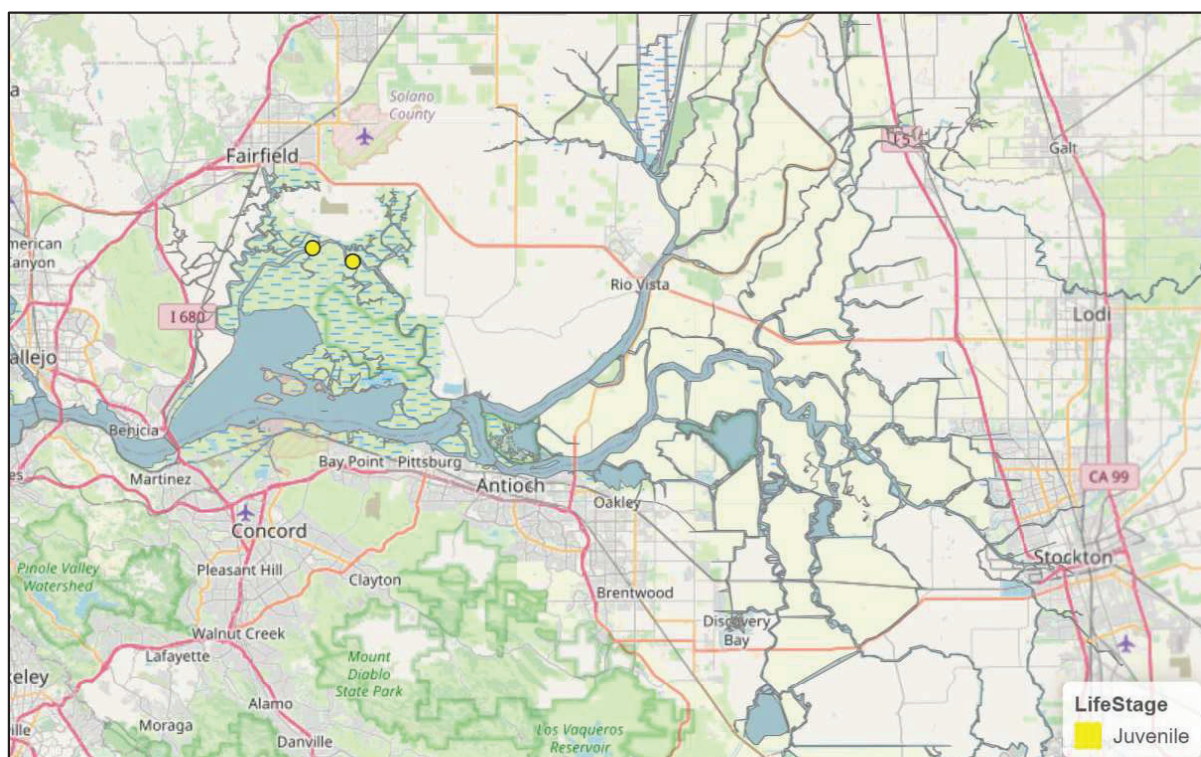
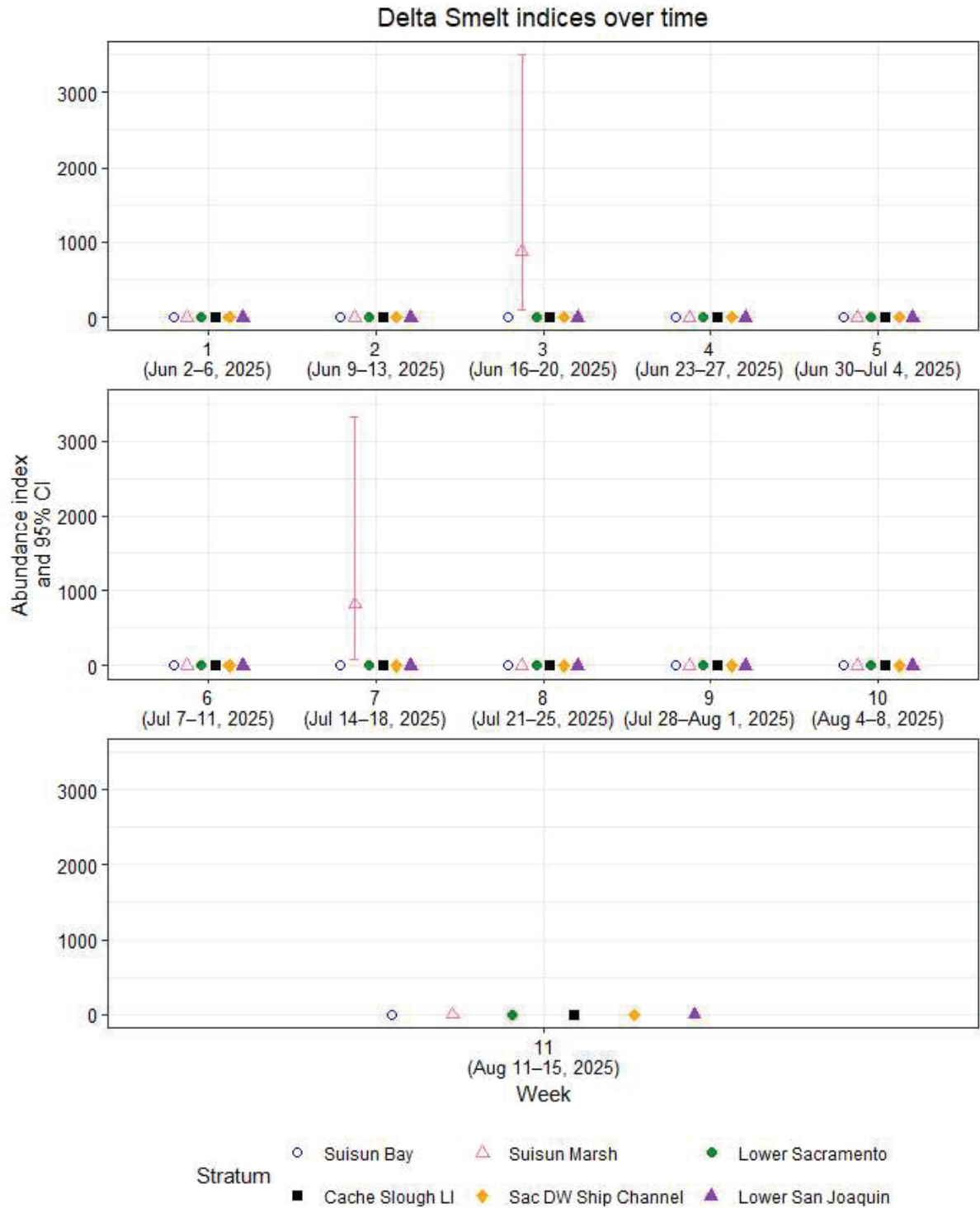


Figure 2-1. Map of Juvenile Delta Smelt Catch in June-July 2025.



Source: USFWS (2025b)

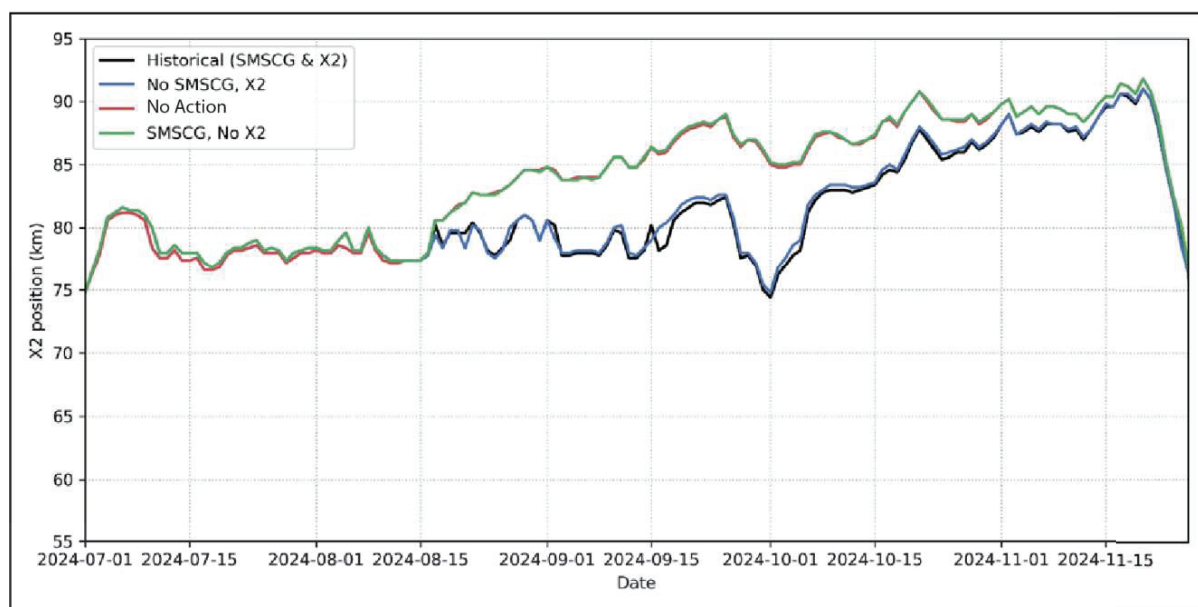
Figure 2-2. Enhanced Delta Smelt Monitoring: Delta Smelt Abundance Indices and 95% Confidence Intervals by Week and Stratum, Phase 3 Monitoring, 2025.

State Water Project and Central Valley Project Entrainment

Delta Smelt are not likely to be entrained at the south Delta export facilities during the fall based on historical data (Grimaldo et al. 2009). Therefore, any differences in south Delta exports because of the Proposed Alternative Action would not result in take by entrainment.

Distribution and Extent of the Low-Salinity Zone

The SCHISM modeling for 2024 conditions illustrates the nature of the potential effects of the 2025 Proposed Alternative Action relative to the current COA 9.1.3 from the 2024 LTO ITP. X2 would be several km further upstream under the Proposed Alternative Action than otherwise would have occurred (Figure 2-3), reflecting a general shift upstream in the distribution of the low-salinity zone with less Delta outflow. The impact of the July through September SMSCG action was predicted to have a less than 1-km impact on X2 (Figure 2-3). In a year with a two-month Fall X2 action, the shift would have been greater through the end of October, and would continue further into November.



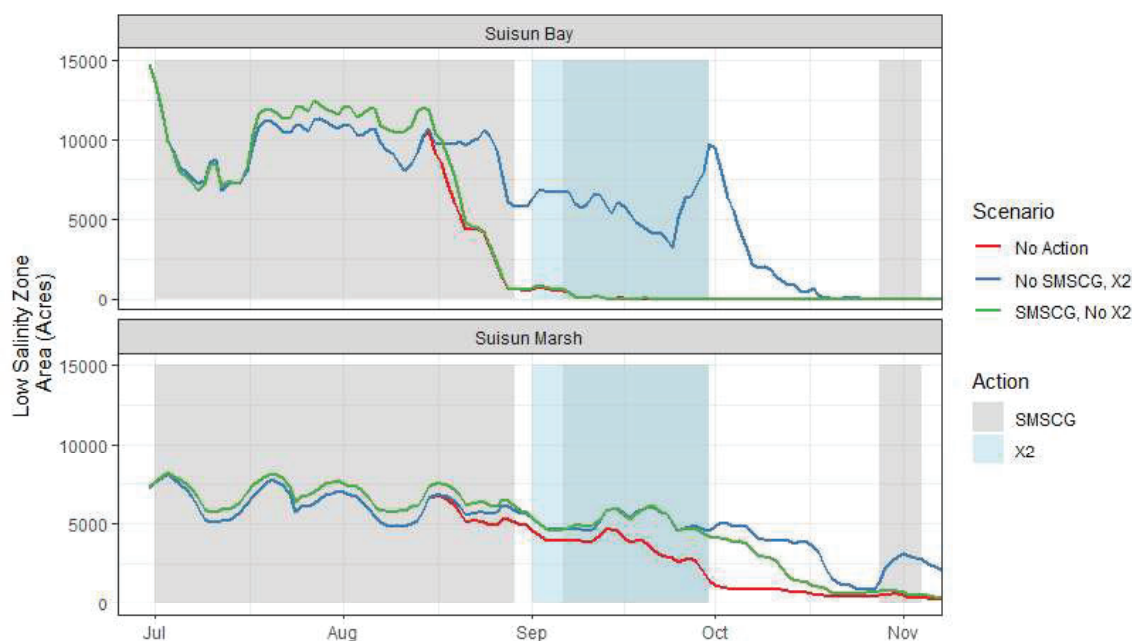
Note: See Table 2-1 for assumptions associated with the different 2024 modeling scenarios.

Figure 2-3. Daily Average X2 from SCHISM Modeling of the Delta Smelt Summer-Fall Action in 2024 (July–November).

Based on the modeled low-salinity area resulting from the 2024 Delta Smelt Summer-Fall Action (Figure 2-4), maintaining X2 at 80.5 km for the month of September provided an average increase in Delta Smelt habitat area of ~2,800, 7,270, and 4,072 acres in the months of August, September, and October, respectively, relative to the No-Action scenario (Figure 2-5). Most of this area was in Suisun Bay. If X2 had been maintained for both September and October, the increase in habitat in October would also have been close to 7,200 acres. Increase in habitat due to the SMSCG action (i.e., represented by the SMSCG, No X2 scenario) was ~930, 1,960, 1,550, and 1,180 acres in July, August, September, and October, respectively, most of which was in Suisun Marsh (Figure 2-5). While habitat area would decrease in August, September, and October as a result of the Proposed Alternative Action relative to the habitat area that would have resulted from full implementation of the current COA 9.1.3 from the 2024 LTO ITP, there is high uncertainty if this effect would translate to any population effects given recent life cycle model results (Polansky et al. 2021, 2024).

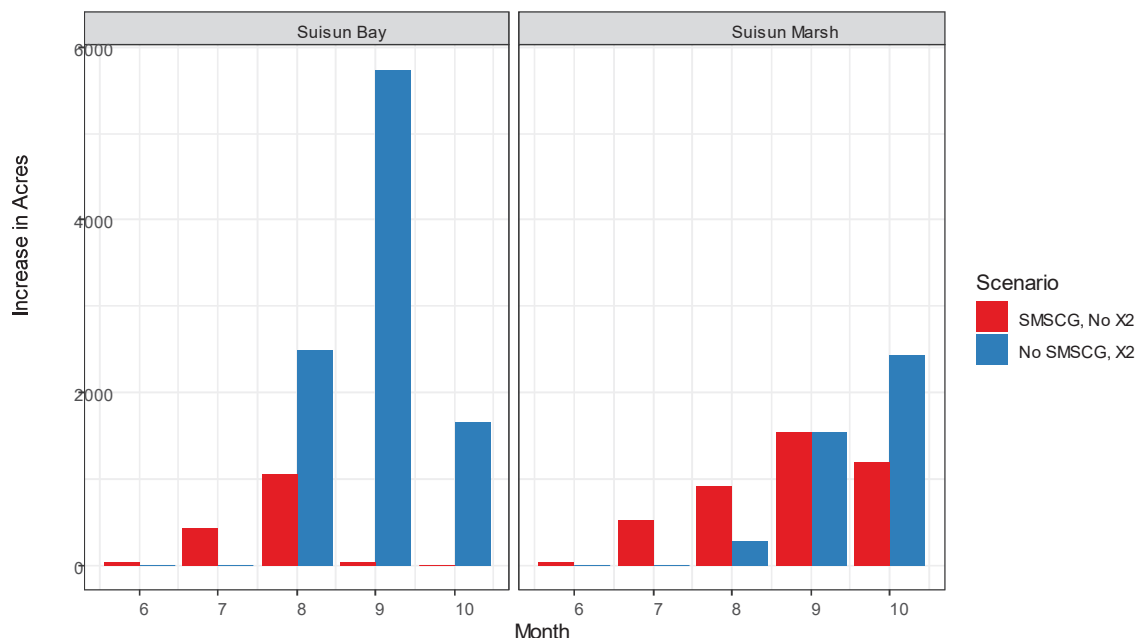
Furthermore, the current COA 9.1.3 assumes both the SWP and CVP would participate in the action, whereas the Proposed Alternative Action would be conducted by the SWP alone. In joint actions, SWP is responsible for 20 percent of the required water, and the increase in habitat due to the SMSCG action is approximately 20 percent of the habitat increase seen in the joint X2 action.

The SMSCG component of the Proposed Alternative Action is intended to provide lower salinity (see Figure 2-4) and increased access to Suisun Marsh for Delta Smelt (Sommer et al. 2020), where feeding opportunities may be relatively high compared to adjacent areas such as Suisun Bay (Hammock et al. 2015). USFWS (2024:131) concluded that if the contemporary integrated Delta Smelt population distributes in salinity space similarly to the historical wild population—which is generally suggested by the limited data described above in *Current Delta Smelt Spatial Distribution and Population Status*—then up to 20 percent of the Delta Smelt population could be affected by the SMSCG action.



Note: See Table 2-1 for 2024 modeling scenarios descriptions.

Figure 2-4. Area with Salinity Less than 6 psu in Suisun Bay (which includes Grizzly Bay) and Suisun Marsh as Modeled by SCHISM with Inputs from the 2024 Delta Smelt Summer-Fall Action.



Note: See Table 2-1 for 2024 scenario descriptions.

Figure 2-5. Increase in Acres of Low Salinity Zone Habitat in Suisun Bay (including Grizzly Bay) and Suisun Marsh modeled from the 2024 July–September SMSCG Operation (i.e., the SMSCG, No X2 Scenario) and the September X2 Action (i.e., the No SMSCG, X2 Scenario) compared to the No-Action Scenario.

Food Availability in the Low-Salinity Zone

It is well established that increased summer outflow increases biomass of important Delta Smelt food taxa in the low-salinity zone, particularly the calanoid copepod *Pseudodiaptomus forbesi* (*P. forbesi*), but this subsidy decreases in the fall (September–October) when compared to summer (June–July). Lee et al. (2023) found support for higher abundance of *P. forbesi* in Suisun Bay and Suisun Marsh during years of higher September–November Delta outflow (2017 and 2019) relative to years with lower Delta outflow (2018 and 2020), and a similar trend has been observed in subsequent years (Figure 2-6). Kimmerer et al. (2018a) also found increased abundance in downstream regions with higher flows. These empirical observations of greater *P. forbesi* density with greater Delta outflow are supported by several modeling analyses (Kimmerer et al. 2018b; Hassrick et al. 2023), although it may be difficult to detect increased *P. forbesi* density in the low-salinity zone due to the volume of Delta outflow required (Hassrick et al. 2023).

However, none of these analyses conclusively linked increased abundance of *P. forbesi* and Delta Smelt growth in the years of higher outflow. While *Pseudodiaptomus* is one of the most important components of Delta Smelt diet in the summer, other taxa, such as *Limnoithona*, *Acartiella*, and *Tortanus* also provide an important source of food in the low-salinity zone, particularly in fall after *Pseudodiaptomus* has peaked, and these taxa frequently increase with lower outflow (Slater et al. 2019). Other analyses have found largely nonlinear relationships between outflow and calanoid copepod biomass in the Delta and Suisun Marsh/Bay, with potential for negative effects of greater September/October outflow on Delta Smelt prey at several locations (Hamilton et al. 2020).

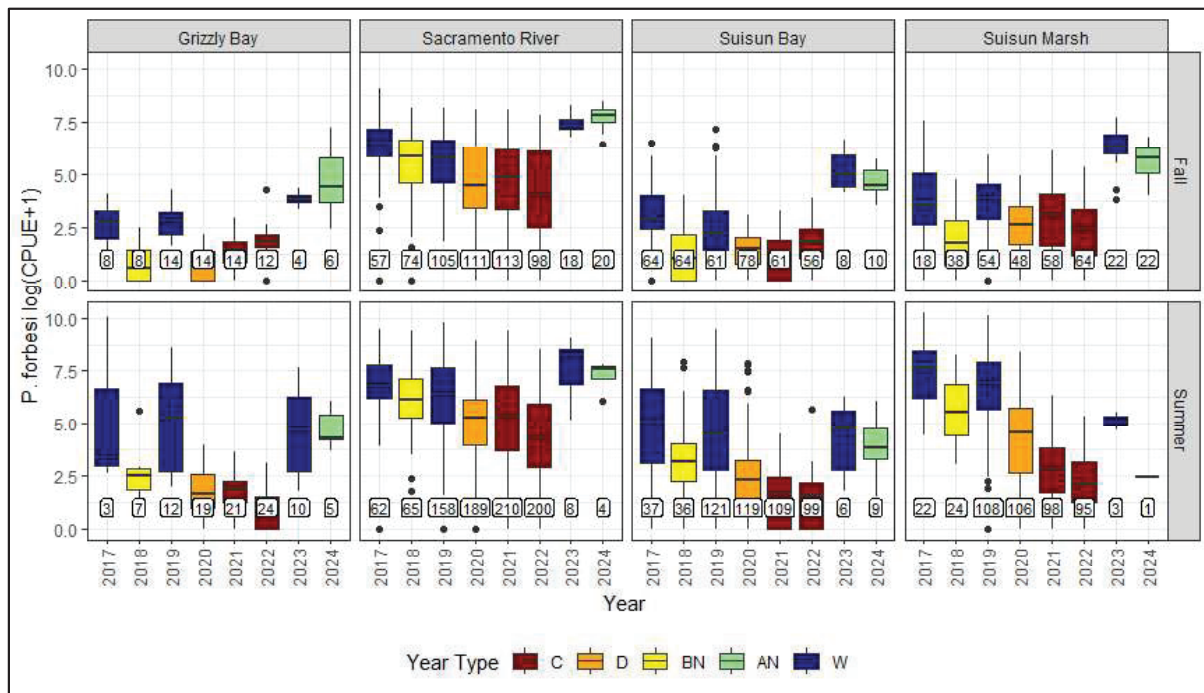
To quantify the difference in total zooplankton biomass, and *Pseudodiaptomus* biomass in particular, DWR adapted a set of generalized additive models developed by Sam Bashevkin (State Water Resources Control Board) for the DCG's structured decision-making process in 2022 and used for the Collaborative Science and Adaptive Management Plan (CSAMP) structured decision-making pilot (CSAMP Delta Smelt Technical Working Group et al. 2024). These models provide a regional estimate of biomass of each of the zooplankton taxonomic groups used in the Delta Smelt individual-based model (Rose et al. 2013; Smith and Nobriga 2023) based on day-of-year and salinity (see CSAMP Delta Smelt Technical Working Group et al. 2024 for details). For this analysis, the regional average salinity from the SCHISM analysis (July–October, see above) was used to estimate the predicted biomass of zooplankton in the Confluence, Grizzly Bay, Suisun Bay, and Suisun Marsh for the No-Action; No SMSCG, X2; and SMSCG, No X2 scenarios (Figure 2-7 and Figure 2-8, see Table 2-1 for SCHISM modeling scenarios). The analysis found that, compared to the No-Action scenario, the September X2 action (represented by the No SMSCG, X2 scenario) increased the abundance of *Pseudodiaptomus*, particularly in the Confluence region (Figure 2-8), and increased overall zooplankton biomass in Suisun Bay and Grizzly Bay (Figure 2-7). The SMSCG action (represented by the SMSCG, No X2 scenario), in contrast, did not affect biomass in Suisun Bay relative to the No-Action scenario, but more than doubled abundance of *Pseudodiaptomus* in Suisun Marsh (Figure 2-7 and Figure 2-8).

Therefore, while the Proposed Alternative Action may decrease food supplies in Suisun Bay, DWR has been investigating the potential to utilize managed wetlands as means of increasing biomass of phytoplankton and zooplankton in surrounding sloughs within Suisun Marsh. Managed wetlands comprise most of the area of Suisun Marsh, mostly operated for seasonal waterfowl habitat by CDFW or private landowners. Previous studies have demonstrated that managed wetlands have much higher biomass of phytoplankton and zooplankton than surrounding channels (Williamshen et al. 2021), and that juvenile fish grow faster in the outfall of managed wetlands than open-water areas (Aha et al. 2021). DWR is committing to work with willing landowners to experimentally change residence time on managed wetlands, including during summer or fall when the land is usually dry over the next three years (2026–2028). This work will be in coordination with the Suisun Resources Conservation District (SRCD), CDFW, and University of California, Davis.

By September 1, 2025 DWR will share a draft three-year science and funding plan with CDFW that will be finalized by December of 2025. This plan will include a decision framework with specific performance measures and metrics needed to evaluate the project. There will be a pilot action in the summer of 2026 on one managed wetland site which will be chosen based on coordination with SRCD and CDFW, to provide the best potential benefit to food production available while maintaining existing land management needs. This action will involve flooding the wetland during summer or early fall when the land is normally dry, circulating water on the site to allow phytoplankton and zooplankton to grow, and draining the site again. Monitoring during the action will include chlorophyll concentration, zooplankton abundance, dissolved oxygen, temperature, pH, and potentially presence of fish at the outlet of the wetland while draining. Based on the results of the 2026 pilot, a second action will be conducted in 2027 at two or more wetland sites.

To further evaluate the potential efficacy of the project, DWR will use hydrodynamic modeling to determine the increase in zooplankton in the exterior channels expected when a managed wetland drains after an action. This will be coupled with bioenergetic modeling of Delta Smelt growth to determine the optimal timing, distribution, and total area of managed wetlands required to see an increase in Delta Smelt growth in Suisun Marsh. An initial model will be developed by summer of 2026 based on zooplankton concentrations from fall and winter sampling, and the model will be re-parameterized with data from the summer actions in 2026 and 2027.

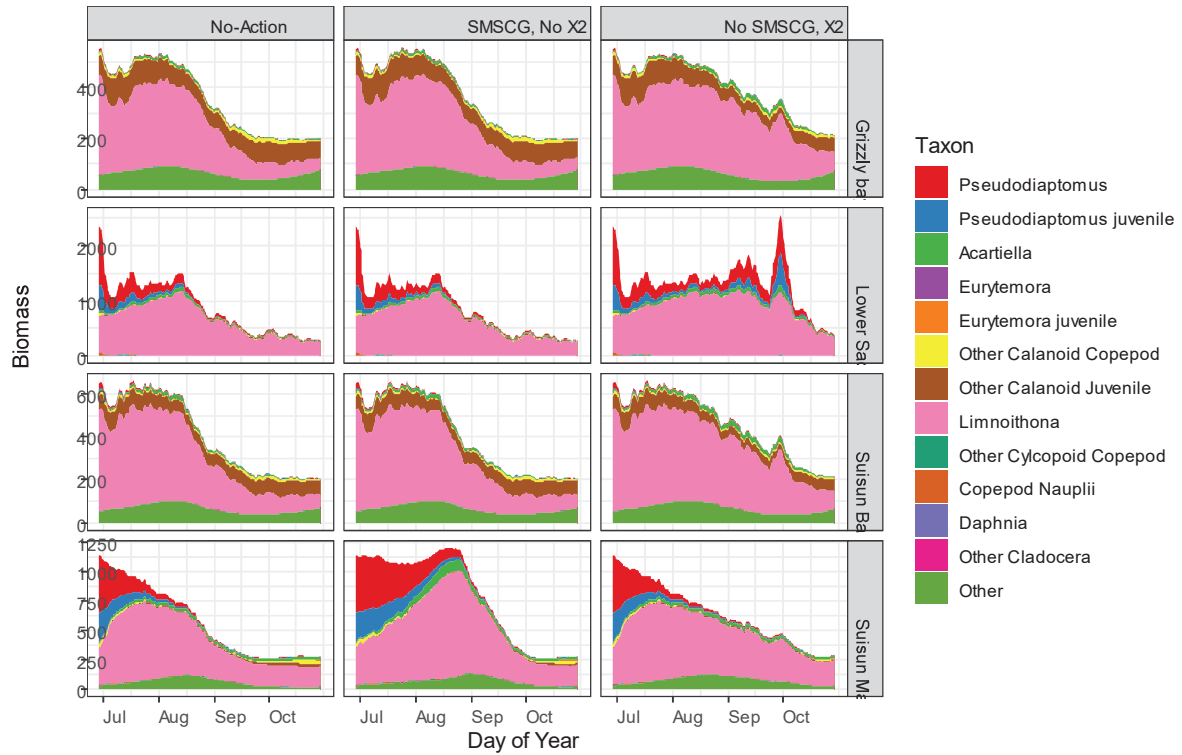
By December of 2028, DWR will produce a final report that summarizes results and makes recommendations for future actions. Annual updates to the plan and associated reporting will be included as attachments to corresponding reports detailed in COA 9.1.3 'Delta Smelt Summer Fall Habitat Action'. The initial plan format will be discussed with CDFW and will include sections not limited to objectives, hypothesis, performance measures, and analyses to inform adaptive management of food enhancement in Suisun Marsh.



Source: Zooplankton samples collected by IEP's long-term monitoring programs and summarized by DWR.

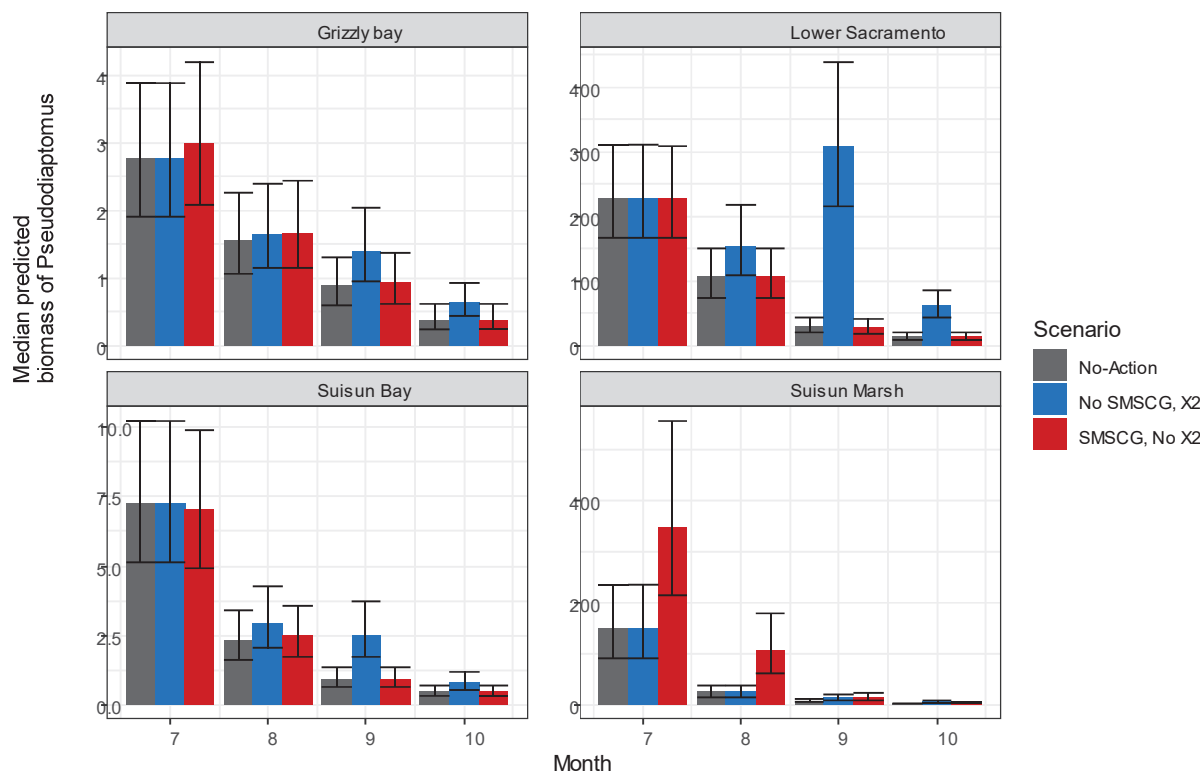
P. forbesi = *Pseudodiaptomus forbesi*; CPUE = catch per unit effort; C = critical; D = dry; BN = below normal; W = wet.

Figure 2-6. Log-transformed Catch per Unit Effort of the Copepod *Pseudodiaptomus forbesi* in the Lower Sacramento River (River), Suisun Bay, Grizzly Bay, and Suisun Marsh in the Fall (September–October) and Summer (June–August) by Water Year



Note: Vertical axis scales differ between regions and represent $\mu\text{g}/\text{m}^3$. See Table 2-1 for 2024 modeling scenarios descriptions.

Figure 2-7. Predicted Biomass of each Major Group of Zooplankton Taxa included in the Delta Smelt Bioenergetic Model by Day of Year (July–October), Region, and Scenario based on Models of the 2024 Action.



Note: Vertical axis represents $\mu\text{g}/\text{m}^3$. See Table 2-1 for 2024 modeling scenario descriptions.

Figure 2-8. Mean Biomass (with 95% confidence interval) of *Pseudodiaptomus* for each Month (July–October) Predicted from Salinity-Abundance models for each Region and Scenario Modeled based on the 2024 Action.

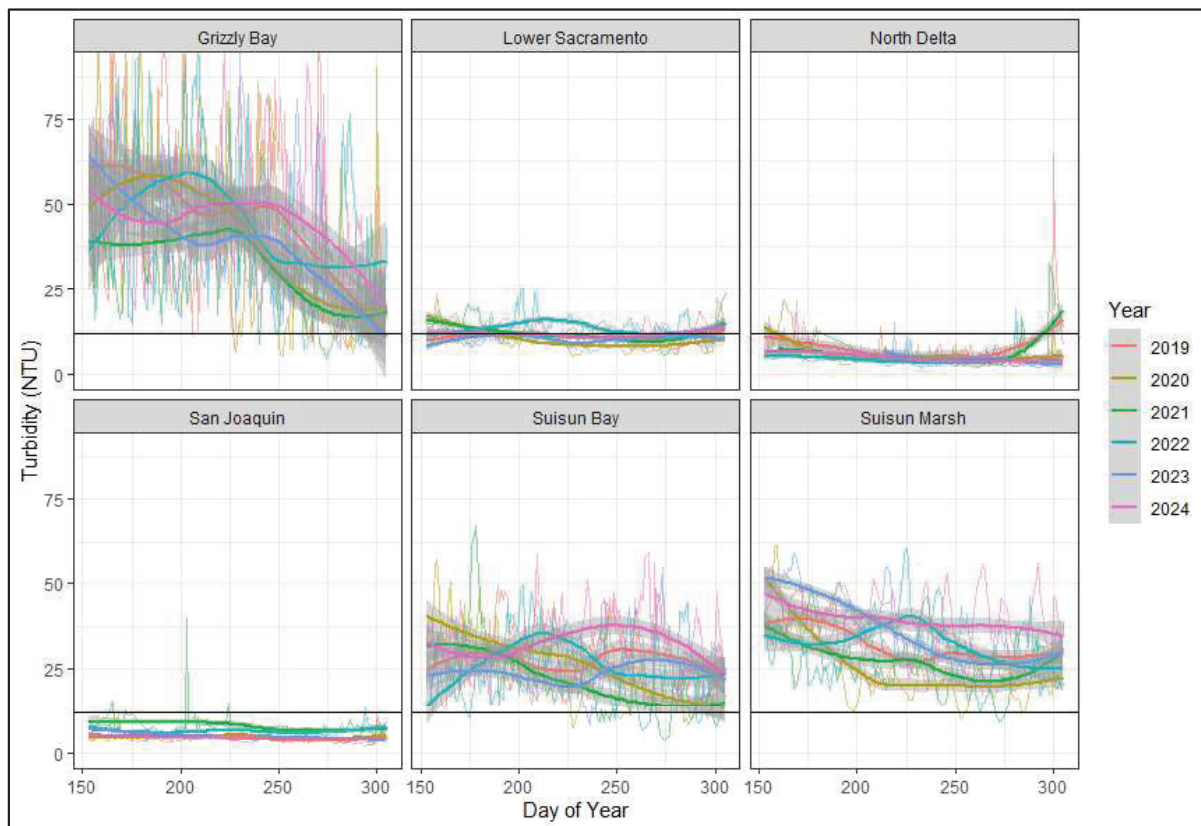
ICF's (2023:4-24) examination of evidence for relationships between Delta Smelt zooplankton prey in the low-salinity zone and fall (September–November) Delta outflow indicated only two taxa (*Eurytemora caroleeae* adults and mysids) had statistically significant regression relationships (ICF 2023:Appendix D, Section D.9, *Zooplankton–Delta Outflow Analysis*). Overall, the available information suggests there would be limited effects of the Proposed Alternative Action on food availability in the low-salinity zone. Additionally, the SMSCG component of the Proposed Alternative Action is intended to provide increased habitat where suitable water temperatures overlap during June or September (see Figure 1-2; June corresponds to approximately days 152–162, September corresponds to approximately days 244–273 of each year), which may offset any potential effects on food availability from differences in Delta outflow/X2 as a result of the Proposed Alternative Action.

Water Clarity in the Low-Salinity Zone

Greater water clarity tends to be correlated with lower probability of Delta Smelt occurrence in fall (e.g., Feyrer et al. 2011); higher turbidity decreases stress (Pasparakis et al. 2023) and lowers predation (Ferrari et al. 2014). Prior analyses have demonstrated statistically significant positive relationships between X2 and mean Secchi disk depth in the low-salinity zone (ICF 2017:106). The trends in these relationships suggest that mean X2 during the Proposed Alternative Action could result in some effects during September and October but there is high uncertainty in both the spatial extent of Delta Smelt occupancy and whether water clarity would decrease in September and October. There may be an effect of antecedent conditions: generally high outflow in wetter years

would lead to greater amounts of sediment for resuspension in the low-flow, fall months of such years, which would tend to give lower fall Secchi disk depth measurements at times when X2 during the fall months would be relatively low (because of antecedent conditions).

Turbidity is generally favorable (> 12 Nephelometric Turbidity Units [NTU]) for Delta Smelt during the summer in Suisun Bay and Suisun Marsh, but not in other areas of the estuary (Figure 2-9). The SMSCG component of the Proposed Alternative Action is anticipated to maintain overlap of suitable habitat conditions, including water temperature, salinity, and turbidity. The off-ramp from implementing X2 at 80 km is unlikely to result in effects on Delta Smelt survival based on recent results from Polansky et al. (2021, 2024).



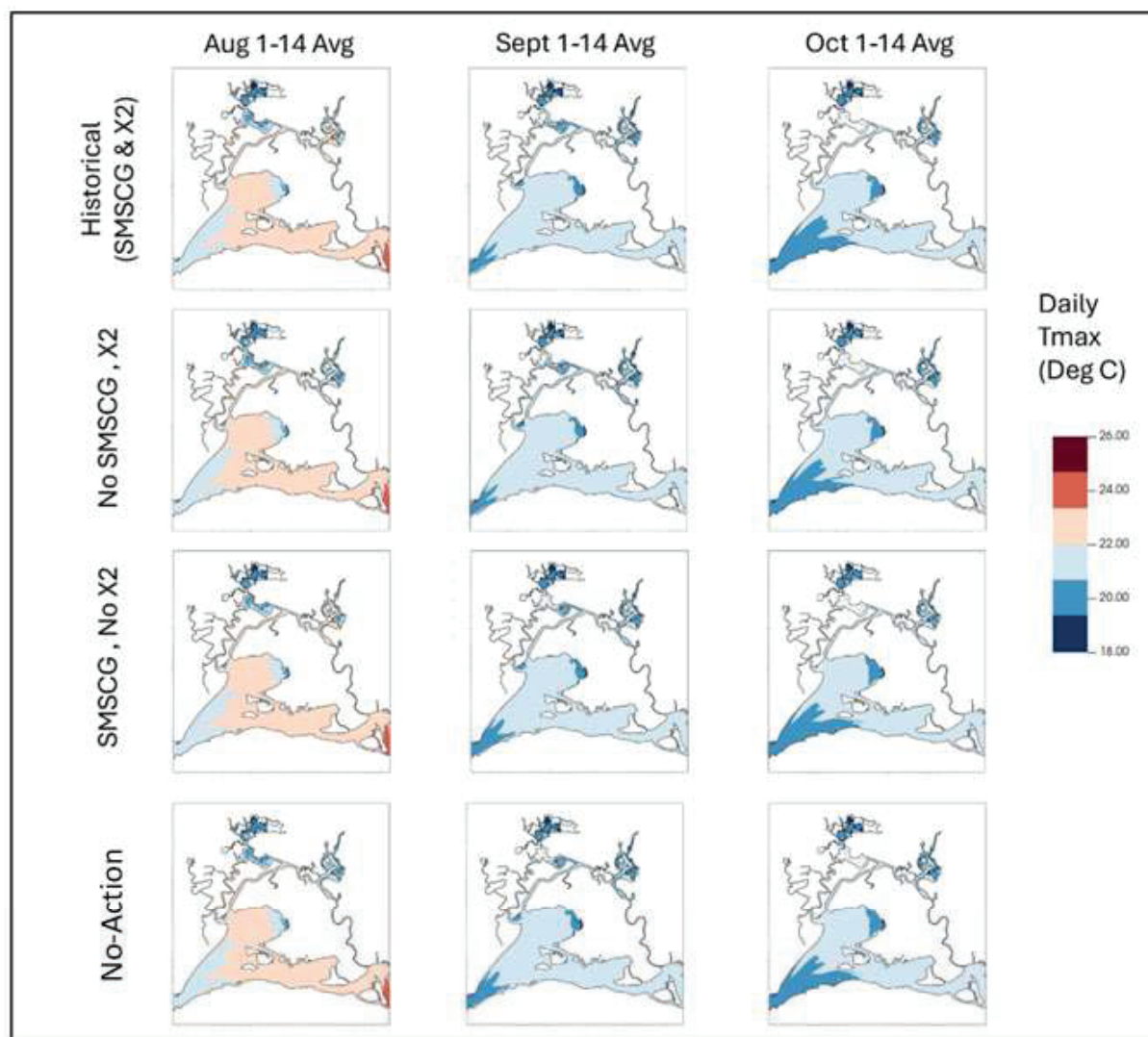
Source: DWR continuous monitoring sondes. Note: The horizontal black line indicates 12 NTU, above which Delta Smelt are caught more frequently. See Figure 1-2 for location of regions.

Figure 2-9. Daily Average Turbidity (thin lines) and General Turbidity Trends (thick lines) in each Region.

Water Temperature in the Low-Salinity Zone

Delta Smelt generally occur within a 7 to 25 °C temperature range (Sommer and Mejia 2013), with high temperatures leading to increased stress, behavioral changes, and reduction in growth across their life history (Smith and Nobriga 2023; Davis et al. 2019; Lewis et al. 2021). High summer temperatures are thought to be an important factor limiting summer survival (Flow Alteration–Management, Analysis, and Synthesis Team 2020; Smith and Nobriga 2023). Prior statistical analyses have found limited evidence for positive relationships between X2 and water temperature

in the low-salinity zone (ICF 2017:115), indicating that the difference in X2 as a result of the Proposed Alternative Action would likely have minimal effect on water temperature in the low-salinity zone during September and October. Modeling the effects of the 2023 and 2024 SMSCG and Fall X2 actions also showed less than a 1 °C difference in temperature between the three action scenarios and the No-Action scenario (Figure 2-10). The SMSCG component of the Proposed Alternative Action is anticipated to maintain overlap of suitable habitat conditions, including water temperature in September.



Source: California Department of Water Resources and U.S. Bureau of Reclamation 2025. See Table 2-1 for 2024 modeling scenario descriptions.

Figure 2-10. 14-Day Average Daily Maximum Temperature for Modeled Historical and Alternate Scenarios for 2024.

Cyanobacteria Harmful Algal Blooms

Delta Smelt generally do not spatially overlap areas with the most severe cyanobacteria harmful algal blooms (cHABs) in the Delta, which occur most often in the South Delta and San Joaquin River areas, not the North Delta or Suisun Bay where Delta Smelt are most commonly found (Bouma-Gregson et al. 2024). However, studies have found that cHABs may negatively affect the Delta Smelt zooplankton prey *P. forbesi* (Ger et al. 2018). Residence time is positively related to cHAB abundance, but recent analysis indicates that the low-salinity zone is not a useful proxy for residence time in the area of the Delta that experiences the most severe cHABs (the South Delta and San Joaquin River regions) and that climatic conditions (temperature and water year type) have the greatest influence on *Microcystis* abundance (Preece and Hartman 2024). Furthermore, because WY 2025 is relatively wet, cHABs are likely to be of low severity in the main channels of the Delta (Bouma-Gregson et al. 2024). Therefore, the Proposed Alternative Action would likely have minimal effect on cHABs.

Significance of Impacts on Delta Smelt

Because the Proposed Alternative Action and Interim SMSCG Operations would have limited effects on Delta Smelt survival, entrainment, extent of the low-salinity zone, food availability, water clarity, water temperature, and cHABs; and the Proposed Alternative Action includes implementation of pilot Suisun Marsh food enhancement actions in WY 2026 to be scaled up through WY 2028; impacts associated with this proposed change would be **less than significant**.

All other provisions of the ITP would remain in effect. No changes to SWP facilities or other operations are proposed and, thus, would have no impact on the species.

2.2.2.2 Analysis of Effects on Other Fish and Aquatic Species of Management Concern

Other fish and aquatic species were considered based on listing by state or federal agencies as endangered or threatened; California Species of Special Concern (critical, high, or moderate concern, status); and species of Tribal, commercial, or recreational importance (2024 FEIR Table 6-1).

Longfin Smelt would not be likely to be affected by the Proposed Alternative Action or Proposed Interim SMSCG Operations' change in X2/outflow because it tends to be downstream of the potential location of effect of the actions (ICF 2023:4-66). There would not be expected to be any effect on juvenile winter-run or spring-run Chinook Salmon or steelhead from the Proposed Alternative Action because they do not migrate through the estuary during the fall. There are no anticipated effects on adult Chinook Salmon or steelhead migrating upstream due to the Proposed Alternative Action because there is no evidence to suggest that changes in the low-salinity zone location would affect their migration cues to upstream natal habitats. Green Sturgeon and White Sturgeon are found in Suisun Bay and Suisun Marsh during the summer and fall months. There is no evidence that the resulting salinity or X2 from the Proposed Alternative Action would affect their rearing conditions because they freely move between brackish and freshwater habitats (Miller et al. 2020; Sellheim et al. 2022; Thomas et al. 2022).

SMSCG operations as part of the Proposed Alternative Action and Proposed Interim SMSCG Operations are not anticipated to have any effects on adult Chinook Salmon or steelhead during July through September because they are able to pass from Montezuma Slough to the Sacramento River using SMSCG boat locks. Similarly, the SMSCG action is not anticipated to affect Green Sturgeon and

White Sturgeon in July through September because they are only expected to make localized movements during these time periods. Like Chinook Salmon, they can use the boat locks to move between Montezuma Slough and the Sacramento River.

The 2026–2028 managed wetlands portion of the Proposed Alternative Action to increase Delta Smelt zooplankton prey in the channels surrounding the managed wetlands would likely have little to no potential for effects on the listed fish species other than Delta Smelt because of factors such as little to no spatiotemporal overlap of the species with the action. This action could increase food supply for some of the other fish and aquatic species of management concern occurring in Suisun Marsh, such as Sacramento Splittail (*Pogonichthys macrolepidotus*).

Effects of changes to the low-salinity zone as a result of the Proposed Alternative Action or Proposed Interim SMSCG Operations on the unlisted fish and aquatic species of management concern are likely to be limited given that statistical relationships between indices of abundance and Delta outflow or X2 tend to occur during the early life stages (i.e., winter/spring; e.g., Kimmerer [2002] and analyses developed for the 2024 FEIR³) and therefore would not overlap with the timing of the Proposed Alternative Action's changes to Delta outflow and X2. These species inhabit the Delta, Suisun Marsh, and Suisun Bay, which is a highly dynamic environment, so changes to the low-salinity zone would not be expected to limit rearing habitat availability or impede migration for similar reasons to those described for salmonid and sturgeon species. Rearing habitat is abundant throughout the Delta and Suisun Bay and Suisun Marsh for fish and aquatic species of management concern that could be affected by the Proposed Alternative Action, and those moving in the area can use the boat locks to move between Montezuma Slough and the Sacramento River during SMSCG operations.

All other provisions of the 2024 LTO ITP would remain in effect. No changes to SWP facilities or other operations are proposed and, thus, would have no impact on other fish and aquatic species of management concern.

Significance of Impacts on Other Fish and Aquatic Species of Management Concern

Because the Proposed Alternative Action would have limited effects on habitat availability and movement of other fish and aquatic species of management concern, impacts associated with this proposed change would be **less than significant**.

2.2.2.3 Analysis of Effects on Special-Status Plant Species

Special-status plant species with the potential to occur in the Suisun Marsh could potentially be affected by reductions in salinity resulting from the Proposed Alternative Action and Proposed Interim SMSCG Operations, compared to the baseline conditions, as modeled at Belden's Landing. Salinity would be lower than baseline conditions during periods when the SMSCG were operated when they otherwise would not have been (see Figure 2-4 as an example). Any potential impact on special-status brackish marsh obligate species growth, survival, seed dispersal and germination success would be limited because the duration of the reduction in salinity is temporary and relatively short.

³ See analyses for Starry Flounder, American Shad, Threadfin Shad, and California Bay Shrimp in 2024 FEIR Chapter 6.

Significance of Impacts on Special-Status Plant Species

Because the Proposed Alternative Action would only have temporary effects on salinity, impacts on special-status plant species growth, survival, seed germination, and dispersal success associated with this proposed change would be **less than significant**.

All other provisions of the 2024 LTO ITP would remain in effect. No changes to SWP facilities or other operations are proposed and, thus, would have no impact on these species.

2.2.3 Cumulative Impacts

As described in the 2024 FEIR, the incremental contribution of the long-term operations of the SWP to the cumulative impact on aquatic and terrestrial biological resources would not be cumulatively considerable because the proposed SWP operations are subject to the same regulatory framework promulgated by the federal and state resource agencies, and include environmental commitments, conservation, or protective measures specifically intended to offset, reduce, or otherwise limit potential impacts on aquatic species. Because modification of ITP COA 9.1.3 would not result in additional impacts on Delta Smelt or other aquatic species, the long-term operation of the SWP would not result in cumulatively considerable impacts.

2.3 Conclusions

As described in this Addendum, the proposed change to COA 9.1.3 of the 2024 LTO ITP does not require revisions to the conclusions or findings presented in the 2024 FEIR because no new or substantially more intense or severe significant environmental impacts, or potentially significant environmental impacts would occur.

Based on the discussion presented in Section 2.2, *Environmental Analysis*, the Proposed Alternative Action (i.e., changes to COA 9.1.3 of the 2024 LTO ITP) would not result in any of the conditions described in Sections 15162 and 15163 of the State CEQA Guidelines that call for preparation of a subsequent EIR or supplemental EIR.

In summary, the proposed modification to COA 9.1.3, *Delta Smelt Summer-Fall Habitat Action*, of the 2024 LTO ITP would not result in any of the following:

- New significant or potentially significant environmental effects,
- Substantially increase the intensity or severity of previously identified significant effects,
- Mitigation measures or alternatives previously found to be infeasible becoming feasible, or
- Availability/implementation of mitigation measures or alternatives that are considerably different from those analyzed in the 2024 FEIR that would substantially reduce one or more significant or potentially significant effects on the physical environment.

These conclusions confirm that a subsequent or supplemental EIR is not warranted, and this Addendum to the 2024 FEIR is the appropriate CEQA document pursuant to State CEQA Guidelines Section 15164 to evaluate and document the changes and additions to the long-term operation of the SWP facilities in the Delta. No changes are needed to the certified 2024 FEIR for long-term operations of the SWP.

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