STATE OF CALIFORNIA

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

STATE WATER RESOURCES CONTROL BOARD

DECISION 1653

In the Matter of Petition for Assignment of State-filed Application 25517 and accompanying water right Application 25517X01 and the Petitions for Release from priority of State-filed Applications 25513, 25514, 25517 (unassigned portion), 22235, 23780, 23781 in favor of water right Application 25517X01 of

Sites Project Authority.

DECISION CONDITIONALLY APPROVING WATER RIGHT APPLICATION FOR THE SITES RESERVOIR PROJECT AND DENYING ASSIGNMENT OF STATE-FILED APPLICATION AND RELEASE FROM PRIORITY OF STATE-FILED APPLICATIONS

REVISED DRAFT

TABLE OF CONTENTS

1. Introduction 1

2. Factual and Procedural Background 2

2.1 Application and Petitions 2

2.1.1 Petition for Partial Assignment of State-Filed Application 25517 2

2.1.2 Water Right Application 25517X01 3

2.1.3 Petitions for Release from Priority of State-Filed Applications 7

2.2 Physical Setting 7

2.2.1 Sacramento River 7

2.2.2 Sacramento-San Joaquin Delta 8

2.2.3 Creeks and the Colusa Basin Drain 9

2.2.4 Fisheries 10

2.3 Project Features 14

2.3.1 Purpose and Investors 14

2.3.2 Facilities and Proposed Operations 16

2.3.3 Incidental Take Permits 19

2.4 Final Environmental Impact Report 20

2.5 Application Notice, Protests, and Hearing Parties 21

2.6 Proceedings Before the Administrative Hearings Office 24

2.6.1 Assignment and AHO Hearing 24

2.6.2 Hearing Issues 26

2.6.3 Draft and Final Decisions 31

3. Petitions for Assignment and Release From Priority 32

3.1 Background 32

REVISED DRAFT

3.2 Analysis 34

3.2.1 Required Statutory Findings 35

3.2.2 Consideration of the Public Interest 35

4. Water Right Application 33534 42

4.1 Water Available for Appropriation 42

4.1.1 Legal Background 42

4.1.2 Water Availability: Sacramento River 43

4.1.3 Water Availability: Stone Corral Creek and Funks Creek 55

4.2 Avoidance of Injury to Senior Right Holders 58

4.2.1 Delta Water Rights 58

4.2.2 Federal Reserved Water Rights 70

4.2.3 Groundwater Rights 72

4.3 Fish, Wildlife, and Other Instream Beneficial Uses 76

4.3.1 Fish and Wildlife 76

4.3.2 Bay-Delta Plan Update and Delta Outflows 108

4.4 Water Quality 130

4.4.1 Temperature 131

4.4.2 Mercury 139

4.4.3 Harmful Algal Blooms 144

4.4.4 Water Quality Portfolio 152

4.5 Tribal Interests 153

4.5.1 Tribal Consultation 157

4.5.2 Tribal Cultural Resources and Racial Equity 160

4.6 Public Interest 164

REVISED DRAFT

4.6.1 Greenhouse Gas Emissions 165

4.6.2 Financial Feasibility 169

4.3.6 Efficiency of Water Use 172

4.6.4 Public Interest Balancing 175

4.7 Beneficial Uses and Purposes of Use 176

4.7.1 Beneficial Uses 176

4.7.2 Purposes of Use 179

4.8 Rights of Access 180

5. CEQA Findings 182

6. Conclusion 184

ORDER 184

Appendix A: Response to Comments Tables 185

REVISED DRAFT

Common Acronyms and Abbreviations in this Decision

Acronym/Abbreviation	Definition
2017 DEIR	Sites Reservoir Project Draft Environmental Impact Report/Environmental Impact Statement, August 2017
AB 52	Assembly Bill No. 52 (2013–2014 Reg. Sess.)
AFY	acre-feet per year
AHO	Administrative Hearings Office
Authority	Sites Project Authority
Board	State Water Resources Control Board
BK	San Francisco Baykeeper
Cachil DeHe	Cachil DeHe Band of Wintun Indians of the Colusa Indian Community of the Colusa Rancheria
CalSim 2035 CT	CalSim II estimated climatic conditions in 2035
CalSim 2070 CT	CalSim II estimated climatic conditions in 2070
CalSim UIF	CalSim II representation of a 55 percent unimpaired Sacramento River bypass flow requirement
CBD	Center for Biological Diversity
CCWD	Contra Costa Water District
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfs	cubic feet per second
CIC Tr. Comb.	Case-in-Chief Transcript Combined
CICC	Cachil DeHe Band of Wintun Indians of the Colusa Indian Community Council
CSPA	California Sportfishing Protection Alliance
CVHM	Central Valley Hydrologic Model
CVP	Central Valley Project
CVRWQCB	Central Valley Regional Water Quality Control Board
Delta Parties	South Delta Water Agency, Central Delta Water Agency, Zuckerman-Mandeville, Inc., Delta Farms Reclamation District No. 2030, Rudy Mussi Investment L.P., and County of San Joaquin
DWR	Department of Water Resources
EC	electrical conductivity
ESA	federal Endangered Species Act
Final EIR	Sites Reservoir Project Final Environmental Impact Report/ Environmental Impact Statement, November 2023
FOR	Friends of the River
GCID	Glenn Colusa Irrigation District
GHG	greenhouse gas

REVISED DRAFT

Acronym/Abbreviation	Definition
GSSA	Golden State Salmon Association
HABs	harmful algal blooms
Hamilton City POD	Hamilton City Pump Station
HRL	Healthy Rivers and Landscapes
IPCC	Intergovernmental Panel on Climate Change
ISWBE	Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California
ITP	incidental take permit
ITP Tr. Comb.	Incidental Take Permit Transcripts Combined
JPOD	joint points of diversion
King	T&M King Farms, LLC
MOU	memorandum of understanding
NAHC	Native American Heritage Commission
NDOI	Net Delta Outflow Index
NGO Parties	Non-Governmental Organization Parties (San Francisco Baykeeper, Friends of the River, California Sportfishing Protection Alliance, Save California Salmon, Sierra Club, Center for Biological Diversity, and Water Climate Trust)
NMFS	National Marine Fisheries Service
NOI	Notice of Intent to Appear
PCFFA	Pacific Coast Federation of Fishermen's Associations and the Institute for Fisheries Resources
POD	point of diversion
Reb. Tr. Comb.	Rebuttal Transcripts Combined
Reclamation	United States Bureau of Reclamation
Red Bluff POD	Red Bluff Pumping Plant
RMP	Reservoir Management Plan
SCS	Save California Salmon
SDWA	South Delta Water Agency
SDWA Parties	South Delta Water Agency, Central Delta Water Agency, Zuckerman-Mandeville, Inc., Delta Farms Reclamation District No. 2030, Rudy Mussi Investment L.P., and County of San Joaquin
Sites	Sites Project Authority
SPA	Sites Project Authority
State Water Board	State Water Resources Control Board
SWC	State Water Contractors
SWP	State Water Project
TAF	thousand acre-feet
TCC	Tehama-Colusa Canal
TEK	Traditional Ecological Knowledge

REVISED DRAFT

Acronym/Abbreviation	Definition
TRR	Terminal Regulating Reservoir
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VA	Voluntary Agreement
WAA	Water Availability Analysis
WAA Report	Amended Water Availability Analysis for Sites Reservoir Water Right Application
WCT	Water Climate Trust, Waterkeeper Alliance, and International Rivers
WLRP	Water Level Response Plan
WSIP	Water Storage Investment Program

REVISED DRAFT

1. Introduction

In this Decision, the State Water Resources Control Board (State Water Board or Board) conditionally approves a portion of water right Application 25517X01 of Sites Project Authority (Applicant or Authority), with a priority date of May 11, 2022, to appropriate up to 986,000 acre-feet of water per year from the Sacramento River for diversion to storage from November 1 to June 14, at a rate of 4,190 cubic feet per second (cfs), for later use in northern and southern California for multiple purposes, including agricultural use, municipal use, and fish and wildlife protection. The appropriation of water is part of a new surface water storage project, the Sites Reservoir Project. The Permit includes terms and conditions to prevent injury to other legal users of water, avoid unreasonable impacts to fish, wildlife, and other instream beneficial uses, and public trust resources, protect water quality, conserve the public interest, and ensure the beneficial and reasonable use of water.

The State Water Board denies the Authority's petition for assignment of State-filed Application 25517, and the Board denies the Authority's petitions for release from priority of State-filed Applications 25513, 25514, 25517, 22235, 23780, and 23781, in favor of water right Application 25517X01, without prejudice.

The September 3, 2026, Procedural Ruling Bifurcating Application 33534 bifurcates Application 25517X01 and addresses the portion of the Authority's application seeking to appropriate water from the Sacramento River. The Procedural Ruling also renumbers the bifurcated applications based on the Board's denial of the Authority's petition for assignment of State-filed Application 25517. The portion approved by this Decision for appropriation of water from the Sacramento River is identified as Application 33534A. The portion of the application for appropriation of water from Funks Creek and Stone Corral Creek is identified as Application 33534B and is subject to further proceedings before final action by the Board.

REVISED DRAFT

2. FACTUAL AND PROCEDURAL BACKGROUND

2.1 Application and Petitions

On May 11, 2022, the Authority filed a petition for partial assignment of State-filed Application 25517, accompanying water right Application 25517X01, and petitions for release from priority of State-filed Applications 25513, 25514, 25517 (unassigned portion), 22235, 23780, and 23781 in favor of water right Application 25517X01. (Exhs. AHO-001– AHO-052.)[1] These filings are collectively referred to as the Sites Application.

2.1.1 Petition for Partial Assignment of State-Filed Application 25517

Water Code section 10500 authorizes the state to file applications to appropriate water that "is or may be required in the development and completion of the whole or any part of a general or coordinated plan looking toward the development, utilization, or conservation of the water resources of the state." (Wat. Code, § 10500.) The State Water Board holds these "state-filed applications" and retains the priority date of the filing of the water right application by the state. (*Id.* at §§ 10500, 10504.) Parties can petition to be assigned part or all of a state-filed application. (*Id.* at § 10504.01.) State-filed applications are discussed in additional detail in Section 3 of this Decision.

The Authority petitioned for assignment of State-filed Application 25517, which has a priority date of September 30, 1977. Application 25517 proposes a year-round diversion at a rate of up to 4,200 cfs from Willow Creek, Funks Creek, Stone Corral Creek, and the Sacramento River. The proposed points of diversion in Application 25517 are within Tehama, Glenn, and Colusa counties at Willow Dam, Funks Dam, Tehama-Colusa Canal, and Glenn Colusa Canal. The proposed purposes of use are irrigation, domestic,

[1] The Board's Administrative Hearings Office (AHO) has introduced some exhibits for ease of reference for all parties. Unless the context indicates otherwise, references in to exhibits are to exhibits introduced during the hearing for this proceeding. These exhibits are filed in a folder titled "Parties' Hearing Exhibits" within the Hearing Documents folder in the administrative record for this proceeding. Within the Parties' Hearing Exhibits folder, there is a separate subfolder for the exhibits of each party that participated in the hearing.

REVISED DRAFT

municipal, industrial, recreation, incidental power, fish and wildlife enhancement, and water quality control. The proposed place of use is the service area of the State Water Project (SWP). Application 25517 has not been assigned in whole or in part to any other party, and there are no other pending petitions for assignment other than the petition the Authority filed.

2.1.2 Water Right Application 25517X01

The Authority filed water right Application 25517X01 with the petition for assignment of Application 25517. (Exh. AHO-001.) The Authority proposes to construct a new 1.5-million-acre-foot surface water storage project near the town of Maxwell (Sites Reservoir or Sites Reservoir Project or Project). (*Id.* at pp. 12–13, 27.)[2]

The Authority's application seeks to appropriate water from the Sacramento River, Funks Creek, and Stone Corral Creek. Funks Creek is tributary to Stone Corral Creek, which is tributary to the Colusa Basin Drain, which flows into the Sacramento River and Yolo Bypass. (Exh. AHO-001, pp. 23–31.) The application proposes four points of diversion: Golden Gate Dam (on Funks Creek), Sites Dam (on Stone Corral Creek), Tehama-Colusa Canal (on the Sacramento River), and Glenn-Colusa Main Canal (on the Sacramento River). (*Ibid.*)

REVISED DRAFT

[2] Unless otherwise indicated, citations in this Decision to page numbers of exhibits are to the pages of the pdf files of the exhibits. These page numbers often are different from the text page numbers, or "internal" page numbers in the exhibits.

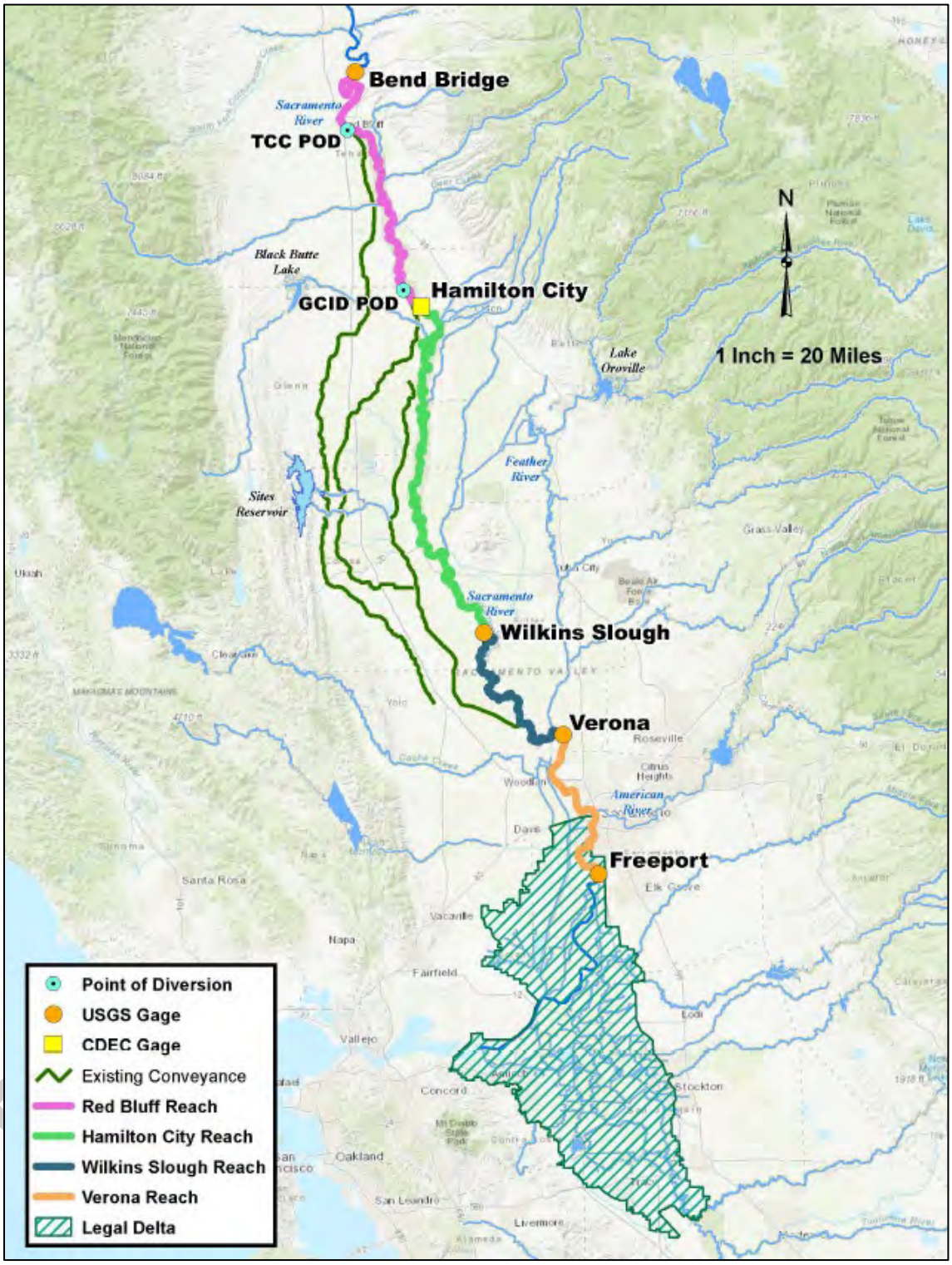

Figure 1 – Map detailing the reaches, stream gages, and Sacramento River points of diversion. (Exh. AHO-039, p. 24, fig. 2.)

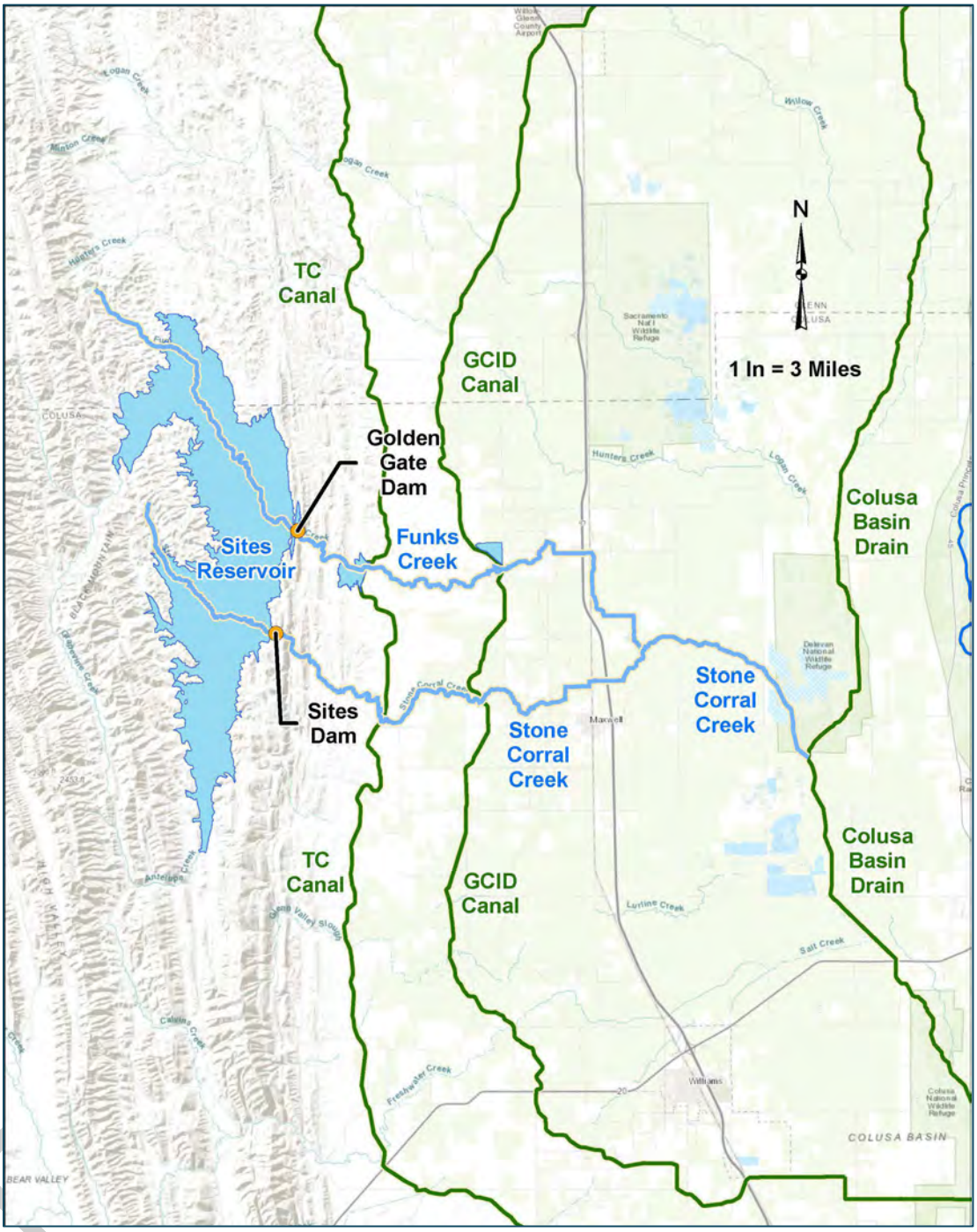

Figure 2 – Locations of Funks Creek, Stone Corral Creek, and associated points of diversion. (Exh. AHO-039, p. 31, fig. 3.)

The maximum amount of water requested for diversion is 1,500,000 acre-feet per year (AFY), to be diverted from the Sacramento River at a rate not to exceed 4,200 cfs and from Funks Creek and Stone Corral Creek at rates equivalent to their inflows at Golden Gate Dam and Sites Dam. (Exh. AHO-001, pp. 30, 32, 36.) The Authority proposes two points of diversion (PODs) on the Sacramento River: the Red Bluff Pumping Plant (Red Bluff POD[3]), to divert water into the Tehama-Colusa Canal (TCC) at a rate of up to about 2,120 cfs, and the Hamilton City Pump Station (Hamilton City POD[4]), to divert water into the Glenn Colusa Irrigation District (GCID) Main Canal at a rate of up to 2,070 cfs. (Exh. AHO-069, p. 79.)

The proposed season of diversion is from September 1 of each year to June 14 of the succeeding year. (Exh. AHO-001, pp. 24, 27, 30, 32.)

The application proposes rediversion at Sites Dam, Golden Gate Dam, and 52 other points located in Alameda, Colusa, Contra Costa, Fresno, Kern, Los Angeles, Madera, Merced, Riverside, Sacramento, San Bernardino, San Joaquin, Solano, and Yolo counties. (Exh. AHO-021; see also Exh. AHO-030, Exh. AHO-034.)

The proposed purposes of use are irrigation, municipal, domestic, industrial, water quality, fish and wildlife preservation and enhancement, and recreational. The application also identifies incidental uses of power, aquaculture, frost protection, stockwatering, and fish and wildlife preservation and enhancement. (Exh. AHO-001, pp. 14–19; Exh. AHO-005; Exh. AHO-028.)

The proposed place of use consists of 32,691,036 acres within Glenn, Colusa, Sutter, Yolo, Yuba, Sacramento, Napa, Solano, Contra Costa, San Joaquin, Alameda, Stanislaus, Santa Clara, Santa Cruz, San Benito, Merced, Madera, Fresno, Kings, Tulare, Monterey, San Luis Obispo, Kern, Santa Barbara, Ventura, Los Angeles, San

[3] This POD is also referred to in the Sites Application and during the proceeding as the TCC POD. This Decision uses the term “Red Bluff POD”.

[4] This POD is also referred to in the Sites Application and during the proceeding as the GCID POD. This Decision uses the term “Hamilton City POD”.

REVISED DRAFT

Bernardino, Orange, Riverside, San Diego, and Imperial counties, and generally includes the service areas for the Central Valley Project (CVP) and SWP. (Exh. AHO-021; Exh. AHO-005.)

2.1.3 Petitions for Release from Priority of State-Filed Applications

The Authority petitioned for release from priority of State-filed Applications 25513, 22514, 22235, 23780, 23781, and any unassigned portion of State-filed Application 25517 in favor of Application 25517X01. A release from priority operates as a limited exception to the rule of priority. Such a release precludes the future assignee of a senior state-filed application from asserting priority over an otherwise junior water right if the Board has approved a release from priority in favor of the junior water right. None of the state-filed applications from which the Authority seeks a release from priority have been assigned in whole or in part to any other party, and there are no pending petitions seeking assignment of the applications other than the Authority's own request for partial assignment of State-filed Application 25517.

2.2 Physical Setting

2.2.1 Sacramento River

The Sacramento River is California's largest river by total discharge volume. The river is predominantly regulated by Shasta Dam, which creates Shasta Reservoir, and is operated by the U.S. Bureau of Reclamation (Reclamation) as part of the CVP. (Exh. AHO-72, pp. 17–18.)

Shasta Reservoir has a storage capacity of approximately 4.55 million acre-feet. The reservoir captures runoff from the Sacramento, McCloud, and Pit rivers for purposes of flood control, water supply, and hydropower generation. Operation of Shasta Reservoir is subject to state and federal requirements that address temperature, instream flows for fish and wildlife, downstream consumptive demands, water quality, and Delta outflow. (Exh. AHO-72, pp. 17–18.) Keswick Reservoir, formed by Keswick Dam, serves as an afterbay for releases from Shasta Dam. (*Ibid.*)

Downstream of Shasta Reservoir, tributary inflows, agricultural and municipal diversions, and flood management infrastructure materially impact Sacramento River

REVISED DRAFT

flows. Key tributaries include the Feather and American rivers, which join the Sacramento River near the cities of Verona and Sacramento, respectively. Flows on the mainstem of the Feather River are regulated by Oroville Dam, operated by the Department of Water Resources (DWR) as part of the SWP. Flows on the American River are regulated by Folsom Dam, operated by Reclamation as part of the CVP. (Exh. AHO-72, pp. 23–24.)

Downstream of the confluences with these tributaries, the river flows southward, merging with the San Joaquin River in the Sacramento-San Joaquin Delta Estuary before reaching the San Francisco Bay and the Pacific Ocean. (*Ibid*.)

2.2.2 Sacramento-San Joaquin Delta

The watershed of the San Francisco-Bay/Sacramento-San Joaquin Delta Estuary (Delta or Bay-Delta) is formed at the confluence of the Sacramento and San Joaquin rivers, draining approximately 40 percent of the area of the state. The Delta is a highly modified network of integrated channels and islands, eventually flowing through the San Franscisco Bay, under the Golden Gate Bridge, and out to the Pacific Ocean. In most years, approximately 76 percent of water enters the Delta from the Sacramento River, approximately 15 percent enters from the San Joaquin River, and approximately 5 percent enters from eastside tributaries, with the remainder coming from Delta precipitation. (Exh. AHO-72, p. 26.)

There are multiple factors that affect flow and water quality in the Delta. When there is low Delta outflow, seawater intrusion into the western and central portions of the Delta strongly influences water quality and water levels. Delta outflow, in turn, is influenced by Delta inflows, tidal flows, and volumes of export pumping at the CVP and SWP facilities in the southern Delta. The Delta also contains several physical structures that manage flow and water quality, such as the Suisun Marsh Salinity Control Gates, Delta Cross Channel Gates, and the southern Delta temporary barriers. (Exh. AHO-72, pp. 26–27.)

REVISED DRAFT

2.2.3 Creeks and the Colusa Basin Drain

Stone Corral Creek and Funks Creek originate in the foothills of the Coast Range and flow east toward the Sacramento Valley and the Sacramento River. Both creeks are largely ephemeral, influenced heavily by rainfall events. (Exh. AHO-72, pp. 4–5.)

Stone Corral Creek has a drainage area of 38 square miles and is tributary to the Colusa Basin Drain. Near the town of Maxwell, the creek passes over a siphon in the Tehama-Colusa Canal and three miles downstream, crosses the GCID Main Canal siphon. About 5.5 miles downstream of the GCID Main Canal, Stone Corral Creek is joined by Funks Creek, and flows an additional 5.7 miles to the Colusa Basin Drain. (*Id.* at p. 4.)

Funks Creek runs roughly parallel to Stone Corral Creek from west to east. Funks Creek has a drainage area of 43 square miles and drains into Funks Reservoir, a regulatory reservoir on the Tehama-Colusa Canal operated by Tehama-Colusa Canal Authority. Below Funks Dam, Funks Creek travels 3.9 miles through agricultural fields in a combination of natural and managed channels to the location where it crosses over the GCID Main Canal. (*Id.* at p. 5.)

The Colusa Basin Drain is a highly modified water channel that moves agricultural return flows and stormwater runoff from the Colusa Basin to the Sacramento River or the Yolo Bypass. The Colusa Basin Drain spans approximately 70 miles across Glenn, Colusa, and Yolo counties, receiving inflow from local creeks, including Stone Corral and Funks creeks, as well as agricultural irrigation and drainage flows. The Colusa Basin Drain typically conveys flood flows from November through April, and agricultural irrigation and drainage flows from May through October. Peak flow in the Colusa Basin Drain occurs in the irrigation and drainage period during August and September. (*Id.* at pp. 10–11.)

REVISED DRAFT

2.2.4 Fisheries

Chinook Salmon

The Sacramento River is home to four runs of Chinook salmon, named after the time period when the adults begin their return to freshwater from the ocean: winter-, spring-, fall-, and late-fall-run. (Exh. AHO-78, p. 10.) Winter-run are listed as endangered while spring-run are listed as threatened under both the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA). (Exh. AHO-161, pp. 26, 35; Exh. BK-61, pp. 16–17.) Fall-run and late-fall-run Chinook salmon are most abundant but are listed as federal and state species of concern. (Exh. AHO-161, pp. 44–45.) The fall-run and late-fall-run Chinook salmon fishery was closed to commercial fishing in 2023, 2024, and 2025 due to poor adult returns. (Exh. GSSA-1, pp. 3, 5–6, 9, ¶¶ 1, 12, 24; Exh. BK-1, p. 14, ¶ 26; Exh. AHO-343, p. 5.)

Each run displays the same basic salmonid life history, and all life stages are similarly reliant on cold, well-oxygenated water and adequate flows that signal migration and make high-quality habitat available. (Exh. AHO-271, p. 149; Exh. BK-96, p. 60.) There are, however, differences in migration cues, and the duration of each life stage differs by run. (Exh. AHO-271, pp. 147–149.) For example, winter- and spring-run Chinook salmon migrate to freshwater and hold for several months until sexually mature, while fall-run Chinook enter freshwater after reaching maturity. (*Id*. at p. 149.)

Winter-run Chinook salmon migrate from the ocean to the Sacramento River in winter to spawn in the spring and summer. (Exh. AHO-161, pp. 26–27.) Winter flow events cue adult migration and spawning, which occur in a limited reach downstream of Keswick Dam. (Exh. AHO-271, p. 155.) The eggs incubate in late spring, and juveniles emigrate downstream from mid-July to the end of March, though the first large autumn storm events are associated with a pulse of juvenile movement downstream. (Exh. AHO-161, pp. 26–27; Exh. AHO-271, pp. 150–151; Exh. BK-21, p. 11.) The juveniles rear in-river and in the Delta before outmigrating to the ocean as smolts from November to May, where the runs intermix.

REVISED DRAFT

Spring-run Chinook life history requirements are largely the same as winter-run Chinook, though the duration and timing of migration differ. Spring-run migrate from the ocean as immature fish, mature in deep cold-water pools, and spawn in late summer and early fall. (Exh. AHO-161, p. 35.) The timing of juvenile emigration is highly variable, with some emigrating soon after emergence, usually from November to March, while others emigrate as yearlings. (*Ibid.*) This emigration period can extend from November to early May or June. (*Ibid.*)

Adult fall-run salmon migrate through the Delta and into Central Valley rivers from June through December and spawn from September through December. During the first few months following emergence, generally January through June, most fall-run salmon migrate out to the ocean. (Exh. AHO-161, pp. 44–45.)

Late-fall-run salmon migrate inland from October through April. Both late-fall- and fall-run salmon spawn from late September to December, and sometimes into January, in the Sacramento River and its tributaries. Unlike fall-run, late-fall-run typically spend seven to 13 months rearing in freshwater before emigrating to the ocean. (Exh. AHO-161, pp. 45–46.) Outmigration past Red Bluff generally occurs by the end of February, though the lower river migration window spans March to May, and extends through the Delta from April to June. (Exh. BK-1, pp. 24–25.)

Because each run's return is staggered by season, there may be Chinook salmon present in the Sacramento River at and downstream of the Red Bluff POD within the Bay-Delta watershed at any given time. (Exh. AHO-271, pp. 149–151; Exh. Sites-300, p. 61, fig. 4-3; Exh. AHO-161, pp. 48–49, tbls. 11A-6, 11A-7.)

Green Sturgeon

The population of green sturgeon within the Bay-Delta watershed is listed as threatened under the ESA. (Exh. AHO-161, p. 61.) It is a long-lived species; individuals can reach 70 years old, with delayed sexual maturity and infrequent spawning events. (Exh. AHO-161, p. 61; Exh. BK-1, pp. 44–45; Exh. AHO-271, p. 193.) Individuals migrate to the ocean prior to their first spawning season and return as adults in the winter and spring.

REVISED DRAFT

Spawning occurs March to July of wetter years, and spawning is limited to the upper Sacramento River between the Glenn-Colusa Canal and the Anderson-Cottonwood Irrigation District dam in Redding. (Exh. BK-1, pp. 44–45; Exh. AHO-271, pp. 193–194; Exh. Sites-017c, pp. 7–9.) After spawning, adults can return to the ocean immediately in spring and summer, or they can hold over for several months in the river and wait to out-migrate in the fall or winter. (Exh. BK-1, p. 44.) Adult downstream migration is associated with pulse flows, and pulses between November and February cue juvenile movement. (Exh. AHO-161, p. 61; Exh. BK-80, p. 70.) Juvenile green sturgeon can spend up to two years in freshwater and remain between Red Bluff and Hamilton City for at least several months before migrating to the Delta. (Exh. BK-1, p. 44; Exh. AHO-271 p. 194.)

White Sturgeon

The watershed of the Bay-Delta is home to the only known reproducing population of white sturgeon, which is designated as a candidate for listing as a threatened species under the CESA. (Exh. BK-1, pp. 33–34, ¶¶ 71–72.) White sturgeon are long-lived, reach sexual maturity after 10 to 19 years of age, and experience extended intervals between reproductive events (two to four years), making population growth slow and uncertain. (Exh. BK-1, p. 33, ¶ 72; Exh. AHO-161, pp. 64–65.) Juveniles can rear in either estuarine or river habitats, but spawning occurs primarily in the Sacramento River. (Exh. AHO-161, p. 66.) Individuals migrate to spawning grounds in the winter, in response to higher flows, and reproduce from February to June before returning to the Delta. (Exh. AHO-161, p. 66; Exh. AHO-271, pp. 195–197.)

Longfin Smelt

Longfin smelt are listed as threatened under the CESA, and the Bay-Delta distinct population segment was listed as endangered under the ESA in 2024. (Exh. AHO-161, p. 16; Exh. BK-1, p. 52, ¶ 121.) Longfin smelt have a two-year life cycle. (Exh. AHO-161, p. 16; Exh. BK-71, p. 4.) The juvenile and subadult life stages occur in coastal and estuarine habitats, and adult migration through the Delta to spawning habitat begins in

REVISED DRAFT

the fall. (Exh. AHO-271, p. 186.) Migration occurs once water temperatures drop to a suitable level and spawning takes place November through April, with peak activity January through April. (*Ibid.*; Exh. BK-71 p. 4; Exh. AHO-161, p. 18.)

Delta Smelt

Delta smelt are listed as endangered under the CESA, and U.S. Fish and Wildlife Service (USFWS) has determined that reclassifying the Delta smelt from threatened to endangered is warranted. (Exh. AHO-161, p. 2.) They are small endemic fish with a one-year life cycle. (*Id.* at pp. 2–3.)

Adult Delta smelt move from low-salinity habitat to freshwater between late December and February and are cued by increases in flow and turbidity caused by rain events. (Exh. AHO-271, p. 204.) They spawn in the spring, with most of the activity occurring in April through May when temperatures are below 64.4° Fahrenheit (F). (Exh. AHO-161, p. 3.) Juvenile distribution in the Delta is driven by late spring and early summer outflows, and in low water years, their residence time in the Delta increases and puts them into more frequent proximity of the CVP and SWP pumping facilities. (Exh. AHO-271, p. 204.)

Additional Species

Other anadromous fishes found in the Bay-Delta watershed include California Central Valley steelhead, Pacific lamprey, and western river lamprey. (Exh. AHO-161, pp. 54, 69, 72.) California Central Valley steelhead are ESA-threatened and display a similar life cycle to salmon. (*Id.* at pp. 54–56.) Their migration and life history are also dependent on the timing, magnitude, and frequency of flow events as well as cold, oxygenated water. In the Sacramento River, primary spawning grounds for steelhead are located between Keswick Dam and Red Bluff. (*Id.* at p. 55.) Pacific lamprey spawn in the Sacramento River from March to July. (*Id.* at p. 69.) Less is known about western river lamprey life history and habitat requirements. (*Id.* at pp. 69–72.) The Final Environmental Impact Report (Final EIR) chapter on Aquatic Biological Resources provides a complete list of fisheries of concern. (Exh. AHO-078, pp. 10–11.)

REVISED DRAFT

2.3 Project Features

2.3.1 Purpose and Investors

The Authority describes the Sites Reservoir Project as vital for the future resiliency of statewide water supply and a needed response to the impacts of climate change. (Exh. AHO-001, pp. 12–13.) The Project is intended to operate in coordination with other Northern California reservoirs, increasing flexibility in operation of the CVP and SWP. (*Ibid.*)

The Authority will divert water from the Sacramento River to storage in Sites Reservoir when flows exceed regulatory requirements and the needs of senior diverters, then release water primarily during dry and critically dry years when water supplies are limited. (Exh. AHO-001, pp. 12–13; Exh. Sites-070c, pp. 5, 11, ¶¶ 11, 16.) Water released from the reservoir will be delivered to entities that are either members of the Authority or have an agreement to participate in the funding and use of the Project. (Exh. AHO-001, at p. 13; Exh. AHO-028.)

Fifteen local public agencies created the Sites Project Authority through a joint powers agreement to design, acquire, construct, manage, govern, and operate Sites Reservoir and related facilities. (Exh. Sites-014, pp. 12–14.) The Authority's bylaws describe different membership types allowing various levels of participation in the Project, including Project Agreement Members, Associate Members, Non-Member Participating Parties, an Ex Officio Member (providing for DWR participation as a non-voting member), and a Cost Share Partner (providing for Reclamation participation as a non-voting member). (Exh. Sites-013, pp. 9–11.) The parties that have agreements with the Authority to help fund and make use of the Project are referred to collectively as the Storage Partners. (Exh. Sites-039, p. 6, ¶¶ 11–13.) There are currently 22 Storage Partners, each with differing allocated shares of the total proposed storage volume of Sites Reservoir in proportion to their funding commitments. (Exh. AHO-028, pp. 2–3; Exh. Sites-039, pp. 11–12, ¶¶ 27–28; Exh. Sites-049, p. 7.) After a water right permit is issued, contracts between the Authority and Storage Partners are intended to be

REVISED DRAFT

finalized, and the number and composition of Storage Partners may change. (Exh. Sites-039, p. 12, ¶¶ 29–30.)

The Project will be funded through a combination of investments by Storage Partners and state and federal funding. (Exh. Sites-039, pp. 11–13, ¶¶ 27–32.) Funding from local agency Storage Partners will be secured through "Benefits and Obligations Contracts" with the Authority. (Exh. Sites-102, p. 12, ¶ 27a.)

Funding from the state will be provided by the California Water Commission pursuant to the Water Storage Investment Program (WSIP). (See Wat. Code, §§ 79750, 79755; Exh. Sites-008, p. 5; Exh. Sites-001, pp. 4–8, ¶¶ 11–23.) In written testimony submitted prior to the start of the hearing, the Authority asserted that it was eligible for $875 million in funding in exchange for certain public benefits. (Exh. Sites-102, p. 12, ¶ 27b.) The proposed public benefits of the Project were: ecosystem improvement as water deliveries to the Yolo Bypass to provide habitat benefits for Delta smelt and deliveries of Incremental Level 4 refuge water,[5] flood damage reduction, and recreation. (Exh. Sites-001, pp. 4, 8–9, ¶¶ 11, 24, 30.) However, the Yolo Bypass flows for ecosystem benefit are no longer an intended element of Sites Project operations and the portion of the water earmarked for this purpose may be reassigned to the refuge water supply benefit.[6] (2026-04-10 Sites Authority Ltr. to AHO Reg Yolo Bypass, p. 1; Exh. AHO-344, p. 5.) The ecosystem benefits will be managed through a contract with the California Department of Fish and Wildlife (CDFW), while the flood damage reduction and recreation benefits will be managed through a contract with DWR. (Exh. Sites-071c, p. 9, ¶¶ 33–34.) The federal government, through Reclamation, is investing Water

[5] Incremental Level 4 refuge water is part of the Refuge Water Supply Program created by the Central Valley Project Improvement Act to ensure certain wetland habitat areas receive water. Reclamation implements long-term water supply contracts with agencies such as California Department of Fish and Wildlife (CDFW) that manage the refuges. (Exh. Sites-001, p. 4, ¶ 12.)

[6] The Board takes official notice of the Authority's January 27, 2026, WSIP Quarterly Report as Exhibit AHO-344. For a complete list of all the documents of which the Board takes official notice, please see the hearing officer's September 3, 2026 evidentiary ruling and footnotes 41 and 71.

REVISED DRAFT

Infrastructure Improvements for the Nation Act funding in exchange for a 16 percent capacity interest in the Project. (Exh. Sites-102, p. 13, ¶ 27c; Exh. Sites-214.)

In addition to the above sources of funding, a portion of the cost will be financed through a Water Infrastructure Finance and Innovation Act loan. (Exh. Sites-219, p. 6.) The remainder of the Project will be financed through a combination of pay-as-you-go contributions, revenue bonds, and the option for U.S. Department of Agriculture rural development loans to cover certain Project features. (Exh. Sites-102, p. 12, ¶ 27a.)

2.3.2 Facilities and Proposed Operations

The Project will utilize two existing PODs on the Sacramento River: the Red Bluff POD, which pumps water into the Tehama-Colusa Canal, and the Hamilton City POD, which pumps water into the GCID Main Canal. (Exh. AHO-024, p. 1.) The Tehama-Colusa Canal and GCID Main Canal will convey water diverted from the Sacramento River to two regulating reservoirs in the footprint of the Project — the existing Funks Reservoir and a new Terminal Regulating Reservoir (TRR). (*Id*. at p. 2.) An underground pipeline will connect the regulating reservoirs to Sites Reservoir. (*Id.* at p. 3.) The Project will require several upgrades to existing infrastructure, such as the installation of two additional 250-cfs pumps at the Red Bluff POD, and upgrades to the GCID Main Canal system. (*Id*. at p. 1.)

The Authority proposed a suite of conditions to specify when diversions could occur at the pumping plants to reduce the effects of the Project on fish, wildlife, and other instream beneficial uses in the Sacramento River and the Delta, meet existing regulatory requirements, and avoid impacts on SWP and CVP operations and other senior right holders. (Exh. AHO-001, p. 38; Exh. Sites-070c, p. 5, ¶ 11; Exh. AHO-69, p. 80, tbl. 2-5; 2025-05-27 Sites Closing Br., p. 107, ¶ 25 [SPA Special Term 4].) These conditions would prohibit diversions unless: (1) the Delta is in excess conditions and standard water right permit Term 91[7] (Standard Term 91) is not in effect,

[7] Term 91 is incorporated as Term 28 in Permit 21487. References in this Decision to the Permit or to specific terms and conditions in the Permit are to Permit 21487.

REVISED DRAFT

(2) downstream senior water rights are satisfied, (3) flows are "above those needed to meet all applicable laws, regulations, biological opinions, and court orders in place at the time of diversion," (4) there is capacity in the Tehama-Colusa Canal and GCID facilities, and (5) diversion criteria based on Sacramento River flows to protect fisheries are met. (Exh. Sites-070c p. 5, ¶ 11; Exh. AHO-069, pp. 78–79.)

The diversion criteria proposed in Application 25517X01 include protection of certain precipitation-generated pulses in Sacramento River flows at Bend Bridge, minimum bypass flows at the Red Bluff POD and the Hamilton City POD, and minimum flows in the Sacramento River at Wilkins Slough. (Exh. AHO-069, pp. 78–82, tbl. 2-5.) These diversion criteria were also included in the Authority's incidental take permit (ITP) application as take-minimization measures under the CESA. (Exh. Sites-120, pp. 226–227.) As described further below, these proposed bypass flows were modified in the final ITP CDFW issued in 2024, and the pulse flows were replaced by "flow dependent diversion requirements." (Exh. Sites-298, pp. 43–49.)

The main impounding structures proposed for Sites Reservoir are the Golden Gate Dam on Funks Creek and Sites Dam on Stone Corral Creek. (Exh. AHO-024, pp. 3–5.) These structures, as well as seven additional saddle dams and two saddle dikes built along the eastern and northern rims of the proposed reservoir, will create Sites Reservoir. (*Id.* at p. 3.) The resulting reservoir will have a surface area of 13,158 acres and storage volume of 1,507,930 acre-feet when full. (Exh. AHO-022, p. 1.) The physical dead pool of the proposed reservoir is 17,700 acre-feet and the operational dead pool is 60,000 acre-feet. (Exh. AHO-069, p. 88.)

Water impounded in Sites Reservoir may be released through Sites Dam into Stone Corral Creek or from the Inlet/Outlet (I/O) Tower into Funks Creek, although releases into the creeks will not be used to supply Storage Partners. The Sites Dam diversion pipeline and tunnel is designed to release up to 100 cfs from the reservoir into Stone Corral Creek, with an emergency release capacity of 4,700 cfs. (Exh. AHO-069, p. 91.) The pipeline from the I/O Tower to Funks Creek is designed to release up to 100 cfs to

REVISED DRAFT

Funks Creek, after discharging flows into an energy dissipation structure prior to entering the creek. (*Ibid*.)

Most Project water will enter and be released from the reservoir through the proposed Inlet/Outlet Works Facilities (I/O Works), which will be located south of the Golden Gate Dam. (Exh. AHO-069, p. 52.) The I/O Works consist of a multi-level I/O Tower with eight intake ports at various elevations within the reservoir. (Exh. AHO-24, p. 3; Exh. AHO-073, p. 38.) Under normal operating conditions, the estimated maximum inflows to Sites Reservoir from the regulating reservoirs through the I/O Works will be 3,900 cfs, the estimated maximum release flow will be 3,100 cfs, and the emergency maximum release will be 16,000 cfs. (Exh. AHO-24, p. 3; Exh. AHO-069, p. 52.)

Releases to Storage Partners will generally be made from May to November. (Exh. AHO-024, p. 6.) Water released from Sites Reservoir will flow from the I/O Works into either the TRR or Funks Reservoir. (*Ibid.*) Water released into the TRR will flow to Storage Partners through the GCID Main Canal while water released into Funks Reservoir will flow into the Tehama-Colusa Canal and travel roughly 40 miles south to the proposed Dunnigan Pipeline. (Exh. AHO-024, at pp. 5–6.) The Dunnigan Pipeline will then convey water to the Colusa Basin Drain at a maximum flow rate of 1,000 cfs, where it will subsequently travel to the Yolo Bypass or Sacramento River through the Knights Landing Outfall Gates.[8] *(Id*. at p. 6; Exh. AHO-069, pp. 65, 87.) Water released through the Tehama-Colusa Canal to the Sacramento River may be rediverted through the Delta for use by Storage Partners located south of the Delta using existing CVP and SWP pumping facilities (collectively, the Delta Export Facilities). (Exh. AHO-069, p. 87.)

The timing and quantity of releases from Sites Reservoir will be based on Storage Partners' requests, limited by infrastructure capacity and regulatory requirements. (Exh. AHO-069, pp. 77, 87.) The Authority proposes that exports to Storage Partners through

[8] Term 60 requires the Authority to enter into an agreement with the owners and operators of the Knights Landing Outfall Gates prior to construction. Coordinated operation of Sites Reservoir with the Knights Landing Outfall Gates is necessary for the planned conveyance of water from Sites Reservoir through the Sacramento River.

REVISED DRAFT

the Delta be subject to the same requirements placed on transfer or export of other types of non-CVP or non-SWP water, which includes limiting exports to a period from July to November referred to as the "transfer window." (*Id.* at p. 87.) The Authority's proposed operations are described in more detail in the Project Description of the Final EIR and the Authority's Reservoir Operations Plan. (See generally, *id.*; Exh. AHO-314.)

The Authority additionally proposes to coordinate Sites Project operations with Reclamation and DWR to enhance flexibility of, and avoid interference with, CVP and SWP operations and utilize available capacity at the Delta Export Facilities. (Exh. AHO-069, p. 88.) The proposed Sites Project operations include seasonal exchanges of water with the CVP and SWP. Pursuant to these exchanges, Sites Reservoir would make releases in the spring and summer to meet CVP and SWP contractual demands while reservoirs like Shasta Reservoir and Oroville Reservoir would release an equivalent amount of water in late summer and fall to meet Sites Storage Partner demands. (*Id.* at pp. 89–90.) The Authority may also make exchanges with GCID to satisfy demands from Storage Partners along the Sacramento River, as releases from Sites Reservoir cannot at this time be physically conveyed to any Storage Partner on the Sacramento River between the Hamilton City POD and Knights Landing. (*Id.* at p. 87.)

2.3.3 Incidental Take Permits

The Authority submitted an ITP application for the construction-related effects of the project on January 19, 2021. The Authority initially requested take of three state-listed species: giant garter snake (*Thamnophis gigas*); tricolored blackbird (*Agelaius tricolor*); and Swainson's hawk (*Buteo swainsoni*). (Exh. Sites-317, p. 2.) Two additional candidate species were added to the application after submittal: Crotch's bumble bee (*Bombus crotchii*) and western bumble bee (*Bombus occidentalis*). (Exh. Sites-317, p. 3.) CDFW issued an ITP for the Project's construction-related activities on October 22, 2024. (Exh. Sites-299.)

On October 24, 2023, the Authority submitted a separate ITP application to address the effects of Project operations. (Exh. Sites-120; Exh. Sites-317, ¶ 24.) The ITP application

REVISED DRAFT

requested take of four state-listed species: Delta smelt (*Hypomesus transpacificus*), Longfin smelt (*Spirinchus thaleichthys*), Central Valley spring-run Chinook salmon in the Sacramento River system (*Oncorhynchus tshawytscha*), and winter-run Chinook salmon (*Oncorhynchus tshawytscha*). (Exh. Sites-120, p. 22.) The application identified bypass flows and pulse flow requirements as diversion criteria to minimize take. (Exh. Sites-120, pp. 226–227.) Following a CDFW determination that the ITP application was incomplete, on October 15, 2024, the Authority submitted a supplement to its ITP application and requested take of one additional candidate species: white sturgeon (*Acipenser transmontanus*). (Exh. Sites-326; Exh. Sites-327, p. 14.) CDFW issued an ITP for Project operations to the Authority on October 24, 2024 (2024 ITP). (Exhs. Sites-298–Sites-302.)

The 2024 ITP includes requirements to conduct various monitoring and science programs to improve understanding of the Project's impacts on protected species. (Exh. Sites-298, pp. 23–43.) The ITP additionally includes operational criteria to protect listed species, such as the use and maintenance of fish screens, limitations on diversion based on flows in the Sacramento River and CVP and SWP operations, and limitations on releases and exchanges to mitigate water quality impacts. (*Id.* at pp. 43–54.) The 2024 ITP establishes a maximum annual diversion volume of 986,000 acre-feet per year from the Sacramento River, with a maximum diversion of 660,000 acre-feet per year at the Red Bluff POD and 421,000 acre-feet per year at the Hamilton City POD. (*Id.* at p. 43.) Diversions from the Sacramento River may not occur unless bypass flow requirements are met at each Sacramento River POD and at Wilkins Slough. To avoid temperature-related impacts on fisheries from Project operations, the 2024 ITP prohibits the Authority from making releases or exchanges that would result in increases of water temperatures greater than 0.5°F when protected species are present. (*Id.* at pp. 51–52.)

2.4 Final Environmental Impact Report

The Authority is the lead agency responsible for the preparation of environmental documentation required by the California Environmental Quality Act (CEQA) for the Sites Reservoir Project. The Authority assumed the role of lead agency in 2016 and

REVISED DRAFT

circulated a Draft Environmental Impact Report in August 2017 (2017 DEIR). (Exh. AHO-064, p. 1; Exh. AHO-068, p. 1; Exh. Sites-073, p. 3; Exh. Sites-071c, pp. 2–3, ¶¶ 5–6.) In 2019, the Authority made changes to the proposed Project based on a value planning process to identify alternative Project designs to make the Project more affordable for Storage Partners while also addressing comments received on the 2017 DEIR. (Exh. Sites-071c, p. 3, ¶ 7.) These changes resulted in a revised Draft Environmental Impact Report, released and circulated on November 12, 2021. (Exh. Sites-071c, p. 3, ¶¶ 7–8; Exh. Sites-073, p. 4.) After receiving public comments, the Authority released the Final EIR on November 2, 2023, which the Authority's Board of Directors certified on November 17, 2023. (Exh. Sites-072 p. 3; Exh. Sites-071c, p. 3, ¶¶ 9–10.) The Final EIR is identified as Exhibits AHO-61 to AHO-257. The Authority filed a Notice of Determination for the Project with the State Clearinghouse and with Colusa, Glenn, Tehama, and Yolo counties on November 20, 2023. (Exh. Sites-077–Sites-081; Exh. Sites-071c, pp. 3–4, ¶ 11.)

As a responsible agency under CEQA, in determining whether and under what conditions to approve the Sites Application, the State Water Board must consider the Final EIR prepared by the Authority. (Cal. Code Regs, tit. 14, § 15096, subd. (a).)

The adequacy of the Final EIR for the Sites Project for purposes of CEQA compliance was not a hearing issue. (See Cal. Code Regs., tit. 14, § 15096, subd. (e); see also 2024-03-01 Notice of Public Hearing, pp. 13–15.) The parties were permitted, however, to submit evidence and argument concerning the Final EIR to the extent that the evidence or argument related to the hearing issues.

2.5 Application Notice, Protests, and Hearing Parties

By letter dated August 26, 2022, the Board's Division of Water Rights (Division) accepted the Sites Application as a bona fide attempt to conform to water right application requirements but determined that Application 25517X01 was incomplete. (Exh. AHO-260, p. 1; see Cal. Code Regs., tit. 23, §§ 656, subd. (b), 678, 679.) The Division's acceptance letter identified additional information to be submitted to the Division before the Sites Application could be further processed. (Exh. AHO-260; see

REVISED DRAFT

Cal. Code Regs., tit. 23, § 684.) In response, the Authority filed additional application materials on January 6, 2023, and application errata on May 4, 2023, to correct or otherwise clarify information contained in the initial and amended application filings.

On June 2, 2023, the Board issued a public notice of the Sites Application. (2023-06-02 Notice of Application A025517X01; 2023-07-12 Revised Notice of Application A025517X01.) The protest period ended on August 31, 2023.

The Board received protests from the individuals and entities listed below in Table 1. (Exhs. AHO-280–AHO-294.) Protests were based on a range of issues and included allegations that the Project would injure prior rights, be contrary to law, cause adverse environmental effects, and not conserve the public interest. The Board also received 14 comments in support of the Project and two comments opposing the Project. On October 31, 2023, the Applicant filed written answers to the protests. (Exhs. AHO-295–AHO-309.) The protest resolution period concluded on February 28, 2024, and the Division required written status reports to be filed by the Applicant and the Protestants by March 29, 2024. (2023-12-05 Notice of Assignment (Sites Reservoir), p. 8.)

REVISED DRAFT

Table 1

Protests to the Sites Application.

Protest	Parties
1.	California Sportfishing Protection Alliance; AquAlliance; California Water Impact Network; CalWild; Fly Fishers of Davis; Friends of the Swainson's Hawk; Friends of the River; Northern California Council of Fly Fishers International; Restore the Delta; Save California Salmon; Sierra Club California; The Winnemem Wintu Tribe; and Water Climate Trust
2.	CalWild
3.	Center for Biological Diversity
4.	Central Delta Water Agency; Delta Farms Reclamation District No. 2030 (McDonald Island); Rudy Mussi Investment L.P.; South Delta Water Agency; and Zuckerman-Mandeville, Inc.
5.	Clarke F. Ornbaun
6.	Contra Costa Water District
7.	County of San Joaquin
8.	North Coast Rivers Alliance; Pacific Coast Federation of Fishermen's Associations; San Francisco Crab Boat Owners Association; The Institute for Fisheries Resources; and The Winnemem Wintu Tribe
9.	Richard Morat
10.	San Francisco Baykeeper; The Bay Institute; Defenders of Wildlife; and Golden State Salmon Association
11.	State Water Contractors
12.	Stephen Owens
13.	T&M King Farms LLC
14.	Trout Unlimited, Inc.
15.	Water Climate Trust; International Rivers; The Winnemem Wintu Tribe; and Water Keeper Alliance
16.	Planetary Solutionaries[9]

[9] On April 17, 2024, Patrick Porgans filed supplemental information, in the form of a protest to the Sites Application, in support of a Notice of Intent to Appear (NOI) that he

REVISED DRAFT

The Division canceled the protests of Stephen Owens and Friends of the Swainson's Hawk[10] on July 16, 2024, for failure to provide information as requested under Water Code sections 1334 and 1703.5.

Contra Costa Water District (CCWD) and the Authority notified the Administrative Hearings Office (AHO) by letter dated January 24, 2024, that CCWD agreed to dismiss its protest conditioned upon inclusion of two permit terms agreed to by the Authority. (Exh. AHO-312, pp. 1–2; 2025-05-27 Sites Closing Br., pp. 106, 108 [SPA Special Terms 1, 7]; Permit Term 18.) State Water Contractors (SWC), DWR, and the Authority jointly entered into a settlement agreement dated June 7, 2024, to address SWC's protest. (Exh. Sites-065, pp. 7–15.) By letter dated June 12, 2024, SWC notified the AHO that, with inclusion of two proposed permit terms resulting from the settlement agreement, SWC agreed to dismiss its protest. (2024-06-12 Joint Ltr. to AHO; 2025-05-27 Sites Closing Br., p. 107, SPA Special Terms 4, 5; Permit Terms 15–16.[11])

2.6 Proceedings Before the Administrative Hearings Office

2.6.1 Assignment and AHO Hearing

On November 13, 2023, the Executive Director of the State Water Board assigned Application 25517X01 to the AHO for further proceedings and an adjudicative hearing.

Parties to the hearing consisted of the Sites Project Authority and the Protestants listed in Table 1, above, except for CCWD. The hearing officer also granted party status to several additional entities. During the April 10, 2024, pre-hearing conference, the hearing officer granted party status to DWR and Reclamation based on potential impacts on the agencies' water rights. (2024-06-05 Procedural Ruling, p. 3.) On May 9,

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timely filed as a representative for Planetary Solutionaries. The hearing officer granted Mr. Porgans' request to participate as a party in the hearing. (2024-06-05 Procedural Ruling, p. 3.)

[10] Friends of the Swainson's Hawk was one of the undersigned parties to the joint protest filed by CSPA et al. (Exh. AHO-288, pp. 1, 3.)

[11] The two proposed terms were revised slightly for clarity and to ensure any amendments to the agreements are made available to the Board.

REVISED DRAFT

2024, the Cachil DeHe Band of Wintun Indians of the Colusa Indian Community Council (CICC) filed a Notice of Intent to Appear (NOI) seeking to participate as a party, which the hearing officer accepted on June 6, 2024. (*Ibid*.) On September 11, 2024, the hearing officer granted limited party status to the Paskenta Band of Nomlaki Indians for the purposes of cross-examining witnesses. (Case-in-Chief Transcript Combined (CIC Tr. Comb.), pp. 1801:5–14, 1802:20–24.)[12] On September 18, 2024, the hearing officer granted limited party status to the Chhé'ee Fókaa Band of Northeastern Pomo for purposes of cross-examination and presentation of rebuttal evidence. (CIC Tr. Comb., p. 2457:18 –23.)

The AHO conducted the hearing, beginning with policy statements on August 19, 2024. The AHO conducted site visits on August 21 and 22, 2024. The case-in-chief portion of the hearing began on August 27, 2024, and continued through November 7, 2024. The Authority presented testimony related to the 2024 ITP on February 3 and 6, 2025. The rebuttal portion of the hearing began on February 21, 2025, and continued through March 11, 2025. Parties submitted closing briefs on May 28, 2025, and reply briefs on June 27, 2025.

REVISED DRAFT

[12] The official record of AHO proceedings is the video recording saved to the administrative record. However, for ease of reference, we cite to the transcripts Sites provided, or where a court reporter was unavailable, to the Zoom-generated transcript. Unless otherwise noted, transcripts are available in the administrative record in the folder “Hearing Recordings and Transcripts,” and then in the subfolder, “Transcripts provided by Sites.” We have cited here to the combined transcripts for certain phases of the proceeding: (1) Case-in-Chief Transcript, which combines volumes 2 through 21, also available in this subfolder; (2) ITP Transcript, which combines volumes 22 and 23; and (3) Rebuttal Transcript, which combines volumes 24 through 32. The transcript from the July 24, 2026, supplemental hearing day is volume 33 and is located in the “Transcripts provided by Sites” folder.

2.6.2 Hearing Issues

The June 5, 2024, Amended Hearing Notice identified the following hearing issues:

1. Should the State Water Board approve the Authority's petition for partial assignment of State-filed Application 25517[13], such that any permit issued pursuant to Application 25517X01 has a September 30, 1977, priority date? If so, what conditions, if any, including conditions to address the issues identified below, should be included in the approval?

2. Would partial assignment of State-filed Application 25517 be for purposes of development not in conflict with the California Water Plan or any other general or coordinated plan for the control, protection, development, utilization, or conservation of the water resources of the state, or with water quality objectives?

3. Should the State Water Board consider the public interest when determining whether to approve the Authority's petition for partial assignment of State-filed Application 25517? If so, would partial assignment of State-filed Application 25517 be in the public interest? Would it be in the public interest, and allow for the effective administration of water right priorities, for any permit issued pursuant to Application 25517X01 to have a priority date that is senior to existing, permitted rights with priorities junior to September 30, 1977, except for the specific water rights to which the Authority agrees to subordinate its permit?

REVISED DRAFT

[13] Hearing notices for this proceeding may have contained a typographical error that incorrectly listed the application as number 22517 when describing the hearing issues. (E.g., 2024-03-01 Notice of Public Hearing and Pre-Hearing Conference (Sites), pp. 12–14.) The correct application number, 25517, has been corrected here in this recitation of the hearing issues.

4. Would partial assignment of State-filed Application 25517 deprive the counties in which the water originates of water necessary for the counties' development?

5. If the petition for partial assignment of State-filed Application 25517 is not approved, should the State Water Board consider Application 25517X01 as a water right application with a May 11, 2022, priority date, based on the date when the Authority filed Application 25517X01? If so, should the State Water Board also either i) consider the Authority's petition for partial assignment of State-filed Application 25517 as a petition for release from the priority of State-filed Application 25517 in favor of Application 25517X01, or ii) consider the Authority's petition for release from priority of State-filed Application 25517 in favor of Application 25517X01 to encompass the entirety of State-filed Application 25517?

6. Should the State Water Board approve the release from priority of State-filed Applications 25513, 22514, 25517, 22235, 23780, and 23781 in favor of Application 25517X01? If so, what conditions, if any, including conditions to address the issues identified below, should be included in the approval?

7. Would a release from priority of State-filed Applications 25513, 22514, 25517, 22235, 23780, and 23781 in favor of Application 25517X01 be for purposes of development not in conflict with the California Water Plan or any other general or coordinated plan for the control, protection, development, utilization, or conservation of the water resources of the state, or with water quality objectives?

8. Should the State Water Board consider the public interest when determining whether to approve the Authority's request for release from priority of State-filed Applications 25513, 22514, 25517, 22235, 23780, and 23781 in favor of Application 25517X01? If so, would approval be in the public interest?

REVISED DRAFT

9. Would a release from priority of State-filed Applications 25513, 22514, 25517, 22235, 23780, and 23781 in favor of Application 25517X01 deprive counties in which the water originates of water necessary for the counties' development?

10. Should the State Water Board approve Application 25517X01 and issue a water right permit authorizing the appropriation of water? If so, what terms and conditions should be included in the permit, including conditions to address any of the issues identified below?

11. Is water available for appropriation under the priority date of State-filed Application 25517? Is water available for appropriation if Application 25517X01 has a May 11, 2022, priority date? If so, when, under what circumstances, and in what amount is unappropriated water available to supply the Applicant?

12. How much of the water available for diversion could physically be diverted by the Project consistent with the diversion limits proposed in Application 25517X01, the proposed conveyance and storage capacity, and possible operational limitations?

13. Would the proposed appropriation interfere with the exercise of existing water rights so as to injure existing water right holders? If the application is approved, what terms and conditions should be included to protect existing water right holders from injury?

14. What amounts of water are needed to remain instream in the public interest for recreation and the preservation and enhancement of fish and wildlife, or for protection of other beneficial uses? If approved, what terms and conditions should be included in any permit to preserve instream flows needed (1) to ensure consistency with applicable water quality control plans, (2) to keep fish in good condition below the dams, (3) to avoid jeopardy to the continued existence of any endangered or threatened species, and to avoid the

REVISED DRAFT

destruction or adverse modification of critical habitat, and (4) to protect public trust resources to the extent feasible and in the public interest?

15. What conditions, if any, should be included in any permit issued on Application 25517X01, in anticipation of the update to the Bay-Delta Plan?

16. Should any permit issued pursuant to Application 25517X01 prohibit diversions until the State Water Board has updated and implemented the Bay-Delta Plan and determined what limitations on diversions under the permit will be needed to meet Bay-Delta Plan requirements?

17. Alternatively, should any permit issued pursuant to Application 25517X01 be subject to interim requirements limiting diversions to ensure reasonable protection of beneficial uses pending the update and implementation of the Bay-Delta Plan?

18. Should any permit issued pursuant to Application 25517X01 include conditions to protect proposed voluntary agreement flows or the flows to which proposed voluntary agreement flows are intended to be additive, in the event the Bay-Delta Plan is updated to include voluntary agreements?

19. Do the area of origin protections in Water Code sections 1215–1222 apply to Application 25517X01? If so, would approval of Application 25517X01 allow export of water that would directly or indirectly deprive the Sacramento River System of the prior right to all the water reasonably required to adequately supply the beneficial needs of the area, or any of the inhabitants or property owners therein? Are there any conditions that should be included in any approval of the application to ensure that exports do not deprive the Sacramento River System of water reasonably required in the area of origin?

20. Would the water diverted under the proposed appropriation be put to reasonable and beneficial use? If approved, what terms and conditions should be included to ensure that the diversion and use of water is reasonable and beneficial?

REVISED DRAFT

21. Is the proposed appropriation in the public interest? If approved, what terms and conditions should be included to ensure that the diversion and use is in the public interest?

22. Would the proposed appropriation impact Tribal lands, Tribal interests, or Tribal cultural resources?

23. Would the proposed appropriation advance racial equity and environmental justice?

24. Does the proposed appropriation advance the state goal of providing a decent home and suitable living environment for every Californian?

25. Is the proposed appropriation consistent with the California Water Plan and any other general or coordinated plan for the control, protection, development, utilization, or conservation of the water resources of the state?

26. Would the proposed appropriation cause unreasonable adverse impacts to water quality, fish, wildlife, or public trust resources?

27. What is the relative benefit to be derived from all beneficial uses of the water sought to be appropriated and any reclamation or reuse of the water as proposed by the Applicant?

28. Does the public interest require subordination of exports from the Delta under any permit issued pursuant to Application 25517X01 to diversions for reasonable and beneficial uses within the areas of origin?

29. Has the Applicant obtained or demonstrated the ability to obtain necessary rights of access to occupy property or use existing works as proposed in the application?

30. Is there a feasible alternative or are there feasible mitigation measures within the State Water Board's authority that would substantially lessen or avoid any significant effect of the project identified in the Final EIR? If approved, what

REVISED DRAFT

terms and conditions should be included in the permit to mitigate or avoid significant environmental impacts identified in the Final EIR?

2.6.3 Draft and Final Decisions

On March 20, 2026, the AHO transmitted to the parties the Draft Decision and associated Draft Water Right Permit prepared on behalf of the State Water Board. (2026-03-20 Cover Letter to Parties and Public (Sites).) With the release of the March 2026 Draft Decision and March Draft Permit, the hearing officer closed the evidentiary record. (*Id.* at p. 2.) The parties, as well as several non-parties, submitted detailed comments on the Draft Decision.

With its comments submitted on May 22, 2026, the Authority attached technical memoranda and associated spreadsheets as well as model files analyzing the effects of several of the Board's Draft Permit Terms on diversions and the corresponding yield of the proposed Project as compared to the conditions on diversion in the 2024 ITP. (2026-06-26 Notice of Supplemental Hearing (Sites), p. 2.) In its comments, the Authority relied on results from these additional model runs and analyses in support of changes to the Draft Permit that it asserted are in the public interest. (*Id.* at p. 3.) The hearing officer granted a limited reopening of the evidentiary record to admit the attachments and supporting files contingent upon the authors of the technical memoranda being made available for cross-examination by opposing parties during a supplemental day of hearing. (*Id.* at p. 4.) The AHO held the supplemental hearing day on July 24, 2026, and the hearing officer accepted the technical memoranda into the evidentiary record. The Authority, non-governmental organizations parties (NGO Parties)[14], South Delta Water Agency (SDWA) Parties[15], and T&M King Farms, LLC (King) submitted supplemental

[14] The NGO Parties include Protestants San Francisco Baykeeper, Friends of the River, California Sportfishing Protection Alliance, Save California Salmon, Sierra Club, Center for Biological Diversity, and Water Climate Trust.

[15] The South Delta Water Agency Parties include South Delta Water Agency, Central Delta Water Agency, Zuckerman-Mandeville, Inc., Delta Farms Reclamation District No. 2030, Rudy Mussi Investment L.P., and County of San Joaquin. These parties are also referred to, particularly in Section 4.2.1.1, as the Delta Parties.

REVISED DRAFT

briefs by the deadline set by the hearing officer of August 10, 2026, to address the newly introduced evidence.

On September 3, 2026, the AHO transmitted to the parties a Revised Draft Decision and associated Revised Draft Water Right Permit prepared on behalf of the State Water Board.

[Reserved]

3. PETITIONS FOR ASSIGNMENT AND RELEASE FROM PRIORITY

3.1 Background

In 1927, the California Legislature enacted statutes permitting the state to "make and file applications for any water which in its judgment is or may be required in the development and completion of the whole or any part of a general or coordinated plan looking toward the development, utilization, or conservation" of California's water resources. (Wat. Code, § 10500.) While held by the state, such applications, commonly referred to as state-filed applications, are not subject to the diligence requirement for prosecuting an application. (*Ibid.*) Permits issued pursuant to state-filed applications have a priority of right matching the date of the application. (*Ibid*.)

Water Code section 10504 authorizes the State Water Board to assign state-filed applications to third parties or to release the higher priority of a state-filed application relative to the junior priority of another water right or rights. (Wat. Code, § 10504; State Water Board Order WR 83-01, p. 18[16]; State Water Board Decision 1634 (1996), p. 3.) An assignment or partial assignment transfers all or part of the state-filed application to a third party. (Order WR 83-01, p. 18; State Water Board Decision 1587 (1982), p. 21.) Concurrently, the Board may issue to the assignee a permit to develop water under the priority date of the assigned state-filed application. (Order WR 83-01, p. 18.) A release

[16] Copies of State Water Board decisions, orders, and resolutions cited in this Decision are saved as a courtesy in a subfolder in the administrative record for this proceeding. Some parties have also introduced copies of certain decisions or orders as exhibits, and where possible we have cited those exhibit numbers as well.

REVISED DRAFT

from priority, by contrast, grants to the requesting third party a limited exception to the rule of priority with relation to a particular state-filed application. Once the Board grants a release from a specific state-filed application, any future assignee of the application is precluded from asserting priority against the right or rights in favor of which the release was made. (Order WR 83-01, p. 19; Decision 1634, p. 3; State Water Board Decision 1603 (1984), pp. 9–10.) In this way, these assignments and releases act as exceptions to the priority system for water rights.

The Board may grant a petition for assignment or release from priority of a state-filed application if a petitioner satisfies three statutory conditions. First, the assignment or release from priority must not conflict with a general or coordinated plan looking toward the development, utilization, or conservation of the water resources of the state. (Wat. Code, §§ 10504, 10500.) Second, the assignment or release from priority must not "conflict with … water quality objectives established pursuant to law." (*Id.* at § 10504.) Third, the State Water Board may not approve an assignment or release from priority "that will, in the judgment of the board, deprive the county in which the water covered by the application originates of any such water necessary for the development of the county." (*Id.* at § 10505.) If these conditions are met, the Board may assign a state-filed application and issue a water right permit or approve a petition for release from priority. As with other discretionary decisions in administering water rights, the Board shall consider the public interest when determining whether to approve a petition for assignment or release from priority. (See Wat. Code, §§ 1253, 1257 [consideration of public interest when acting upon application to appropriate water]; Order WR 2009-0033, p. 6, fn. 4 [consideration of public interest when acting upon petition for change, though not explicitly required by statute]; State Water Board Decision 935 (1959), p. 63 ["[I]t may well be said that in the field of acquisition of rights to the use of water . . . the State Water Rights Board is the guardian of the public interest"].)

In May 2022, the Authority petitioned the State Water Board for partial assignment of State-filed Application 25517, which has a priority date of September 30, 1977, and releases from priority of State-filed Applications 25513, 25514, the unassigned portion of 25517, 22235, 23780, and 23781, in favor of the Authority's application. Approval of

REVISED DRAFT

the petition for assignment of Application 25517 would grant the Authority's application, and any permit issued based on that application, a priority date of September 30, 1977, in lieu of a priority date of May 11, 2022. Approval of the releases from priority would subordinate the priority of the other identified state-filed applications, which may be developed in the future, in favor of any permit issued on the Authority's application.

To support its petition for state-filed assignment, the Authority reached subordination agreements with the holders of 18 existing water rights with priority dates junior to September 30, 1977, within the Sacramento River and Delta watersheds. (See 2025-05-27 Sites Closing Br., pp.104–106, ¶ 22 [SPA Special Term 1]; see, e.g., Exh. Sites-411 [Agreement between Sites Reservoir Joint Powers Authority and Maxwell Irrigation District (Agreement)].) Based on these agreements, the benefiting right holders declined to file protests or dismissed their protests to the Authority's water right application and associated petitions. The Authority did not reach similar agreements with the holders of numerous other permitted or licensed rights in the Sacramento River watershed with priority dates junior to September 30, 1977.

3.2 Analysis

We deny the Authority's petition for partial assignment of State-filed Application 25517 on two independent bases. First, we deny both the petition for assignment and the petitions for releases from priority because we find that the Authority has not demonstrated that approval of the petitions is "not in conflict with … water quality objectives established pursuant to law." (Wat. Code, § 10504.) Second, we conclude that approval of the petition for assignment is not in the public interest because the subordination agreements and other conditions on operations proposed by the Authority effectively subordinate the Permit to existing and potential future users within the Sacramento and Bay-Delta watersheds. Approval of the petition with the associated subordination agreements would therefore further complicate water right priorities within the watershed without a demonstrated benefit to the Project from a 1977 priority date.

REVISED DRAFT

3.2.1 Required Statutory Findings

The Authority has not met the statutory requirements necessary for approval of assignment of State-filed Application 25517 or the requested releases from priority. Approval of any assignment or release from priority must not conflict with established water quality objectives. (Wat. Code, § 10504.) As discussed in Section 4.4.2, the Board finds the Project will comply with water quality control plans and that the terms and conditions in the Permit will avoid degradation of water quality to the maximum extent possible consistent with the public interest. Based on currently available information, however, Project operations are likely to cause or contribute to exceedances of methylmercury water quality objectives in receiving waters of releases from Sites Reservoir.[17] (Exh. AHO-073, pp. 60–62.) Because the evidentiary record before us supports the finding that operation of the Project will conflict with applicable water quality objectives, we must deny the petitions.

3.2.2 Consideration of the Public Interest

The Authority argues that, when assigning state-filed applications, the Board's public interest considerations are constrained to the factors identified in Water Code sections 10504 and 10505. (2025-05-27 Sites Closing Br., p. 25.) We disagree. Our public interest considerations are not so limited. State-filed applications are made and filed pursuant to the "rules and regulations of the State Water Resources Control Board relating to the appropriation of water," excepting only diligence requirements. (Wat. Code, § 10500.) The Board's decision whether to grant a petition for assignment or release from priority is discretionary. (*Id*. at § 10504 ["The board *may* release from priority or assignment any portion of any application filed under this part . . . ."] [italics added].) While the three criteria described in Water Code sections 10504 and 10505 are necessary findings to grant an assignment or release from priority, they are not

[17] These possible exceedances of water quality objectives do not, in themselves, violate the respective water quality control plans as those plans do not require implementation of water quality objectives for methylmercury by allocating responsibility for meeting the objectives through water right permitting proceedings. (*See State Water Resources Control Bd. Cases* (2006) 136 Cal.App.4th 674, 729.)

REVISED DRAFT

necessarily sufficient. The word “may” in Water Code section 10504 expresses the Legislature’s intent that the Board retain discretion whether to deny such a petition in furtherance of the Board’s obligation to administer the water rights system and conserve the state’s water resources in the public interest. (Wat. Code, §§ 10504–10505.)

Additionally, while assignment provides an applicant with the benefit of the priority date of the state-filed application, the applicant still must obtain a permit pursuant to that application to authorize the appropriation. (See, e.g., § 10504.01 [describing hearing on petition for assignment as including action on water right application]; Order WR 83-01, p. 18 [“The recipient of an assignment *and the contemporaneous permit* receives a right to develop water” [emphasis added].) The Board is required to consider the public interest prior to issuing a permit to appropriate water. (Wat. Code, §§ 1253, 1255, 1257.) Insofar as the permit is issued contemporaneously with the assignment, the Board may fully consider the public interest when assigning state-filed applications and considering whether to approve the associated water right permit.

Area of Origin Protections

Approval of the Authority’s petition for assignment would grant the Authority’s water right priority over other rights in the watershed junior to September 30, 1977, except those right holders with whom the Authority entered a subordination agreement. Although statutory area of origin protections apply to exports of water made pursuant to water right applications filed after January 1, 1985, approval of assignment of State-filed Application 25517 may exempt the Permit from these protections. (See Wat. Code, §§ 1215–1222.) Other terms and conditions consented to by the Authority would, however, achieve the same result by prohibiting diversions for export under the Permit when water is needed to meet demands within the areas of origin.

Water Code section 1216 prohibits the export of water for use outside of identified protected areas pursuant to water rights with a priority date junior to January 1, 1985, if the water is reasonably required to adequately supply the protected area’s beneficial needs pursuant to existing or future rights. Protected areas include the Sacramento River System, the Mokelumne River System, the Calaveras River System, the San

REVISED DRAFT

Joaquin River System, and the Sacramento-San Joaquin Delta. (Wat. Code, § 1215.5.) The effect of these protections is to subordinate export projects to diversions necessary to satisfy local demands within the protected watersheds. Although the issue has not previously been addressed by a precedential State Water Board order, statutory area of origin protections would seem not to apply to diversions by the Authority pursuant to Application 25517 for purposes of export from the Sacramento and Delta watersheds because Application 25517 was filed in 1977, even though the Authority did not petition for assignment of Application 25517 until 2022.

The 1931 county of origin law ("County of Origin Law", Wat. Code, § 10505), applicable to state-filed applications, is distinct in scope and purpose from the 1984 statute concerning areas of origin ("Areas of Origin Statute"), which is applicable to all water rights filed after January 1, 1985 (Wat. Code, § 1215 et seq.).[18] The County of Origin Law ensures that entities that divert water for export outside the *county* of origin do not deprive the county of the water necessary for the development of the county. (Wat. Code, § 10505.) By contrast, the Areas of Origin Statute ensures that entities that divert water for export outside listed protected areas do not deprive those areas of the water supply "reasonably required to adequately supply the beneficial needs of the protected area, or any of the inhabitants or property owners therein."[19] (Wat. Code, § 1216.)

[18] CVP and SWP exports are subject to Water Code sections 11460 through 11463, the Watershed of Origin Statute. (See *United States v. State Water Resources Control Bd.* (1986) 182 Cal.App.3d 82,138–139.) The statutory requirements of the Watershed of Origin Statute are nearly identical to the Areas of Origin Statute. For purposes of water rights administration, diversions for export by the CVP or SWP are treated as junior to diversions for beneficial uses within the watershed of origin.

[19] The area of origin restrictions do not apply to the rediversion of previously stored water that was diverted in compliance with relevant area of origin protections. (*State Water Resources Control Bd. Cases* (2006) 136 Cal.App.4th 674, 771–772 [finding that area of origin protections do not create a right to stored water].) Water Code section 1217 provides, however, that users in a protected area have the right to purchase water made available by the construction of any works by a water supplier exporting water for use outside the protected area, for adequate compensation.

REVISED DRAFT

The Sites Reservoir Project is intended in significant part to divert water to storage for export south of the Delta. (See Exh. AHO-028 [listing project participants and storage allotments as of December 31, 2021].) Although there are other Storage Partners located south of the Delta, just three of them — Metropolitan Water District, San Gorgonio Pass Water District, and San Bernadino Valley Municipal Water District — are allotted over one-third of the storage space in the Project. (*Ibid.*) The Authority proposes to operate the Project in close coordination with the CVP and SWP, including exchanges of water whereby water would be released from Sites Reservoir to meet regulatory requirements to allow diversion of water to upstream storage in Shasta Reservoir or Oroville Reservoir. (See Exh. AHO-069, pp. 88–90.) The evidence in this proceeding suggests that Sites Reservoir would be operated, in part, to increase deliveries to CVP and SWP contractors. (See Exh. AHO-019; Exh. AHO-072, pp. 33–34; Exh. Sites-395c, pp. 15–16.) All the Project's potential 24 participants are CVP contractors, SWP contractors, or receive supplies from the CVP or SWP. (Exh. AHO-005, pp. 11–33; Exh. AHO-072, p. 30, tbl. 5-10.)

Based on the expressed intent of the Legislature to prioritize area of origin uses over exports, and to protect existing and future right holders within areas of origin, we conclude that area of origin limitations should apply to any water right issued for the Sites Reservoir Project that authorizes exports. (See, e.g., Wat. Code, §§ 12201, 12204; State Water Board Decision 1486 (1978), pp. 24–25 [imposing area of origin protections to protect public interest].)

The Authority has agreed, however, to permit terms that effectively subject the Project to area of origin limitations. Permit Term 15, as proposed by the Authority, prevents the Project from diverting water when the Delta is in balanced conditions. (2025-05-27 Sites Closing Br., p. 107, ¶ 25 [SPA Special Term 4].) When the Delta is in balanced conditions, there is no water available in the system for diversion in excess of the amount needed to meet the beneficial needs of the Sacramento River and Bay-Delta watersheds. (Revised Decision 1641, p. 162, fn. 81.) Permit Term 28 (Standard Permit Term 91) prohibits diversions when satisfaction of in-basin entitlements requires the SWP or CVP to release supplemental Project water, indicating a lack of sufficient

REVISED DRAFT

natural flow to meet the beneficial needs of in-area uses. (Permit Term 28; 2025-05-27 Sites Closing Br., pp. 103–104 [Proposed Term 18].)

Together, these conditions prevent the Project from directly or indirectly depriving the Sacramento River and Bay-Delta watersheds of water reasonably required to adequately supply the beneficial needs of those areas, or any of the inhabitants or property owners therein. (Wat. Code, § 1216.)[20] Practically, these terms subordinate Project diversions to the demands of all water rights within the Sacramento River and Bay-Delta watersheds that do not export water outside of those protected areas.

Accordingly, with these conditions on diversion, we cannot identify, and the Authority does not identify, any practical benefit to Project yield or Project operations from assignment of State-filed Application 25517 and its associated 1977 priority date. Therefore, we conclude that approval of the requested assignment would create additional complexity in the administration of water rights within the Bay-Delta watershed without corresponding benefit to the people of the state.

Administration of the Water Rights Priority System

Implementation of the subordination agreements entered into by the Authority with junior right holders would also present challenges for the Board's administration of the water right priority system in the Bay-Delta watershed, in significant part because of the lack of clarity as to the intended effect of those agreements.

Pursuant to a subordination agreement, "the holder of an otherwise senior water right consents to stand in order of priority behind another person or persons holding a junior water right." (*Bd. of Cnty. Comm'rs v. Crystal Creek Homeowners' Ass'n* (Colo. 2000) 14 P.3d 325, 329 fn.1 [as modified on denial of reh'g (Dec. 18, 2000)].) A subordination agreement is a limited reordering of priority that binds only the consenting parties.

[20] To the extent the permit terms do not fully overlap with area of origin protections, the public interest weighs in favor of denying the assignment of State-filed Application 25517 to ensure that statutory area of origin requirements apply. (See Wat. Code, §§ 1215–1222.)

REVISED DRAFT

Because the Authority has agreed to subordinate its water right to certain junior water right holders with various priority dates, the water right for the Project would have different priorities relative to different water right holders. Although the Authority and the subordinating right holders may have intended to reverse priority as between the Authority's permit and junior rights covered by the subordination agreements, that reversal of priority does not change the priority of junior rights with and without an agreement vis-à-vis one another. (Exh. AHO-025; Exh. AHO-312.) It is unclear how the Board should effectuate these agreements consistent with the rule of priority and the intent of the parties to those agreements.[21]

The parties' comments on the March 2026 Draft Decision illustrate the uncertainty as to how the agreements would operate. DWR understands the agreements to require that the Authority be fully curtailed when a water right holder with a subordination agreement is curtailed, essentially giving the Authority a priority date equivalent to the most junior subordinating right regardless of whether there is an outstanding call by that junior right holder or whether the bypass of flows under the Permit would benefit the junior right holder. (2026-05-22 DWR Comments on Sites Draft Decision, p. 21.)[22] The Authority, by contrast, asserts that the subordination agreements require it to bypass the amount of water equivalent to the demands of each agreement holder pursuant to their water rights. (2026-05-22 Sites Comments on Draft Decision-Draft Permit, p. 81.) Other right holders with intervening priority dates could, however, divert this bypassed water and the agreement holder would not necessarily benefit from the bypassed flow. It is unclear whether parties to the subordination agreements who waived their right to protest the

[21] Approval of the petitions for release from priority of the state-filed applications in favor of the Authority's permit would create a similar issue. The releases would effectively reverse the priority of the state-filed applications and the Authority's permit, but they would not change the priority of water rights with priority dates between the state-filed applications and September 30, 1977, relative to the state-filed applications or the Authority's permit.

[22] Comment letters on the March 2026 Draft Decision are found in the subfolder labeled "Comments on Draft Decision" in the administrative record for this proceeding. Comments are further organized into folders for Non-Parties, Parties, Objections and Responses, and other analysis and supporting files.

REVISED DRAFT

Authority's application, and who are not parties to this proceeding, might object to this understanding of the effect of their agreement.[23] As a third alternative, the subordination agreements may be interpreted to require the Authority to bypass sufficient flow to satisfy the demands of downstream right holders, with the exception of futile calls, including satisfaction of the demands of right holders with intervening priority dates junior to the Authority but senior to the agreement holder.

We generally agree with the Authority that, in appropriate circumstances, subordination agreements can be an effective tool for resolving protests to water right applications and achieving flexibility in the administration of the water rights that is mutually beneficial. In this particular instance, however, there is insufficient information to determine whether the agreements could be effectuated consistently with the understanding of the parties to those agreements and the priority system.

Conclusion

We deny the assignment of State-filed Application 25517 and the petitions for releases from priority for failure to meet the requirements of Water Code section 10504. We also conclude that the public interest weighs against approval of the Authority's petition for assignment of State-filed Application 25517. Because the petition for assignment of Application 25517 is denied, the Board considers Application 25517X01 to have a May 11, 2022, priority date, based on the date when the Authority filed Application 25517X01.

The public interest factors that weigh against assignment of State-filed Application 25517 do not necessarily weigh against approval of the Authority's petition for releases from priority. Therefore, the denial of the Authority's petition for releases from priority is made without prejudice. We may reconsider that decision at a future time and upon a

[23] The only subordination agreement in the evidentiary record for the proceeding is between the Authority and Maxwell Irrigation District. (Exh. Sites-411 [agreement with Maxwell Irrigation District]).

REVISED DRAFT

demonstration by the Authority, based on new information or changed circumstances, that the release from priority would not conflict with water quality objectives.

4. WATER RIGHT APPLICATION 33534

Before approving an application to appropriate water, the State Water Board must make required findings related to water availability, impacts to fish, wildlife, and other instream beneficial uses and public trust resources, the public interest, beneficial use of water, and rights of access necessary to complete the proposed appropriation. Each of these factors is addressed in the following sections of the Decision.

4.1 Water Available for Appropriation

The Permit authorizes the appropriation of up to 986,000 AFY from the Sacramento River from November 1 to June 14, at a rate of 2,120 cfs at the Red Bluff POD and 2,070 cfs at the Hamilton City POD. The Authority has demonstrated that, at times, there is unappropriated water available for diversion from the Sacramento River to satisfy the appropriation as authorized by the Permit.

This Decision does not authorize appropriation of water from Funks Creek or Stone Corral Creek (collectively, the Creeks). Instead the Board has bifurcated that portion of the Authority's water right application for further proceedings to address the amount of water available for appropriation from the Creeks.

4.1.1 Legal Background

Water Code section 1375 provides that the State Water Board must find that there is "unappropriated water available to supply the applicant" before issuing a water right permit. (Wat. Code, § 1375, subd. (d).) Water that is not needed to satisfy riparian rights, and is not otherwise appropriated, may be available for appropriation. (*Id.* at § 1201.) Water Code section 1202 defines unappropriated water to include water that has never been appropriated, water that has not been applied to beneficial use in the exercise of due diligence under an appropriative claim of right, and return flows from water that has been appropriated or used. (*Id.* at § 1202.)

REVISED DRAFT

When determining the availability of unappropriated water, Water Code section 1243 requires the Board to "take into account, when it is in the public interest, the amounts of water required for recreation and the preservation and enhancement of fish and wildlife resources." (Wat. Code, § 1243.) Similarly, section 1243.5 requires the Board to consider the amount of water needed to protect instream beneficial uses, including uses protected by applicable water quality control plans. (*Id.* at § 1243.5.) The Board also has a duty to consider the effects of a proposed appropriation on public trust uses, including fish and wildlife habitat, and to protect those uses to the extent feasible and in the public interest. (*National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 445–447.) The availability of unappropriated water is "a constantly fluctuating question" such that the Board's ultimate determination "necessarily can only be an estimate." (*Temescal Water Co. v. Dept. of Public Works* (1955) 44 Cal.2d 90, 106.)

4.1.2 Water Availability: Sacramento River

4.1.2.1 Evidence of Water Availability

The Authority's water right application seeks appropriation of 1,500,000 AFY at a diversion rate of 4,200 cfs from September 1 of each year to June 14 of the succeeding year, from the Sacramento River, Funks Creek, and Stone Corral Creek. (Exh. AHO-001, pp. 24, 27, 30, 32.) The Authority evaluates the availability of water to supply its proposed appropriation in a report titled "Amended Water Availability Analysis for Sites Reservoir Water Right Application" (WAA Report). (Exh. Sites-25c, pp. 6–7, ¶ 6; Exh. AHO-039, p. 5.) The WAA Report presents three different methods for determining whether water is available for appropriation from the Sacramento River for the proposed Project. (Exh. Sites-070c, p. 17, ¶ 30.) The three methods are referred to here as the Face Value Analysis, the Historical Analysis, and the CalSim II Analysis. Each method relies on different supply and demand datasets to demonstrate water availability. (Exh. Sites-025c, p. 4, ¶ 11.)

The Face Value Analysis uses unimpaired flow data to represent supply. (Exh. Sites-025c, at pp. 4-5, ¶ 14.) To represent demand, the Face Value Analysis uses the maximum authorized diversions, or face value, of all water rights with a priority of right

REVISED DRAFT

senior to September 30, 1977, in the Sacramento River watershed. (Exh. AHO-39, p. 69.) The Authority characterizes the results of the Face Value Analysis as a "conservative estimate of unappropriated water" which was determined by comparing "the monthly unimpaired flow data to the calculated maximum diversion and storage volumes based on the face value of senior water rights for each sub-watershed in the Sacramento River watershed and the Delta (including export demands and in-Delta consumptive uses)."[24] (Exh. Sites-070c, pp. 16, 18, ¶¶ 27, 30.) The Face Value Analysis does not consider flows that must remain instream to satisfy regulatory requirements or to support instream beneficial uses and therefore does not address considerations required by Water Code sections 1243 or 1243.5. (Exh. Sites-025c, p. 5, ¶ 14.) The Face Value Analysis does not consider demand associated with rights junior to the 1977 priority date of State-filed Application 25517 but assumes development of rights senior to 1977 up to their full face value. (Exh. AHO-039, p. 69.)

The Historical Analysis uses measured historical stream flow to represent available supply after accounting for upstream demand, and it uses the face values of downstream water rights to estimate downstream demand. (Exh. AHO-025c, pp. 7–8, ¶ 20.) The Historical Analysis evaluates measured historical stream flows near the PODs and three downstream points of analysis on a daily time step. (*Id.* at p. 8, ¶ 21.) At each of the PODs and points of analysis, the amounts of water potentially available are determined after considering the maximum diversion rates of downstream water rights. (Exh. AHO-039, pp. 21, 25.) The analysis also incorporates operating criteria and minimum flows the Authority proposed to protect fisheries and instream uses. (Exh. Sites-70c, p. 17, ¶ 30; Exh. Sites-025c, p. 7, ¶ 20.) By using historical stream flows as a proxy for net supply after accounting for upstream demand, the analysis relies upon

[24] The term "face value" is used here to refer to the maximum diversion rate and volume authorized by a water right. The Authority identified maximum diversion rates, seasons of diversion, and storage volumes, if applicable, in permits, licenses, registrations, and certificates for all post-1914 water rights. (Exh. AHO-039, p. 69.) The Authority used historical maximums based on water use data available in the Division's Report Management System to estimate maximum diversion rates, seasons of diversion, and storage volumes, if applicable, for pre-1914 and riparian water right claims. (*Ibid.)*

REVISED DRAFT

existing demand of upstream rights while assuming full development of downstream rights. (CIC Tr. Comb., p. 1614:10–23.)

The CalSim II Analysis simulates Sacramento River flows with operations of the SWP and CVP. (Exh. Sites-025c, p. 10, ¶ 28.) The analysis relies upon monthly historical hydrology from October 1921 to September 2003 to estimate supply and relies on development and land use within each planning area to estimate demand.[25] (Exh. Sites-025c, pp. 10–11, ¶¶ 28–29.) Experts for the Authority describe the CalSim II Analysis as an "operationally realistic and system-wide perspective." (*Id.* at p. 10; Exh. Sites-070c, p. 19.) Use of the CalSim model allows for revisions in the analyses to evaluate different hydrologic inputs, such as historical or climate change, and assumptions regarding potential future regulatory requirements, such as percent of unimpaired flow requirements. (Exh. AHO-039, p. 50.) CalSim II is designed to primarily simulate the operations of the SWP and CVP on a monthly time-step. (*Ibid.)* To assess Sites Project operations with SWP and CVP operations, the Authority incorporated Sites Reservoir and its proposed operating requirements, such as diversion limitations and the bypass requirements the Authority originally proposed in its water right application, into the CalSim II model. (Exh. Sites-025c, p. 10.) The Authority presented the Historical Analysis and CalSim II Analysis to show that water remains available for appropriation after accounting for proposed diversion criteria to protect instream beneficial uses.

The Division of Water Rights identified deficiencies in the Authority's initial WAA Report during review of the Authority's water right application under Water Code 1260, subdivision (k). (See Exh. AHO-260.) The Division required the Authority to augment its WAA Report with an analysis that considers the proposed updates to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan). (*Id.* at p. 3.) In response, the Authority refined its existing analyses and

[25] The analysis estimates demand in the Sacramento River watershed based on a 2020 level of development and demand in the San Joaquin River watershed based on a 2030 level of development. (Exh. Sites-025c, p. 10, ¶ 28.)

REVISED DRAFT

conducted an additional analysis using a tool the Division developed, referred to here as the Division WAA Tool. (Exh. Sites-070c, pp. 20–21, ¶ 33; Exh. AHO-040, p. 1.)

The Division WAA Tool uses unimpaired flow data to represent supply, and it uses the face value of water rights to represent demand. (Exh. Sites-025c, p. 15, ¶ 43; Exh. AHO-040, p. 2.) The Division WAA Tool includes supply and demand information for the entire Delta watershed. (*Ibid*.) The Division WAA Tool imposes unimpaired flow requirements of 55 percent to the Sacramento River, Calaveras, Mokelumne, and Cosumnes watersheds on a year-round basis and 40 percent to the Merced, Tuolumne, and Stanislaus rivers from February through June, to simulate regulatory requirements for the protection of fisheries and other instream beneficial uses. (*Ibid*.) The Authority post-processed the results of the analysis to incorporate the effects of Bend Bridge pulse flow protections and Wilkins Slough bypass flows the Authority proposed and analyzed in the Final EIR. (Exh. AHO-40, p. 2.)

In addition to an analysis using the Division's WAA Tool, the Authority submitted three supplemental CalSim II analyses to augment its initial WAA Report. (Exh. Sites-070c, p. 17, ¶ 30.) These three analyses respectively incorporate: (1) estimated climatic conditions in 2035 (CalSim 2035 CT); (2) estimated climatic conditions in 2070 (CalSim 2070 CT); and (3) a representation of a 55 percent unimpaired Sacramento River bypass flow requirement (CalSim UIF).[26] (*Ibid*.)

Following issuance of the 2024 ITP, the Authority submitted an updated Historical Analysis (ITP Historical Analysis) that incorporates the ITP requirements. (Exh. Sites-0311c, p. 2, ¶ 2; Exh. Sites-334R.)

[26] The Authority prepared an analysis of a 55 percent unimpaired Sacramento River bypass flow requirement by post-processing CalSim II modeling results developed for the Environmental Impact Statement prepared by Reclamation for the 2019 reinitiation of consultation under the federal Endangered Species Act on the coordinated long-term operations of the CVP and SWP. (Exh. Sites-25c, pp. 13–14, ¶¶ 38–40.) Experts for the Authority refer to the analysis as the CalSim II – Alternative 4 Model.

REVISED DRAFT

Finally, on November 3, 2025, the Authority submitted an analysis using CalSim 3 modeling.[27] This analysis also incorporates requirements in the 2024 ITP and assumes 2040 median climate conditions. (See 2025-11-03 Sites Letter to AHO Re CalSim 3.)

REVISED DRAFT

[27] On October 20, 2025, the hearing officer directed the Authority to submit CalSim 3 modeling results that incorporate the operating conditions identified in the 2024 ITP for Sites Reservoir. (2025-10-20 Letter to Andrew Hitchings, p. 1.) Letters and other correspondence can be found in the administrative record for this proceeding under the subfolder labeled "Correspondence." On November 3, 2025, the Authority submitted technical memoranda comparing CalSim II and CalSim 3 modeling assumptions and summarizing the CalSim 3 results for Project diversions from the Sacramento River, releases from Sites Reservoir, and changes to Delta Outflow with operation of the Project. (2025-11-03 Sites Letter to AHO Re CalSim 3.) These technical memoranda (Attachments 1 and 2 to 2025-11-03 Sites Letter to AHO Re CalSim 3) are hereby accepted into the evidentiary record.

Table 2
Results of Water Availability Analyses
for Sacramento River Diversions

Method	Period of Analysis (and timestep)	Maximum Annual Diversion Volume (TAF)	Average Annual Diversion (TAF)	Maximum Time Period of Availability
Face Value Analysis	1921 to 2014 (Monthly)	1,383	330	Dec. to June
CalSim II Analysis	1921 to 2003 (Monthly)	1,055	276	Sept. to June
CalSim 2035 CT	1921 to 2003 (Monthly)	967	303	Oct. to June
CalSim 2070 CT	1921 to 2003 (Monthly)	1,114	309	Oct. to June
CalSim UIF	1921 to 2003 (Monthly)	1,763	327	Sept. to June
Historical Analysis	2000 to 2024 (Daily)	1,219	304[28]	Dec. to June
ITP Historical Analysis	2000 to 2024 (Daily)	1,115[29]	255	Dec. to June
Division WAA Tool	1921 to 2022 (Monthly)	565	57	Oct. to May[30]
CalSim 3 (with ITP)	1922 to 2021 (Daily)	993	270	Oct. to June

(Exh. Sites-25c, pp. 6, 8, 10, 16 [periods of analysis]; Exh. Sites-311c, p. 4 [period of analysis for ITP Historical Analysis], 7, tbls. 1, 2; Exh. AHO-040, p. 16, tbl. 8; 2025-11-03 Sites Letter to AHO Re CalSim 3, pp. 9 [period of analysis for CalSim 3 (with ITP)], 24, tbl. A.)

[28] The results for the Historical Analysis were originally a maximum diversion volume of 1,236 thousand acre-feet (TAF) and an average annual diversion of 287 TAF. (Exh. Sites-25c, p. 21, tbl. 2.) The Historical Analysis was updated to have the same period of analysis and application of travel times as the ITP Historical Analysis, which resulted in the values shown here. (Exh. Sites-311c, p. 4, ¶ 7.)

[29] The 2024 ITP limits total diversions to 986,000 AFY. If this criterion were removed, the maximum diversion volume would be 1,115,000 AFY. (Exh. Sites-311c, p. 6, ¶ 11.)

[30] "Water is shown as available in all months of the Sites diversion season except June (water is available in a single June)." (Exh. AHO-040, p. 8.)

REVISED DRAFT

The Protestants did not conduct their own analysis of the availability of unappropriated water to supply Application 25517 (Application 33534). The Protestants' arguments and evidence that are relevant to the amount of water available for appropriation from the Sacramento River are generally summarized as follows:

- Water the Authority identified as surplus is needed to maintain fisheries, protect public trust resources, and support instream beneficial uses. (Exh. BK-1, pp. 7–8, ¶¶ 12-15; Exh. BK-132, p. 3, ¶ 8.) California Sportfishing Protection Alliance (CSPA) submitted evidence and expert testimony that approval of the Authority's appropriation at the requested rates of diversion and annual volume would materially alter the Sacramento River hydrograph. (Exh. CSPA-1c, pp. 4–8, ¶¶ 9–20.)

- Water the Authority identified as available for appropriation is already appropriated by the SWP and CVP or claimed by state-filed applications. (Exh. SDWA-11, pp. 3–4, ¶¶ 3–6.) SDWA submitted expert testimony that the face value of water rights for the SWP and CVP total 56,892,973.5 acre-feet and the face value of state-filed applications total 52,598,000 acre-feet. (*Id.* at p. 4, ¶ 4.) SDWA further asserted that there is no surplus supply for appropriation because the SWP and CVP cannot satisfy water quality obligations in dry years. (*Id*. at p. 4, ¶ 5.)

- Climate change will increase the frequency of dry and critically dry years, such that flows will not continue to be available to achieve Project purposes. (Exh. FOR-16, pp. 6–7, ¶¶ 13–15.)

We address these arguments as part of the finding of water availability and the maximum amount of water to be authorized for diversion under the Permit in the following subsections.

REVISED DRAFT

4.1.2.2 Analysis

The WAA Report and subsequent analyses demonstrate that water is available for appropriation from the Sacramento River during certain relatively high flow conditions. As explained below, we find water is available to supply a maximum diversion rate of 4,190 cfs, within a diversion season of November 1 through June 14, up to a maximum annual diversion volume of 986,000 acre-feet.

Maximum Rate of Diversion

The Authority demonstrated that unappropriated water is, at times, available for diversion at the PODs at a combined rate of 4,200 cfs. All three of the Authority's methods of analysis and the Division WAA Tool show that water is available at this rate. (See discussion, *supra*, Section 4.1.2.1.) The CalSim II Analysis, the ITP Historical Analysis, and the Division WAA Tool, show that flows sufficient to support the maximum proposed diversion rates are available after considering flows needed to remain instream for fisheries and other instream beneficial uses.

Application 25517 seeks a maximum combined rate of diversion of 4,200 cfs, with a diversion rate of up to 2,200 cfs at the Red Bluff POD and up to 2,000 cfs at the Hamilton City POD. (Exh. AHO-001, pp. 30, 32.) The Final EIR describes a slightly different proposed project, with diversion rates up to 2,120 cfs at the Red Bluff POD and 2,070 cfs at the Hamilton City POD, for a total of "about" 4,200 cfs. (Exh. AHO-069, pp. 79, 86.) The 2024 ITP analyzes and approves the maximum diversion rates described in the Final EIR. (Exh. Sites-298, p. 7.) To ensure consistency with the Authority's CEQA analysis and CDFW's analysis of Project operations under the CESA, we approve the diversion rates described in the Final EIR and the 2024 ITP. Thus, the Permit authorizes a maximum diversion rate of 2,120 cfs at the Red Bluff POD and 2,070 cfs at the Hamilton City POD, for a combined maximum rate of diversion of 4,190 cfs.

Season of Diversion

The Authority demonstrated that unappropriated water is, at times, available for diversion from November 1 through June 14.

REVISED DRAFT

All three of the Authority's methods of analysis show that water is available from December 1 through June 14. The multiple water availability analyses reach different results, however, as to the availability of water in the months of September, October, and November. The ITP Historical Analysis found no diversions could occur in the months of September, October, or November during the period of analysis. (Exh. Sites-311c, p. 6, ¶ 11.) The Face Value Analysis, which does not account for instream needs, also found no diversions could occur in the months of September, October, and November. (*Id.* at p. 7, tbl. 2.) Conversely, the analyses using CalSim II and CalSim 3 modeling both show that water could be available in the months of October and November. The analyses using CalSim II indicated some water availability as early as September.

While showing that water may be available in September and October, the CalSim II Analysis indicates average available volumes of only 3,000 acre-feet in September and October, and even lower average volumes in these months with changed climate conditions of 2035 and 2070. (Exh. AHO-039, pp. 179–185, tbls. B-1–B-9.) By contrast, the CalSim II Analysis shows that significant amounts of water may be available in November, with an average of 13,000 acre-feet and a maximum of 180,000 acre-feet based on historical hydrology. (Exh. AHO-39, p. 179, tbl. B-1.)

In reconciling varying results among the different tools, the Authority urges the Board to review the results of the multiple water availability analyses collectively, in accordance with the characteristics of and assumptions used in each analysis. (Exh. Sites-395c, p. 8, ¶ 18; Sites Closing Br., p. 34.) An expert for the Authority, Angela Bezzone, asserted that the 82-year CalSim II Analysis is a more appropriate tool than the 25-year ITP Historical Analysis to identify water that may be available for diversion because of the larger sample size of hydrologic data. (Exh. Sites-395c, p. 8, ¶ 18.) Ms. Bezzone also testified that, although the ITP Historical Analysis the Authority submitted did not show any water availability during November, when the Authority extended the period of

REVISED DRAFT

analysis through December 2024 using gage[31] data from November 2024, water was shown to be available in November 2024.[32] (*Id.* at p. 8, ¶ 17.)

We conclude that the Authority has adequately demonstrated that water is available for diversion in November, in some years, based on the Division WAA Tool results, Ms. Bezzone's testimony about the ITP Historical Analysis, and CalSim model results. We do not include September and October in the season of diversion because the CalSim analyses were the only analyses to demonstrate that any diversions were possible during those months, and the amounts shown to be available for diversion were nominal.

Maximum Annual Volume of Diversion to Storage

The 2024 ITP limits the annual volume of diversion to 986,000 acre-feet to protect listed species. (Exh. Sites-298, p. 43; Exh. Sites-300, p. 311.) CDFW concluded that an annual volumetric diversion limit of 986,000 acre-feet would avoid or minimize indirect Project-related impacts by providing "a level of protection for water quality and habitat for all Covered Species in the Sacramento River and Delta." (Exh. Sites-300, pp. 311, 351.) We do not find a basis in the record to deviate from CDFW's finding regarding impacts on aquatic species and conclude that such a limitation is in the public interest with little to no effect on expected average annual yield. Because we conclude that 986,000 AFY of water is, at times, available for appropriation, the Permit authorizes an annual volume of diversion to storage of 986,000 AFY.

[31] We spell "gage" without a "u" when referring to stream-measuring instruments because "gage" is the traditional spelling used in hydrology and water resource engineering. The writers of early U.S. Geological Survey publications adopted "gage" as a technical term to distinguish specialized hydrologic instruments, such as stream gages, staff gages, and gaging stations, from the more general English word "gauge." While "gauge" is the standard spelling in nearly all contexts, "gage" is the accepted and widely used spelling in water measurement.

[32] Although the extended analysis did not include downstream senior demand, the Delta was determined to be in excess conditions during at least part of the time period when water was available at the PODs. (Exh. Sites-395c, pp. 8–9, fn. 10, fig. 1.)

REVISED DRAFT

The Authority's three initial analyses estimate the annual maximum volume of unappropriated water at the PODs ranges from 3,878,000 AFY to 8,681,000 AFY, without considering the proposed diversion rates at the Red Bluff and Hamilton City PODs or flows that must remain instream for fisheries. (Exh. AHO-039, p. 6, tbl. ES-1.) Use of the Division WAA Tool, which additionally imposes a 55 percent unimpaired flow bypass requirement, results in an estimated maximum annual volume of 1,631,000 AFY of unappropriated water available at the Hamilton City POD. (Exh. AHO-040, p. 19, tbl. 10.) These results were sufficient to demonstrate a reasonable likelihood that unappropriated water is available for the proposed appropriation and allow the Division to accept and notice the Sites Application. (See Exhs. AHO-260, AHO-266; Wat. Code, § 1260, subd. (k).)

The Authority also evaluates the maximum volumes of unappropriated water the Project could divert with operational constraints, such as limits on the rate of diversion. These volumes more accurately reflect the amount of water that the Authority would be able to appropriate. After imposing a maximum diversion rate of 4,200 cfs, the Authority's analyses show a maximum amount of water that the Project could divert ranging from 967,000 AFY to 1,383,000 AFY, excepting the results of the Division WAA Tool. (See Table 2.)

The Division WAA Tool estimates that a maximum annual diversion of 565,000 acre-feet would be possible with a 4,200 cfs maximum rate of diversion and 55 percent of unimpaired flow bypass requirement, and assuming senior water rights divert up to the full face value of those rights. (Exh. Sites-025c, pp. 15–16, ¶¶ 43, 46.) The Authority raised several objections to the Division WAA Tool, including the representation of water right demand and assumptions for disaggregating the annual face values applied in the analysis. (See Exh. AHO-040, pp. 5–6 [technical issues].) In the absence of a subsequent analysis that addresses those issues, we rely on the CalSim 3 and ITP Historical Analysis results to evaluate the maximum annual volume of potential diversions at the PODs, taking into account the combined effects of demands associated with the operation of other projects under senior water rights and operational constraints on Project diversions such as the rate of diversion. The results of the CalSim

REVISED DRAFT

3 analysis and ITP Historical Analysis indicate it would be possible for the Project to divert between 993,000 AFY and 1,115,000 AFY of previously unappropriated water. When considered collectively, the water availability analyses the Authority submitted demonstrate that 986,000 AFY of water is, at times, available for appropriation.

The Protestants' contrary arguments do not lead to a different conclusion. First, the CalSim analyses assume the CVP and SWP will maximize diversions under their water rights subject to infrastructure capacity, regulatory requirements, and all other limiting conditions. These analyses therefore counter the Protestants' argument that the CVP and SWP have appropriated all remaining water in the watershed. That the CVP and SWP have been unable to meet water quality objectives in some dry years does not undermine the conclusion that water may be available for appropriation in wetter years. (2025-05-27 SDWA Parties' Closing Br., p. 43.) Second, although significant amounts of water are the subject of state-filed applications, absent specific evidence that a state-filed application may be developed that would conflict with the Authority's appropriation, these potential claims are too remote and uncertain to support the conclusion that this water is unavailable for appropriation by the Authority. Finally, we do not disagree with Protestants' assertions that in dry years, water may not be available to supply the Project. (*Ibid*.) Permit Term 26 makes clear that the Permit is subject to senior water rights and curtailment when water is unavailable at the Permit's priority date.

The water availability analyses the Authority submitted could support a conclusion that a quantity greater than 986,000 AFY of unappropriated water may, during extremely wet years, be present at the PODs. But consideration of the amount of water needed to remain instream for the preservation and enhancement of fish and wildlife, weighs against authorizing an appropriation that exceeds 986,000 AFY. (Wat. Code, §§ 1243, 1243.5.) This limitation on total annual diversions coupled with the Permit's bypass requirements are intended to ensure that adequate amounts of water will remain instream, in the public interest, for the preservation and enhancement of fish and wildlife and other instream beneficial uses. Furthermore, the ITP effectively limits the Authority's ability to divert water in excess of 986,000 AFY unless and until this limitation is revised or removed from the ITP. Although the 2024 ITP expires on December 31, 2039, there is

REVISED DRAFT

no basis to expect that future iterations of the ITP will increase the amount of authorized diversions. (Exh. Sites-298, p. 1.) Finally, the evidence suggests that the Project will rarely, if ever, have the opportunity to divert more than 986,000 acre-feet in any year. Therefore, the limitation will have little effect on average annual yield.

In an exceptional water year in which the Permit's annual volumetric limit might constrain diversions, and if the Authority were operating under an ITP that allowed for diversions in excess of 986,000 acre-feet, the Authority could apply for a temporary water right permit pursuant to Water Code sections 1425 to 1431. In the unlikely event that the Authority were able to divert continuously at the maximum rate of 4,190 cfs, or 8,311 acre-feet per day, starting on November 1, the Authority would not meet the 986,000 acre-foot limit until February 28 of the following year. In such an extraordinary year, the Authority could anticipate reaching this limit and timely apply for a temporary permit.

4.1.3 Water Availability: Stone Corral Creek and Funks Creek

The Authority proposes to impound water flowing in Funks Creek and Stone Corral Creek in Sites Reservoir by construction of Golden Gate Dam and Sites Dam. (Exh. Sites-070c, p. 4, ¶ 10.) The Authority evaluated the availability of water for appropriation in each creek by comparing historical streamflow data to the face value of water rights in that creek. (Exh. AHO-039, p. 31.)

United States Geological Survey (USGS) stream data collected near the town of Sites for 25 years from 1958 through 1985 shows that Stone Corral Creek average daily mean discharge is well below 100 cfs throughout much of the year, though flow can greatly exceed 100 cfs periodically during the winter and spring months. (Exh. AHO-78, p. 57, tbl. 11-3; Exh. Sites-60, p. 15, fig. 4.) More current stream gage data is not available for Stone Corral Creek. The Final EIR concludes that while equivalent flow data for Funks Creek do not exist, "Stone Corral Creek hydrology is likely representative of Funks Creek hydrology in terms of amount and seasonality of flow." (Exh. AHO-78, p. 57.)

REVISED DRAFT

The Authority's water availability analysis for the Creeks used the above streamflow data and assumptions about flows in Funks Creek to estimate supply, and the face value of water rights on each creek to estimate demand. (Exh. AHO-039, pp. 30–33.) The results indicated that water may be available in seven out of the 22 years included in the analysis in volumes ranging from 700 acre-feet to 24,000 acre-feet, averaging 2,900 acre-feet per year. (Exh. Sites-025c, p. 10, ¶ 27.) The analysis also indicated that water is available from January through April. (Exh. AHO-039, pp. 47–48.) Available supply is not adequate to meet the face value demand of rights on the Creeks from August through December or May through June.[33] (*Ibid*.) The Authority did not consider available supply or demands of water rights downstream of the confluence of Stone Corral Creek and the Colusa Basin Drain. (CIC Tr. Comb., pp. 1914:24–1915:19.)

There are various sources of water that flow in the Colusa Basin Drain, including several foothill tributaries and agricultural return flow from surface water diversions from the Sacramento River,[34] and accretions in certain areas from the groundwater table. (Exh. Sites-142, pp. 183, 185, 474; Exh. King-81, pp. 4, 39.) The Colusa Basin Drain is a highly controlled system with numerous inflows, return flows, and flow control structures. (Exh. King-81, pp. 36–39.) As a result, it is difficult to estimate water availability at any particular POD for existing right holders. Clarke Ornbaun submitted measured data for a gage located near the intersection of the Colusa Basin Drain and Highway 20, approximately 2.5 miles east of Colusa. (Exh. Ornbaun-004, p. 1; Exh. Ornbaun-016, p. 1.)[35] There is no other information in the evidentiary record about flow in the Colusa Basin Drain, and there are no other readily available sources of data or

[33] The Authority did not analyze water availability in July or August. (Exh. AHO-039, p. 47.)

[34] On average, the GCID Main Canal and Tehama-Colusa Canal convey approximately one million AFY into the region from diversions from the Sacramento River and Stoney Creek. (Exh. King-81, p. 39.)

[35] The exhibits from Mr. Ornbaun were not indexed when submitted. The AHO renamed the files to contain exhibit numbers and saved them in a folder titled "Files created by the AHO" within the Clarke Ornbaun Exhibits folder.

REVISED DRAFT

estimates of the amount of water in the Colusa Basin Drain in addition to flows from Funks Creek and Stone Corral Creek.

According to the Board's water rights records, there are water rights with PODs on the Colusa Basin Drain downstream of the confluence with Stone Corral Creek. Using the stream trace feature of the electronic water rights management system, staff from the AHO reviewed information on file with the Division of Water Rights data system, which indicates over 50 water rights along the Colusa Basin Drain, authorizing diversions in amounts up to 42,500 AFY. The record contains some evidence that flows in the Colusa Basin Drain are, at times, insufficient to meet these downstream demands. For example, the gage data Mr. Ornbaun submitted appears to show that water was unavailable during 2021. (Exh. Ornbaun-004, p. 1.)

The current evidentiary record is inadequate to support approval of the portion of Application 33534 that seeks to appropriate water from the Creeks. There is insufficient evidence that water is available for appropriation from the Creeks after considering downstream supply and demand on the Colusa Basin Drain. The Authority's water availability analysis only considered demand from water rights that divert directly from the Creeks and did not address the impacts of the proposed appropriation on downstream water right holders or instream needs along the Colusa Basin Drain. (CIC Tr. Comb., pp. 1914:24–1915:19.) Rather than deny the application, we bifurcate that portion of application that seeks to appropriate water from the Creeks and will address this portion of the Authority's water right application through a separate proceeding.

Permit Term 19 makes clear that impoundment of water from the Creeks is not authorized and that inflows from the Creeks must be released downstream. As the Authority described, the current dam designs have the capacity to release up to 100 cfs each on a regular basis, with additional capacity for emergency releases up to 4,700 cfs into Stone Corral Creek. (Exh. AHO-069, p. 91.) Because inflows from the Creeks can exceed release rates, Permit Term 19 requires the Permittee to develop operating criteria to ensure inflows will be released within a reasonable time. (*Ibid.*; Exh. AHO-078, p. 57.) Any temporary impoundment must not injure other legal users of water or

REVISED DRAFT

unreasonably impact fish and wildlife or other public trust resources. Permit Term 20 is complementary to Permit Term 19 and requires development of the technical studies and Creeks Operations Plan the Authority originally proposed to address any potential impacts on downstream fisheries resulting from the temporary impoundment of water. (See Exh. AHO-108, pp. 51–52; Exh. Sites-60.) The operating criteria Permit Term 19 requires may be incorporated into the Creeks Operations Plan.

Should the Authority obtain a water right permit to divert and store water from the Creeks through the bifurcated proceeding on Application 33534B, the Deputy Director may modify Terms 19 and 20 of this Permit to ensure consistency with that future-issued permit.

4.2 Avoidance of Injury to Senior Right Holders

Water Code section 1375, subdivision (d), provides that the Board must find that there is "unappropriated water available to supply the applicant" before approving an application for a water right permit. Unappropriated water is defined to exclude water needed for reasonable and beneficial use under existing, valid water rights. (Wat. Code, §§ 1201, 1202.) Accordingly, to show that unappropriated water is available, the applicant must demonstrate that water may be diverted and used in the amounts and the manner proposed without injury to any other lawful user of water. (See, e.g., State Water Board Decision 1647 (2008), p. 19; State Water Board Decision 1642 (2001), p. 14; State Water Board Decision 1591 (1983), p. 4.) Not every interference with the exercise of a water right constitutes injury, however. Injury occurs if the interference is material and significant, and the cost to the senior right holder of avoiding the harm is unreasonable. (State Water Board Order WR 79-22, p. 7; *Peabody v. Vallejo* (1935) 2 Cal.2d 351, 376.)

4.2.1 Delta Water Rights

The South Delta Water Agency Parties argue that approval of the Authority's application as proposed will injure their water rights by lowering water levels and increasing salinity in the Delta. Based on the evidence in the record, we agree that approval of the application, absent appropriate terms and conditions, risks injury to legal users of water

REVISED DRAFT

in the Delta. To avoid the risk of such injury, this Decision imposes conditions on the rediversion of water through the Delta Export Facilities under the Permit to require that water quality criteria are met and that water levels are adequate to support diversions by senior right holders. This Decision also imposes conditions on the release of water under the Permit pursuant to an exchange to ensure that exchanges do not cause an increase in Delta exports that may result in injury based on water level or water quality impacts. (See Exh. Sites-70c, pp. 4, 13, ¶¶ 10, 13; Exh. SDWA-2a, p. 4, ¶ 6.)

4.2.1.1 Water Levels

The Delta Parties argue that Project diversion and export operations[36] will decrease water levels in the southern Delta and thereby injure their water rights in several ways. First, the Delta Parties argue that exports through the Delta Export Facilities already adversely affect water levels so as to injure legal users in the Delta, and that additional exports will contribute to further lowering of water levels. (2025-05-27 SDWA Parties' Closing Br., p. 11.) The Delta Parties assert that even a small decrease in the physical elevation of water, or stage, attributable to the Authority's proposed operations could negatively impact legal users' ability to divert water from southern Delta channels. (See Exh. SDWA-2a, p. 9, ¶ 10.) Second, and relatedly, the Delta Parties argue that the modeling on which the Authority relies to show that its rediversions will have minimal impacts on water levels is fundamentally flawed. (2025-05-27 SDWA Parties' Closing Br., pp. 12–13.) Third, the Delta Parties contend that by exporting more water and capturing high flows, Sites Project operations will reduce Delta circulation and flushing flows, increasing siltation and worsening low water levels. (*Id.* at pp. 11–12.) Finally, the Delta Parties offer evidence that the Water Level Response Plan (WLRP) required by Revised Water Right Decision 1641 (Revised Decision 1641 or D-1641), as a condition of joint points of diversion (JPOD) operations, and on which the Authority relies for mitigation of potential injury from operation of the Sites Project, is inadequate to avoid

[36] "Project export operations" is defined to include export of water under the Permit and export of water made available by exchange with water diverted under the Permit.

REVISED DRAFT

injury from lowering of water levels. (*Id.* at p. 15–18; see also Exh. SDWA-91-a, pp. 24–26, ¶¶ 49–50.)

The Authority disputes each of these arguments. In particular, the Authority argues that modeled water level changes attributable to Sites Project operations will not cause material decreases in water levels and therefore does not rise to the level of injury. (2025-05-27 Sites Closing Br., pp. 40–41; 2025-06-26 Sites Reply Br., pp. 16–19.) The Authority further argues that the WLRP will protect the Delta Parties from any threat of injury due to decreased water levels. (2025-05-27 Sites Closing Br., pp. 40–41; 2025-06-26 Sites Reply Br., pp. 16–19.) DWR and SWC reiterate that all exports must comply with these existing requirements. (2025-05-27 SWC Closing Br., pp. 6–28; 2025-05-27 DWR Closing Br., p. 4.)

The weight of the evidence in the record demonstrates that the Authority's proposed rediversions will tend to contribute to lowered water levels in the southern Delta that, in conjunction with other export operations, may injure legal users absent appropriate conditions on Project exports. There appears to be no dispute that operation of the Delta Export Facilities impacts water levels in the southern Delta, and that Project export operations will, at times, contribute to decreased water levels in the southern Delta by some amount. (See 2025-05-27 Sites Closing Br., pp. 40–41; Exh. Sites-110, p. 8, ¶ 24; CIC Tr. Comb., pp. 737:23–738:4; Exh. SDWA-80.)[37] Even the Authority's model results show that its export operations would, in certain conditions, have at least some adverse effect on water levels — up to 1.2 inches calculated as the monthly

[37] The SDWA Parties' modeling shows that export operations in the Delta can decrease stage in southern Delta channels by as much as two feet. (Exh. SDWA-2a, pp. 5–9, ¶¶ 9–10.) The Authority, DWR, and SWC critique this model run comparison as overly simplistic because it assumes zero exports without making any other modifications to modeled operations. "If exports are at zero, then DWR and [Reclamation] would not be making reservoir releases to support the exports … by changing only the exports in the model, the SDWA Parties' modeling essentially creates a scenario of excess conditions throughout the summer months created by reservoir releases, which would never happen." (2025-05-27 DWR Closing Br., p. 13; 2025-05-27 SWC Closing Br., p. 9.) Because the validity of the Delta Parties' modeled comparison is unclear, we do not rely on it to support our conclusions.

REVISED DRAFT

average change in minimum water levels by water year type. (Exh. Sites-110, p. 7, ¶ 24.) A modest decrease in stage may compound with the effects of operations by other right holders to cause a material impact that injures legal users in the Delta. Furthermore, because the Authority's witness, Dr. Samaneh Saadat, presented model results as a monthly average by water year type, more significant fluctuations at a sub-monthly time step, or in a single month in a particular year, would not necessarily be apparent. (Exh. SDWA-91-a, pp. 26, 28, ¶¶ 52, 58.) Our finding that Sites Project export operations may, in conjunction with other export operations, injure legal users in the Delta is also consistent with other Board orders imposing terms and conditions on proposed exports through the Delta Export Facilities to avoid injury. (Revised Decision 1641; see also, e.g., State Water Board Order WR 2001-03-DWR; State Water Board Order WR 2004-0024-DWR.) The potential incremental contribution of export operations under the Permit, even though there may be other contributing factors, supports the inclusion of terms and conditions in the Permit to address that risk of injury.

The Authority proposes compliance with the WLRP required by D-1641 for operations of JPOD to address any impact of Sites Project export operations on water levels. The Division of Water Rights approved the WLRP in 2004, pursuant to D-1641. D-1641 conditionally approved DWR and Reclamation's petition to export water from the southern Delta using one another's export facilities, commonly referred to as JPOD operations. The WLRP established a program of response actions to address "water levels of concern" that result from the incremental effect of JPOD operations and additional pumping to accommodate water transfers. (Exh. Sites-252, p. 4.) The Plan requires forecasting of minimum water levels within the SDWA service area using the Delta Simulation Model, better known as DSM2, to determine whether water levels are adequate to allow JPOD or transfer operations at the Delta Export Facilities. (*Id.* at p. 5; Exh. SDWA-91-a, p. 6.) An action covered by the WLRP may proceed if "[f]orecasts show the action will not cause or aggravate water levels of concern." (*Id.* at p. 5.) Although under the Plan, Reclamation and DWR are required to suspend operations if notified by SDWA that diverters within the service area are experiencing "water levels of concern," Reclamation and DWR may continue operations by using observed data in

REVISED DRAFT

conjunction with model output to show that there is no incremental impact from operations. (*Id.* at p. 6.)

The WLRP creates an adaptive framework to ensure that compliance with the Plan remains effective to prevent injury in the long term. For example, the Plan directs the relevant parties to identify permanent actions to mitigate impacts at points of diversion that are especially susceptible to low water levels, which may decrease the water levels of concern in those areas. (Exh. Sites-252, p. 7.) The Plan also directs DWR, Reclamation, and SDWA to work together to improve the reliability of the modeling used to predict the effects of export pumping. (*Ibid*.) Similarly, in approving the WLRP, the Board retained continuing authority over the WLRP and implemented appropriate triggers to initiate review of the plan as necessary to ensure it continues to protect southern Delta water levels from the effects of JPOD operations. (Exh. AHO-348, pp. 4, 6.) For example, if the Delta Export Facility operation or export restrictions change, the plan directs DWR and Reclamation to consult with the Chief of the Division of Water Rights to determine whether the Plan requires changes and further approval to remain effective. (*Id.* at p. 6.) The Board also explicitly provided in its approval of the plan that SDWA or its members may file a complaint with the Division of Water Rights if they believe that operations are impacting their ability to divert water, and the Executive Director retains authority to require changes to the Plan when necessary. (*Id.* at p. 4.)

Since 2004, compliance with the WLRP has been the approved mechanism by which DWR and Reclamation demonstrate that JPOD operations under the water right permits for the SWP and CVP and other transfers of water through the Delta Export Facilities will not lower water levels in Delta Channels to an extent that may injure other legal users. As described above, the framework indicates that the WLRP is designed to be amended, revised, and otherwise reconsidered and approved over time as operations and physical conditions in the Delta shift. Accordingly, and because the Board has incorporated procedural mechanisms to ensure the long-term effectiveness of the WLRP, we find that reliance on the WLRP as an adaptive program subject to the Board's ongoing supervision and revision over time, is an appropriate means to prevent injury.

REVISED DRAFT

We additionally note, however, that the evidentiary record in this proceeding generally supports several bases on which the Board might exercise its continuing authority to re-examine the long-term effectiveness of the WLRP through an appropriate public proceeding before Sites Reservoir is operational.[38]

First, approval of this Permit authorizes a new source of exports through the Delta Export Facilities, which may be an operational change triggering additional review of the WLRP to determine whether the Plan requires changes and further approval. (*Id.* at p. 6.)

Second, the WLRP forecasting relies on modeling to estimate expected incremental effects as an indicator of potential injury rather than measured water levels. This use of a model to predict the impact of export operations at a particular point in time is necessarily subject to some margin of error and changed conditions that may not be accurately reflected in the modeling assumptions will tend to increase that margin. (*See, e.g.*, Rebuttal Transcripts Combined Vol. 24-32 (Reb. Tr. Comb.), pp. 711:10–712:5 [DWR witness explaining that modeling parameters are adjusted to account for unknown information, such as South Delta diversions for irrigation and return flows].)

Third, the water levels of concern specified in the WLRP have not been updated since 2004. The WLRP states that the parties "shall work together to refine the definitions of water levels in the South Delta below which local diversions become impaired." (Exh. Sites-252, p. 7.) But the definition of water levels of concern within the plan has remained the same since the Board approved the WLRP, though there have been changes in the bathymetry of the Delta channels. (Exh. SDWA-91-a, pp. 24–25, ¶ 49 [discussing inadequacy of minimum water levels in WLRP].) No party submitted direct evidence as to whether the water elevation criteria in the WLRP remain, or will remain, appropriate to prevent any such injury. (See, e.g., Reb. Tr. Comb., pp. 719:24–722:4.)

[38] The Board's conclusions in this Decision regarding the WLRP are not intended to be binding in any other proceeding, or to preclude or otherwise estop any party from raising factual or legal arguments about the WLRP in any other proceeding.

REVISED DRAFT

Finally, the record shows that, in at least some instances, water levels have dropped below the level needed for irrigation over the period when the WLRP has been in effect. (Exh. SDWA-66, p. 4, ¶ 6; Exh. SDWA-76, p. 4, ¶ 6; Exh. SDWA-4, p. 1; Exh. SDWA-91a, pp. 24–25, ¶ 49 [discussing water level complaints acknowledging interference with diversions], p. 26, ¶ 50 [noting that water availability in Tom Pain Slough decreased by around 30 percent due to low water levels]; Reb. Tr. Comb., pp. 712:10–15 [cross-examination of Mr. Miller acknowledging water level complaints], 1133:6–12 [redirect of Mr. Burke regarding parties that claimed water level impacts].) DWR's expert witness acknowledged that there are areas in the southern Delta where low water levels are a problem. (Reb. Tr. Comb., p. 723:6–10.) Although other factors may have contributed to these water levels, the evidence does not demonstrate that export operations did not contribute to these adverse conditions by further lowering water levels.

The additional exports of water diverted under the Sites Permit are not expected to begin until at least 2033. (Exh. AHO-001, p. 13.) In the interim, there is adequate time for the Board to conduct a public process in an appropriate forum to determine the ongoing, long-term effectiveness of the WLRP, and approve any required updates to the WLRP in coordination with DWR, Reclamation, SDWA, and other affected parties.[39] During such a public process, DWR and Reclamation will be on notice of potential changes to required operations under their water rights and may submit additional evidence not considered in this proceeding, including any evidence intended to demonstrate the adequacy of the current WLRP.[40]

Our conclusions here are consistent with Water Right Order 2026-0001 (Yuba Decision), a recent Board decision approving a petition to renew a long-term transfer of water through the Delta Export Facilities, and the temporary approval of Stage 2 JPOD

[39] In the 2004 approval of the WLRP, the Executive Director retained continuing authority over the Plan, including continuing authority to require changes in the Plan when necessary. (Exh. AHO-348, p. 6.)

[40] For example, DWR's Monitoring Special Studies Report issued in May 2026, is not part of the evidentiary record for this proceeding but may be relevant to the Board's consideration of the adequacy of the current WLRP.

REVISED DRAFT

operations. In Water Right Order 2026-0001, the Board conditioned its approval on compliance with the WLRP to allow uninterrupted operation of the long-term transfer, until such time as a new or updated plan is developed. (WR Order 2026-0001, p. 34.) In October 2025, the Board recognized a similar need to re-examine the effectiveness of the WLRP in the Executive Director's temporary approval for Stage 2 JPOD:

> While the water level and water quality response plans have been approved, they were approved many years ago and Delta water users have raised ongoing concerns with the plans and their implementation that merit further consideration before any long-term approval of expanded use of JPOD under Stage 2.

(Exh. AHO-350, p. 2.)[41]

Accordingly, Permit Term 49 requires exports of water subject to this Permit through the Export Facilities to comply with the WLRP imposed on JPOD operations by Decision 1641, as that plan may be amended or replaced. If Sites Reservoir is operational before the WLRP has been amended, replaced, or otherwise reconsidered and approved by the Board or the Executive Director, any interested person may submit a petition to the Board seeking general reconsideration of the approval of the current WLRP. Likewise, the Board may initiate a hearing or other proceeding on its own motion to address the adequacy of the WLRP and the implementation of that plan and require any appropriate amendments. Although review of the WLRP is currently available through the terms of that plan, we include this mechanism in the terms of the Authority's water right permit to clarify that parties may seek to initiate review of the WLRP to address the incremental impact of the export of water subject to this Permit.

Alternatively, and in anticipation of the development of a new plan or other regulatory program to comprehensively address impacts of operation of the Delta Export Facilities

[41] The State Water Board may take official notice of such acts as may be judicially noticed by courts of this state. (Cal. Code Regs., tit. 23, § 648.2.) The Board takes official notice of the Board's October 13, 2025, Letter Regarding the Temporary Approval for Stage 2 Joint Points of Diversion as Exhibit AHO-350.

REVISED DRAFT

on water levels in the southern Delta, the Permit allows such a program to be incorporated into the Permit in lieu of reconsideration of the WLRP. The Permit authorizes water to be rediverted at the Delta Export Facilities in compliance with a future-adopted regulatory program, upon approval by the Executive Director that such a program addresses changes in water levels to prevent injury to right holders from inadequate water depths in Delta channels. Such a regulatory program might consist of, but is not limited to, a regulation implementing the Bay-Delta Plan or an approved plan to address water levels in the southern Delta pursuant to a federal or state-issued permit, license, or other approval.

4.2.1.2 Salinity

The Authority asserts that its operations will not reduce the attainment of numeric salinity and chloride objectives in the Delta and therefore will not injure Delta water users. (2025-05-27 Sites Closing Br., p. 64.) The Authority relies on monthly average modeling using DSM2 to show that Sites Project operations would not negatively impact water quality in the Delta. (*Id.* at p. 65; Exh. Sites-110, p. 5, ¶¶ 13–14; Exh. Sites-256c, [slides 6–7]; Exh. Sites-282.) Probability exceedance figures the Authority presented for the D-1641 southern Delta compliance locations at Old River at Tracy Road Bridge, San Joaquin River at Brandt Bridge, and Old River near Middle River showed no discernable difference between the model runs with and without Sites Project operations. (Exh. AHO-136, pp. 6, 11, 13; CIC Tr. Comb., pp. 1463:8–1465:20.)

The Delta Parties offered opposing evidence and argument that Sites Project operations will injure their water rights by increasing salinity. Specifically, the Delta Parties argue:

- The modeling on which the Authority relied to conclude that project operations will have minimal impacts on Delta salinity is unreliable (2025-05-27 SDWA Parties' Closing Br., p. 22);
- The Authority's decision to rely on long-term monthly averaging to evaluate potential salinity impacts inappropriately masks the project's

REVISED DRAFT

potential impacts (2025-05-27 SDWA Parties' Closing Br., pp. 19–20; 2025-06-26 SDWA Parties' Reply Br., p. 14–22);

- The Authority's modeling shows that project operations will at times increase applied water salinity in areas where salinity is already high and even small increases in applied water salinity can adversely affect crop development (2025-05-27 SDWA Parties' Closing Br., pp. 16–17); and

- Operations at the Delta Export Facilities already regularly cause exceedances of applicable salinity objectives adopted by the Board to prevent injury, and additional rediversions will only exacerbate this problem. (2025-05-27 SDWA Parties' Closing Br., p. 11.)

We first address impacts on salinity caused by diversions from the Sacramento River to storage in Sites Reservoir and then address impacts from the rediversion of water through the Delta Export Facilities.

Salinity-Related Injury from Diversions

To protect beneficial uses in the Delta, this Decision conditions the Authority's diversions from the Sacramento River on attainment of the numeric water quality objectives for Sacramento River salinity and salinity-based Delta outflow in the Bay-Delta Plan. (Permit Term 29.) The Delta Parties also seek limitation of the season of diversion under the Permit to December 1 to March 31 to address an alleged up-to-117-day "long-term memory" of Delta salinity as affected by Sacramento River flows. (Exh. SDWA-72a, p. 13, ¶ 15.) The Delta Parties did not present evidence, however, that such a restriction on the diversion season is necessary to prevent salinity impacts if diversions are conditioned on compliance with water quality objectives and limited to times of relatively high flow as required by the bypass, pulse flow, and Delta outflow conditions already included in the Permit for fisheries protection. We conclude that the conditions on diversion requiring attainment of water quality objectives and bypass flows, which limit

REVISED DRAFT

diversions to relatively high flow conditions, will prevent injury to downstream users from salinity impacts caused by Project diversions.

Salinity-Related Injury from Export Operations

Before addressing the extent to which Sites Project export operations may threaten injury to legal users by increasing salinity in the southern Delta, we first address the standard by which we should determine whether increased salinity may be injurious. In D-1641, the Board concluded that DWR and Reclamation are partially responsible for salinity problems in the southern Delta because of hydrologic changes that are caused by export pumping and conditioned the CVP and SWP water rights upon meeting specific salinity objectives in the Delta to protect agricultural beneficial uses. (See Revised Decision 1641, pp. 100, 171–175.) As relevant here, D-1641 provides that salinity must not exceed 0.7 deciSiemens (dS/m)[42] from April 1 through August 31, and must not exceed 1.0 dS/m from September 1 through March 31, measured as a 30-day running average of mean daily electrical conductivity (EC) in dS/m, at the following three locations in the interior southern Delta: (1) Station C-6 (San Joaquin River at Brandt Bridge); (2) Station C-8 (Old River near Middle River); and (3) Station P-12 (Old River at Tracy Road Bridge). (Revised Decision 1641, p. 194, tbl. 2.) In 2018, the State Water Board revised the southern Delta salinity objectives to relax the salinity objective from 0.7 dS/m from April 1 through August 31, to 1.0 dS/m year-round at these stations. (Exh. AHO-341, p. 25.)

Although the 2018 updates to the Bay-Delta Plan have not yet been implemented, this implementation status does not affect the validity of the adopted water quality objective. (State Water Board Order WR 2026-0001, pp. 11–12.) The objective reflects the Board's considered judgment as to the reasonable protection of agricultural uses of water in the Delta, to "attain the highest quality of water that is reasonable, considering all the

[42] All electrical conductivity (EC) values in this Decision are represented in units of deciSiemens per meter (dS/m; 1 dS/m = 1 millimho per centimeter [mmhos/cm]) to correspond with the International System of Units for EC.

REVISED DRAFT

demands being made on waters in the Estuary watershed." (Exh. AHO-341, p. 22; see Cal. Const., art. X, § 2; Revised Decision 1641, pp. 92–93; *Town of Antioch v. Williams Irrig. Dist.* (1922) 188 Cal. 451, 465.) Based on this determination by the Board, and in the absence of evidence in the record that would support some other specific salinity level as both reasonable and necessary to prevent injury, we conclude that an EC level of 1.0 dS/m year-round is the most appropriate general legal benchmark for evaluating potential injury to agricultural water users in the southern Delta.

The relationship between export operations and salinity conditions in the southern Delta is complex, but in general, the evidence in the record shows that exports through the Delta Export Facilities will, at times, increase salinity. (Revised Decision 1641, p. 100; Exh. Sites-110, p. 8, ¶ 28; Exh. SDWA-2a, p. 10, ¶ 12.) Even the Authority's model results show that Sites export operations will in some conditions have such an effect. (Exh. SDWA-91-a, ¶ 10; Exh. SDWA-92-a; 2025-05-27 DWR Closing Br., p. 7.) We are also persuaded by the Delta Parties' critique of the Authority's model results presented by Dr. Saadat, whose presentation applied multiple layers of averaging that may mask relevant modelled impacts.[43] (Exh. Sites-110, p. 5, ¶¶ 13–14; Exh. Sites-256c [slides 6–7].) We therefore discount these figures and Dr. Saadat's opinions based on these figures. We conclude that a condition on Sites Project export operations is appropriate to ensure that operations will not contribute to exceedances of the water quality objectives intended to protect agricultural uses.

[43] The Authority presented impacts based on monthly averages for salinity that had been averaged with all other modeled averages for that month over the 82-year period evaluated. (CIC Tr. Comb., pp. 958:16–959:16.) As the SDWA Parties explained in their closing brief: "Over the 82-year time frame examined, there could for example be wet Aprils and critically dry Aprils. The results for these extremely different conditions were averaged in producing the graphs presented by the Authority. There is no way for anyone to discern if the effects in some dry April[s] cause injury to legal users if the dry April data (averages) is averaged with the wet April's [sic] averages." (2025-05-27 SDWA Closing Br., p. 20.) The Final EIR includes monthly average model results for salinity by water year type, which only partially addresses the SDWA Parties' critique. (See Exh. AHO-136, pp. 3, 6, 11, 13.)

REVISED DRAFT

The Authority proposes to condition rediversion of water at the Delta Export Facilities on compliance by DWR and Reclamation with the requirements of D-1641. (2025-05-27 Sites Closing Br., pp. 108–109, ¶ 32 [SPA Special Term 11].) Because the southern Delta salinity objectives from the 1995 Bay-Delta Plan identified in D-1641 have effectively been superseded by the 2018 Bay-Delta Plan, and DWR and Reclamation have yet to submit a final Comprehensive Operations Plan that meets the requirements of the 2018 Bay-Delta Plan to address the impacts of export operations on salinity conditions in the southern Delta, we condition Sites Project export operations on attainment of the current, numeric water quality objectives. Condition 46 of the Permit prohibits Sites Project export operations through the Delta Export Facilities when measured EC levels at the three interior southern Delta compliance locations exceed the 2018 Bay-Delta Plan year-round objective of 1.0 dS/m.

SDWA Parties argue that attainment of the water quality objective may be insufficient to prevent injury because Sites Project operations may contribute to acute periods of heightened salinity in Delta channels when southern Delta water right holders are irrigating. (2025-05-27 SDWA Closing Br., pp. 16–19; 2025-06-26 SDWA Reply Br., p. 11.) SDWA Parties did not, however, provide concrete evidence that such a harm has occurred in the past, nor specific evidence in support of an alternate salinity requirement to address this potential for injury. The Board reserves the authority to revise the conditions of the Permit, after notice to interested parties and the opportunity for hearing, based on new evidence demonstrating that the requirement in the Permit is insufficient to prevent injury.

4.2.2 Federal Reserved Water Rights

When the federal government reserves land for a federal purpose, by implication, it reserves water rights “to the extent needed to accomplish the purpose of the reservation.” (*Cappaert v. U. S.* (1976) 426 U.S. 128, 138.) Federal reserved water rights can apply to both surface water and groundwater. (*Agua Caliente Band of Cahuilla Indians v. Coachella Valley Water District* (9th Cir. 2017) 849 F.3d 1262, 1270.)

REVISED DRAFT

Cachil DeHe Band of Wintun Indians of the Colusa Indian Community of the Colusa Rancheria (Cachil DeHe) claims senior, but unadjudicated, federal reserved water rights to groundwater and to surface water from the Sacramento River established with the reservation of the Colusa Indian Community Rancheria (the Colusa Rancheria). (2025-02-18 Cachil DeHe Supplemental Information, p. 2;[44] 2025-05-27 Tribal Parties Closing Br., pp. 14–28, 23–34.) The Authority does not dispute that Cachil DeHe has unadjudicated senior federal reserved rights associated with the Colusa Rancheria. (2025-06-26 Sites Reply Br., p. 13; 2025-05-27 Sites Closing Br., pp. 38-39.)

The Authority's water right application is not the appropriate forum to adjudicate and quantify Cachil DeHe's federal reserved rights. (Accord, 2025-06-26 Tribal Parties Reply Br., p. 5.) An adjudication is also unnecessary for the Board to act on the Authority's application and to ensure that Cachil DeHe's reserved rights, including any exercised portions of its rights, are protected. The Tribe's reserved rights are senior to the Permit, and, like riparian rights, federal reserved rights are not lost through non-use. (*Hargrave v. Cook* (1895) 108 Cal. 72, 76; *In re Waters of Long Valley Creek Stream System* (1979) 25 Cal.3d 339, 347; *Agua Caliente Band of Cahuilla Indians, supra,* 849 F.3d at p. 1272.) Similarly, federal reserved right holders may also increase diversions up to the scope of the right, so long as that increase is not wasteful or unreasonable. (*Winters v. United States* (1908) 207 U.S. 564.)

Prior to approving junior appropriations, the Board is not required to quantify unadjudicated rights such as riparian rights. (See, e.g., State Water Board Decision 1120 (1963), p. 3 ["A prospective riparian use is not a bar to the approval of a present application to appropriate water"].) Rather, junior appropriators take the junior right

[44] This document is in the administrative record in the Supplemental Information subfolder of the Hearing Documents folder, in the folder for the Cachil DeHe Band of Wintun Indians. The Authority objected to introduction of this supplemental information, identified as Exhibit CICC-11. The hearing officer sustained this objection. (2025-04-18 Procedural Ruling on Evidentiary Motions (Sites), pp. 29–30.) Nonetheless, the ruling identifies that the hearing officer and the Board may consider the claims contained in the document as "non-evidentiary factual and legal argument, in conjunction with any closing brief filed by CICC." (*Ibid.*)

REVISED DRAFT

subject to any unexercised riparian rights and are on notice that they must curtail their diversions if necessary to avoid interfering with the exercise of those senior rights. (Permit Term 26.) Similarly, the Board need not quantify Cachil DeHe's unadjudicated federal reserved rights prior to approving the Applicant's junior appropriation. Instead, the Authority is similarly on notice that if Cachil DeHe increases its use within the scope of its right, the Authority may be required to curtail its diversions to ensure Cachil DeHe's rights are satisfied.

We explicitly acknowledge in the Permit that any existing federal reserved rights, including Cachil DeHe's rights, are senior to the water right to be developed and authorized by the Permit.

4.2.3 Groundwater Rights

Applicants bear the burden to show that water is available for appropriation and, correspondingly, that their diversions will not injure prior right holders. (State Water Board Decision 1633 (1995), p. 17.) An applicant must demonstrate that the proposed appropriation will not interfere with the exercise of surface or groundwater rights. (Wat. Code, § 1375, subd. (d); State Water Board Decision 1614 (1987), p. 5 ["[W]ater is not available for appropriation from a watercourse which feeds a groundwater basin if the appropriation would materially damage the rights of the overlying landowner"]; Decision 935, p. 20; *City of Lodi v. East Bay Municipal Utility Dist.* (1936) 7 Cal.2d 316, 331.)

Based on the modeling referenced in the Final EIR, under some scenarios, operation of the Project may lower groundwater elevations by about one foot at locations downstream of the PODs near the location of the formerly proposed Delevan Pipeline intake[45] on the Sacramento River, after approximately 25 years of operating the Project.[46] (Exh. Sites-146, pp. 20, 31, fig. 10A-9.) This lowering of groundwater levels

[45] The Delevan Pipeline and associated intake facilities were previously proposed as part of the Project but were not incorporated into the final design. (Exh. AHO-340, p. 5; Exh. AHO-069, pp. 2–3.) The intake would have been directly east of Sites Reservoir, at Sacramento River mile 158.5. (Exh. AHO-340, pp. 4, 5, fig. 1-2.)

[46] Appendix 8B of the Final EIR states that "[Central Valley Hydrologic Model (CVHM)] simulations for Alternative B show a decrease in stream stage of up to 1 foot and a

REVISED DRAFT

reflects a modelled reduction of 50 to more than 100 cfs of recharge from the Sacramento River to the groundwater basin. (Exh. Sites-146, p. 37, fig. 10A-11.) The outlet at the Sacramento River of the formerly proposed Delevan Pipeline is approximately five to 10 miles upstream of the Colusa Reservation and Colusa Rancheria. (Exh. AHO-069, p. 2; Exh. Sites-142, p. 137, fig. 2-5; Exh. AHO-340, p. 4, fig. 1-2.)

The Authority's modeling of groundwater impacts from Project diversions is general and does not address the full nature and extent of potential impacts on the underlying groundwater system. To assess potential impacts on groundwater users, the groundwater modeling outputs would need to describe not only the impacts directly beneath the Sacramento River but the extent to which these impacts extend throughout the aquifer system. Absent some assessment of the extent of potential impacts, especially when diversions coincide with peak groundwater pumping, the likelihood and risk of injury to groundwater users remains uncertain. Similarly, the likelihood and risk of impacts on groundwater sustainability thresholds and actions identified in the relevant groundwater sustainability plans within the Colusa and neighboring subbasins is unclear.

However, no groundwater sustainability agency or other agency with interests in groundwater near the Project's PODs participated in this proceeding. The only party to the hearing to assert potential injury to its groundwater rights was Cachil DeHe. Cachil DeHe claims a federal reserved right to both surface and groundwater for the Colusa Rancheria, located adjacent to the Sacramento River, downstream of the proposed PODs. For a discussion of Cachil DeHe's unadjudicated federally reserved rights, see Section 4.2.2.

REVISED DRAFT

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decrease in groundwater elevations of up to 5.5 feet." (Exh. Sites-146, p. 20.) This statement appears to interchange the information depicted in Figure 10A-9 and should state that CVHM simulations for Alternative B show a decrease in stream stage of up to 5.5 feet and a decrease in groundwater elevations of up to 1 foot. (*Id.* at p. 31, fig. 10A-9.)

Based on the general groundwater model results the Authority submitted in the Final EIR, impacts of Project diversions on recharge and groundwater elevations could impact wells on the Colusa Reservation. (Exh. AHO-153, p. 10, fig. 8A-2; Exh. SCS-24; Exh. Sites-112, pp. 13–15, ¶¶ 27–30.) Cachil DeHe did not, however, submit any specific information in this proceeding about its claimed groundwater rights or well operations, such as the location and depth of wells, past and present amounts of water pumped, the purposes for which the water is currently used or may be used in the future, or the specific way in which the Project may injure its groundwater use. (Exh. SCS-3, p. 2, ¶ 33; Exh. SCS-91a, p. 4, ¶ 13; Exh. SCS-29, p. 1.) Instead, Cachil DeHe asserts that it is the Applicant's burden to show that the Project will not injure the Tribe's groundwater rights and the Authority has failed to meet this burden. (2025-05-27 Tribal Parties Closing Br., pp. 17–18; 2025-02-18 Cachil DeHe Supplemental Information, p. 3.)

The Protestants claiming injury to a right from approval of a water right application or petition are required to present evidence demonstrating the specific injury that may result. (See State Water Board Revised Order WR 2002-0013, p. 15; State Water Board Decision 1651 (2012), p. 24.)

> If the protest is based on interference with a prior right, there shall be an allegation of specific injury to protestant which will result from the proposed appropriation. The protest shall state the basis of protestant's claim of right to use water and when the use began, the use which has been made in recent years, and present use. The location of protestant's point of diversion shall be described with sufficient accuracy so that the position thereof relative to the point of diversion proposed by applicant may be determined.

(Cal. Code Regs., tit. 23, § 745, subd. (b).)

In other circumstances, Cachil DeHe would have been required to provide this information with a timely filed protest to participate in the hearing, but the hearing officer

REVISED DRAFT

allowed Cachil DeHe to intervene as a party after the hearing had already begun. (2024-06-05 Procedural Ruling, p. 3.)[47]

Given the minimal evidence in the record before us about potential impacts on groundwater users, the Board reserves jurisdiction pursuant to Water Code section 1394 to revise the terms or conditions of the Permit as necessary to protect the rights of groundwater users located in the groundwater subbasins adjacent to the Sacramento River downstream of the PODs. The Board may reserve jurisdiction over a permit pursuant to section 1394, "[i]f the board finds that sufficient information is not available to finally determine the terms and conditions which will reasonably protect vested rights without resulting in waste of water … and that a period of actual operation or time for completion of studies will be necessary in order to secure the required information." (Wat. Code, § 1394 subd. (a)(1).) Here, we reserve jurisdiction and require the Authority to develop a groundwater monitoring program to gather information about groundwater elevations to assist in determining whether diversions under this Permit may cause injury to groundwater right holders. (Permit Term 52.) That program may rely on and incorporate existing monitoring locations, protocols, and thresholds being implemented under the Sustainable Groundwater Management Act. The Authority must conduct additional monitoring only if existing monitoring activities are not sufficient to identify potential effects of diversions on groundwater elevations. For each monitoring location, the program shall identify water elevation thresholds at which the Permittee shall conduct analyses to determine whether Project diversions are contributing to groundwater level declines or other adverse effects to groundwater conditions that may injure groundwater right holders. The Board reserves jurisdiction to modify the terms and conditions of this Permit upon receipt of evidence that operations authorized by this Permit may cause or threaten to cause injury to groundwater right holders in subbasins adjacent to the Sacramento River downstream of the PODs, and if, after notice to

[47] Procedural Rulings are in the administrative record in the "Notices, Orders, and Rulings" subfolder of the Hearing Documents folder.

REVISED DRAFT

interested parties and opportunity for a hearing, the Permittee fails to demonstrate that Project operations will not cause injury.

4.3 Fish, Wildlife, and Other Instream Beneficial Uses

4.3.1 Fish and Wildlife

In acting on an application to appropriate water, the Board must consider the relative benefit to be derived from all beneficial uses of the water sought to be appropriated and the amount of water required, in the public interest, to remain in the source to support instream beneficial uses such as the preservation and enhancement of fish and wildlife. (Wat. Code, §§ 1243, 1243.5, 1257.) The Board must also consider the effect of approving a water right application on public trust resources and protect those resources where feasible and in the public interest. (*National Audubon Society, supra,* at pp. 426, 446–447.) Water Code section 1253 requires that the Board "allow the appropriation for beneficial purposes of unappropriated water under such terms and conditions as in its judgment will best develop, conserve, and utilize in the public interest the water sought to be appropriated." In this matter, our consideration of the public interest requires a balancing of needs for consumptive uses, such as water supply for municipal, domestic, agricultural, and industrial purposes, against instream needs such as preservation of fish and wildlife and protection of water quality necessary for other beneficial uses (see Wat. Code, §§ 1243, 1243.5, 1257.)[48]

As trustee for fish and wildlife resources, CDFW shares responsibility with the State Water Board to protect fish and wildlife from impacts caused by the diversion and use of water. (*Environmental Protection Information Center v. California Dept. of Forestry & Fire Protection* (2008) 44 Cal.4th 459, 515 [describing CDFW's public trust duty to protect fish and wildlife].) CDFW is not, however, obligated to participate in every

[48] See, e.g., State Water Board Order Amending Decision 1345 (1969), p. 2 (reserving jurisdiction to impose appropriate permit terms in public interest to protect fish in Eel River [Decision 1345 later rescinded on other grounds]); Decision 1379 (1971), pp. 15–16 (Board may impose permit terms that prevent operations from interfering with natural flow required to protect fish and wildlife).

REVISED DRAFT

permitting action involving fish and wildlife resources. In this proceeding, CDFW elected not to participate as a party to present evidence or argument concerning permit terms that may be necessary to protect fish and wildlife from impacts of the proposed diversions to the extent feasible and consistent with the public interest.

CDFW has issued ITPs pursuant to the CESA for the construction and operation of the Sites Reservoir Project, which are included in the administrative record. (Exhs. Sites-298–Sites-302.) But CDFW's responsibilities under the CESA are distinct from the Board's obligations under the Water Code and the public trust doctrine. The CESA directs CDFW to conserve endangered and threatened species and authorizes take of a listed species only when the impacts are minimized and fully mitigated. (Fish & G. Code, § 2081, subd. (b).) No ITP may be issued if the permit would jeopardize the continued existence of the species. (Cal. Code Regs., tit. 14, § 783.4, subd. (b).) In contrast, the Board is obligated in its water right permitting decisions to protect public trust resources to the extent feasible consistent with the public interest and consider the amount of water required to remain in the source to support preservation and enhancement of fish and wildlife. (*National Audubon Society, supra,* at pp. 426, 446–447; Wat. Code, §§ 1243, 1243.5.) These obligations extend beyond listed species. (See, e.g., State Water Board Decision 1631 (1994), pp. 87–129 [considering impacts of water diversions on non-listed species, including Mono Lake alkali fly, red-necked phalaropes, and trout species, among others]; see also State Water Board Order WR 2002-0002, pp. 10–11 [concluding Board would be "abdicating its public trust responsibilities" if it deferred to federal agency future determinations about flow requirements necessary to protect steelhead].)

4.3.1.1 Impacts on Fisheries from Diversions

This section of the Decision addresses potential impacts on fisheries from Project diversions and flow conditions in the Sacramento River. This Decision considers Delta outflow requirements in relation to flows necessary to support fisheries and other instream beneficial uses in Section 4.3.2. We address fishery impacts related to water quality, including temperature impacts, in Section 4.4.

REVISED DRAFT

Project diversions may have both near- and far-field impacts on fish. Near-field impacts occur at or near the PODs. For example, diversions may entrain fish — unintentionally transporting smaller juveniles through the pumping stations into the irrigation canals — or impinge juveniles against the fish screens. (Exh. AHO-078, p. 155.) Far-field effects occur away from the PODs and generally include impacts caused by changes in river flow such as flow-related modifications to physical habitat, like spawning and rearing habitat, or reduction in flows needed to support fish migration. (Exh. AHO-078, pp. 109–121.)

The Authority asserts that operation of the Project in compliance with federal and state regulations and project-specific requirements, as described in the Final EIR and as modified by the 2024 ITP, will not cause unreasonable adverse impacts on fish and aquatic species. (2025-05-27 Sites Closing Br., pp. 72–73.) The Authority's Final EIR evaluated impacts of Project construction and operation on aquatic species of management concern, including winter-run Chinook salmon, spring-run Chinook salmon, fall-run Chinook salmon, steelhead trout, Delta smelt, longfin smelt, green sturgeon, and white sturgeon, among others. (Exh. AHO-078, pp. 9–11.) The analysis in the Final EIR incorporates the Authority's proposed operations criteria, including minimum bypass flows at both PODs on the Sacramento River, pulse flow protections, and bypass flows at Wilkins Slough. (See, e.g., Exh. AHO-078, pp. 32, 128, 146.) The 2024 ITP replaced bypass flows at the PODs and pulse flow protections with flow-dependent diversion criteria and modified other criteria the Authority proposed. (Exh. Sites-300, p. 312.) The Authority's expert, Dr. Richard Wilder, concluded that the conditions in the 2024 ITP as compared to the conditions included in the project description in the Final EIR, would provide similar or higher protection to salmonids, sturgeon, and other fish and aquatic species of management concern. (Exh. Sites-309, p. 2; ITP Transcripts Combined (ITP Tr. Comb.), p. 219:7–20.)

REVISED DRAFT

The NGO Parties and Tribal Parties[49] maintain that the Authority's application should be denied because existing conditions fail to protect native fisheries and Project diversions will further reduce flows, causing additional harm. (2025-05-27 NGO Parties Closing Br., pp. 9, 31.) These parties presented evidence that Project diversions will increase near-field impacts on green sturgeon and other native fish, and that Project diversions will reduce flows that support several important ecosystem functions for fisheries, including outmigration of juvenile salmonids, migration cues for white sturgeon and green sturgeon, and habitat for longfin and Delta smelt. (*Id.* at p. 7; Exh. BK-1, p. 43, ¶ 94.) Specific to salmonids, the NGO Parties submitted scientific studies to show that higher flows provide ecological functions and produce, or are coincident with, instream flow and habitat conditions that support salmonid migration and survival. (Exh. BK-58, p. 8; Exh. BK-29, p. 10; Exh. BK-78, p. 33.) During juvenile outmigration, for example, higher flows cause higher water velocities, decreased water temperatures, increased turbidity, and increased habitat area, thereby reducing exposure to predators and increasing survival probability. (Exh. BK-58, p. 8; Exh. Sites-300, pp. 35–36, 59.) Although the NGO Parties take the primary position that the Authority's water right application should be denied, these parties propose, in the alternative, terms and conditions on Project diversions to reduce impacts on fish that are included as Appendix A to their closing brief. (2025-05-27 NGO Parties Closing Br., pp. 67–72.)

We conclude, based on the weight of the evidence in the record before us, that diversions under the Permit can be conditioned to avoid unreasonable impacts on fish and wildlife while simultaneously balancing competing interests to support the yield of the Project for other beneficial uses, thereby protecting fisheries from Project impacts to the extent feasible as required by the Board's public trust obligations. We further conclude that the diversion criteria imposed by the 2024 ITP are insufficient for this purpose. First, the conditions in the ITP are intended to prevent or mitigate take of listed

[49] Save California Salmon and Cachil DeHe filed the Joint Tribal Parties' closing brief. Although this joint closing brief purports to be submitted on behalf of "Tribal parties, Tribal protestants, and organizations with Tribal interests," the brief does not explicitly identify the parties or include signatories.

REVISED DRAFT

species to avoid jeopardizing the continued existence of those species, but the conditions are not necessarily designed to maintain or enhance those fisheries. Second, in crafting the diversion criteria in the 2024 ITP, CDFW did not consider potential impacts on fall-run and late-fall-run Chinook salmon because those runs are not protected under the ESA, 16 U.S.C. § 1531 et seq., or the CESA, Fish & G. Code, § 2050 et seq. In contrast, the State Water Board is responsible for the protection of listed and non-listed species, to the extent feasible and in the public interest, from impacts of the Board's water right permitting decisions.

The Permit includes the following project-specific bypass flow conditions to maintain flows in the Sacramento River to protect fisheries from impacts of Project diversions:

- Flow-dependent diversion criteria, including heightened requirements imposed by the 2024 ITP at the Red Bluff POD, which is extended to apply in January and February;
- Pulse flow protections at the PODs as the Authority initially proposed from March through May; and
- Bypass flow requirements as measured at Wilkins Slough of 14,125 cfs from December through February and 10,930 cfs (as required in the 2024 ITP) during the remainder of the authorized season of diversion.

As addressed in Section 4.3.2, the Permit also conditions Project diversions on Delta outflow requirements, consistent with the requirements of the 2026 Bay-Delta Plan. The effect is to bypass flows necessary to native fish populations residing in, rearing in, or migrating through the Delta estuary. These Delta outflow requirements address impacts on fish and wildlife from Project diversions on a watershed-wide basis, while the project-specific requirements discussed in this section address impacts on fisheries from changes in flow within the Sacramento River.

REVISED DRAFT

Bypass Flow Criteria at the Points of Diversion

The Authority does not dispute that conditions on diversion throughout the proposed season of diversion are necessary to maintain adequate flows in the Sacramento River at, and downstream of, the PODs to support fisheries. (See, e.g., Exh. Sites-104, p. 7, ¶ 13 [operations criteria greatly limit potential for negative migration flow-survival effects on juvenile salmonids].)

The Final EIR and the Authority's water right application proposed minimum bypass flows as a condition of diversion at the Red Bluff POD and the Hamilton City POD. The Authority's criteria would prohibit diversions when flow in the Sacramento River is less than 3,250 cfs and 4,000 cfs at those PODs, respectively. According to the Final EIR, the Authority selected these bypass flows to protect salmon redds in accordance with State Water Board Order WR 90-05, to stabilize flows in the Sacramento River, and to ensure proper function of the fish screens at the PODs. (Exh. AHO-069, pp. 81–82.) The Authority's expert, Dr. Marin Greenwood, testified that with the Authority's proposed bypass conditions, the Project's near-field effects on salmonids would be limited and would not cause unreasonable impacts. (Exh. Sites-104, p. 5, ¶ 7.)

In its 2024 ITP, CDFW reached a different conclusion, finding that the Authority's proposed bypass conditions would allow a high risk of near-field impacts on listed species. (Exh. Sites-300, pp. 312, 314–323.) Based on the Authority's modeling, at lower flows, the proposed bypass conditions would allow the Project to divert more than one-third of the entire river flow, though such occurrences would be infrequent. (Exh. AHO-069, pp. 84–85, figs. 2-36, 2-37.) According to CDFW's calculations, the Authority's proposed bypass conditions would allow the daily fraction of the Sacramento River diverted by the Project at the Red Bluff and Hamilton City PODs to be as high as 55 percent and 50 percent, respectively. (Exh. Sites-300, p. 322.) CDFW's analysis relies on a baseline assumption that exposure rate to fish screens is proportional to the percentage of Sacramento River flow the Project diverts. (Exh. Sites-300, pp. 91, 94.) Although the Authority challenges this assumption, we do not find sufficient basis in the evidentiary record to discount CDFW's analysis. (2026-05-22 Sites Comments on Draft-

REVISED DRAFT

Decision-Draft Permit, pp. 31–32.) Because the Authority's proposed bypass criteria allowed the Project to divert significant percentages of Sacramento River flow, CDFW replaced the Authority's proposed bypass criteria with flow-dependent diversion criteria.[50] (Exh. Sites-300, p. 353.)

Flow-dependent diversion criteria require the Authority to scale diversions to flow in the river, authorizing smaller diversions during lower flows and larger diversions during high flows. CDFW developed the flow-dependent criteria to minimize impacts of diversions on winter-run and spring-run Chinook salmon during periods of low flows in the Sacramento River, while allowing the Project to maximize diversions during higher flows. (Exh. Sites-300, pp. 322–323.) CDFW evaluated the effects of different flow criteria on diversions and impacts on winter-run and spring-run Chinook salmon from screen exposure at the PODs and access to floodplain rearing habitat. (*Id.* at pp. 312–314.) The flow-dependent diversion criteria have the effect of capping the maximum diversions at approximately 15 percent of the river flow at the Red Bluff POD and 8 percent at the Hamilton City POD. (Exh. Sites-298, pp. 46–48, tbls. 2–4.)

CDFW found that flow-dependent diversion criteria would minimize near-field impacts such as screen exposure and other impacts from flow at or near the PODs. (Exh. Sites-300, pp. 312–313.) In addition, scaling diversion rates with river flow preserves a more natural hydrograph and thereby maintains ecological cues, e.g., natural changes in flow that cue migration. This scaling reduces potential impacts on fish related to juvenile stranding, habitat connectivity, food production, and overall habitat quality. (*Id.* at pp. 312–314, 342.)

REVISED DRAFT

[50] Flows at the PODs are measured at the California Data Exchange Center Bend Bridge and Hamilton City gages, respectively. Measured flows at the Hamilton City gage identified in the 2024 ITP diversion criteria assume that no diversions are occurring at the Hamilton City POD. When diversions are occurring, the diversion rate at the Hamilton City POD should be added to the measured flows at Hamilton City to obtain an accurate estimate of flow at that location because the Hamilton City gage is downstream of the Hamilton City POD. (Exh. Sites-300, p. 313.)

With the Authority's proposed bypass criteria, Project diversions would increase total winter-run Chinook salmon fish screen exposure at the PODs by 150 percent. (Exh. Sites-300, pp. 315, 318.) By contrast, application of the flow-dependent diversion criteria reduces the expected increased exposure to 38 percent. (*Ibid.*) Decreased fish screen interactions reduce the potential for injury and mortality at the two PODs. (*Id.* at p. 322.) CDFW also considered the potential impacts on salmon mortality from decreased flows in the Sacramento River between Red Bluff and Hamilton City caused by diversions at the Red Bluff POD. According to CDFW's analysis, the Authority's diversions conditioned only by the bypass flows proposed in the Authority's application could, at times, increase mortality of winter-run and spring-run juvenile salmon within that reach by up to 25 percent. (*Id.* at p. 323.) In contrast, CDFW concluded that with the flow-dependent diversion criteria, the authorized reduction in flows in the Sacramento River between Red Bluff and Hamilton City caused by Project diversions would result in almost no additional salmon mortality. (*Ibid.*)

As shown in Tables 3, 4, and 5, reproduced from Exhibit Sites-298, *infra*, the 2024 ITP Hamilton City flow-dependent diversion criteria require a higher bypass flow than at Red Bluff to protect juvenile spring-run outmigration from Antelope, Mill, and Deer creeks, which enter the Sacramento River downstream of the Red Bluff POD. (Exh. Sites-300, pp. 35, 313.) These diversion criteria apply during the entire diversion season. At the Red Bluff POD, the flow-dependent diversion criteria require higher flows during peak migration of winter-run and spring-run Chinook salmon. CDFW relaxed these criteria during January and February because it determined that fewer listed fish are expected to be present. (Exh. Sites-298, pp. 45–47; Exh. Sites-300, pp. 312–313.)

REVISED DRAFT

Table 3
Flow-Dependent Diversion Requirements
at Red Bluff POD
(Jan. 1 to Feb. 28/29)

Real-Time Flow at Bend Bridge (cfs)	Maximum Diversion (cfs)
4,800	0
5,000	130
6,000	230
7,000	360
8,000	520
9,000	710
10,000	930
11,000	1,180
12,000	1,450
13,000	1,760
14,000	2,100
14,100	2,120
>14,000	2,120

REVISED DRAFT

Table 4
Flow-Dependent Diversion Requirements
at Red Bluff POD
(March 1 to June 14 and Sep. 1 to Dec. 31)[51]

Real-Time Flow at Bend Bridge (cfs)	Maximum Diversion (cfs)
6,300	0
7,000	120
8,000	220
9,000	340
10,000	480
11,000	640
12,000	810
13,000	1,010
14,000	1,220
15,000	1,460
16,000	1,710
17,000	1,980
17,500	2,120

REVISED DRAFT

[51] These tables do not reflect the diversion season of November 1 through June 14 authorized by the Permit.

Table 5
Flow-Dependent Diversion Requirements
at Hamilton City POD
(Full Diversion Period: Sep. 1 to June 14)

Real-Time Flow at Hamilton City (cfs)	Maximum Diversion (cfs)
10,500	0
11,500	280
12,500	370
13,500	480
14,500	590
15,500	720
16,500	850
17,500	980
18,500	1,130
19,500	1,290
20,500	1,450
21,500	1,620
22,500	1,800
23,500	1,990
24,500	2,200
>24,500	2,200

(Exh. Sites-298 [2024 ITP], pp. 46–48, tbls. 2–4.)

The NGO Parties assert that although the flow-dependent diversion criteria would eliminate the most extreme disruptions of the hydrograph, the criteria are not adequate to protect fish species. (Exh. BK-132, pp. 4, 10–11, ¶¶ 10, 26; Exh. CSPA-101c, pp. 4–5, 8–9, ¶¶ 14–15, 25.) Dr. Jonathan Rosenfield calculated that even with the 2024 ITP flow-dependent diversion criteria, Project diversions could exceed 5 percent of the flow at Hamilton City and Wilkins Slough on more than one out of every 10 days. (Exh. BK-132, p. 11, ¶ 27.) The NGO Parties propose limiting total Project diversions to no more than 5 percent of Sacramento River flow, as measured at the point of diversion where

REVISED DRAFT

flow is lowest. (2025-05-27 NGO Parties Closing Br., p. 68 [NGO Term 4].) The NGO Parties did not, however, provide a specific scientific foundation for this proposed limit.

We are persuaded by, and rely upon, CDFW's analysis demonstrating that its flow-dependent diversion criteria will minimize impacts of diversions on listed fish species and will do so more effectively than the bypass criteria the Authority proposed. We do not, however, rely solely on the diversion criteria in the 2024 ITP to avoid unreasonable impacts on fall-run Chinook salmon. The ITP does not purport to protect fall-run or late-fall-run as these populations are not protected under the ESA or the CESA. Because the 2024 ITP criteria are not intended to prevent harm to fall-run, the criteria do not require flows that are protective of migration during the high abundance fall-run migration months of January and February.

Fall-run Chinook salmon are of significant commercial, recreational, and cultural value. Historically, fall-run salmon were the dominant catch of the salmon fishing industry in California and coastal Oregon, with an estimated economic value of $500 million to $2 billion a year. (Exh. GSSA-1, pp. 3, 14–16, ¶¶ 3, 43–48, 50; Exh. PCFFA-1, p. 6, ¶ 12.) Because of poor adult returns, the Pacific Fishery Management Council, National Marine Fisheries Service (NMFS), and California Fish and Game Commission closed the fall-run Chinook salmon fishery to commercial and recreational fishing in 2023 and 2024, and they closed the fishery to commercial fishing with limited recreational fishing in 2025. (Exh. GSSA-1, p. 3, ¶ 1; Exh. BK-1, p. 14, ¶ 26; Exh. AHO-343, p. 5.) Over the past two decades, the wild-spawning fall-run population has declined about 96 percent. (Exh. GSSA-1, pp. 5–6, ¶¶ 12–13.) Chinook salmon, including the more prevalent fall-run, are also an integral part of the spiritual beliefs and cultural practices of numerous California Tribes. (See, e.g., Exh. FOR-4, pp. 4–5, ¶ 10; Exh. FOR-2s, p. 7, ¶ 18.) Among other impacts, declines in salmon populations interfere with the conduct of spiritually significant Tribal ceremonies, the transmission of cultural practices and knowledge to younger generations, and traditional subsistence fishing. (See, e.g., Exh. FOR-4, pp. 4–5; Exh. FOR-2s, p. 7, ¶ 18.)

REVISED DRAFT

We conclude that the flow-dependent diversion criteria in the 2024 ITP for the Red Bluff POD that protect winter-run and spring-run Chinook salmon should be extended to the months of January and February. (Permit Term 23 (a).) Extending the heightened flow-dependent diversion criteria affords protection for fall-run salmon, whose outmigration as smolts primarily occurs from January through June. (Exh. AHO-161, p. 45.) Application of the same flow criteria to protect fall-run as to protect spring- and winter-run is appropriate because the studies and analysis relied upon to identify flow criteria to protect spring- and winter-run used survival estimates of fall-run as surrogates. (Exh. Sites-301, p. 3; Exh. Sites-300, pp. 105–108.)

Accordingly, the Permit applies the flow-dependent diversion criteria for the Red Bluff POD established in the 2024 ITP to the entire diversion season under the Permit, including January and February.[52]

Pulse Flows

The Authority proposed in its application a pulse flow protection measure at Bend Bridge in addition to bypass criteria at the PODs and Wilkins Slough. (CIC Tr. Comb., p. 75:2–22; Exh. Sites-070c, p. 5, ¶ 11.) This pulse flow protection was intended to protect survival of outmigrating juvenile winter-, spring-, fall-, and late-fall-run Chinook salmon and steelhead trout through the middle reaches of the Sacramento River. (Exh. AHO-069, pp. 80–81.) Because fish movement is correlated with increased flow and turbidity associated with the beginning of a precipitation-generated high flow event, prohibiting diversions during pulse flows reduces the potential for near-field impacts, like juvenile salmon interactions with fish screens. (*Id.* at p. 80; Exh. Sites-104, p. 4, ¶ 6; Exh. BK-21, p. 11.) Pulse flow protection would also reduce the Project's potential far-field impacts on survival of migrating salmonids and juvenile salmonid access to floodplain-rearing habitat. (Exh. Sites-104, pp. 6–7, ¶¶ 11–13.)

[52] See the discussion in the section titled Project Yield and Permit Term 23, *infra*, for a discussion of the impact of Term 23(a) and the collective impact of Term 23 on Project yield.

REVISED DRAFT

The Authority's pulse flow measure prohibits diversion during the first seven days of qualified precipitation-generated pulse flow events, such as peaks in river flow rather than scheduled operational events, from October to May. Pulse flow protection would be initiated when flow at Bend Bridge is forecasted to exceed 8,000 cfs, the combined tributary flow of tributary creeks exceeds 2,500 cfs, and fish are present. Pulse protection generally remains in place for seven consecutive days upon initiation but may cease earlier if flows at Bend Bridge exceed 29,000 cfs. Project diversions may continue as long as average daily diversions subtracted from the flow at Bend Bridge remain at least 25,000 cfs during the remainder of the seven-day period. (Exh. AHO-069, p. 81.) When pulse flow protections cease, the Project is not required to initiate new pulse flow protections until flows in the Sacramento River and certain tributaries fall below specific levels for seven consecutive days, thereby resetting the pulse flow protections. (*Ibid.*) The Final EIR and the Authority's expert witnesses relied on these pulse flow protections along with the bypass flow conditions the Authority proposed to conclude that Project diversions would not result in significant impacts on fisheries. (Exh. AHO-078, pp. 92, 107, 121, 128, 145–148 [winter-run], 174–176 [spring-run], 216–217 [fall-run/late-fall-run], 240–241 [steelhead], 248–249 [green sturgeon]; Exh. Sites-104, pp. 4, 6, 7, ¶¶ 6, 11, 13; Exh. Sites-017c, p. 3, ¶ 5.)

The 2024 ITP applied flow-dependent diversion criteria at the PODs rather than pulse flow protections. CDFW concluded that the flow-dependent criteria would substantially reduce winter-run Chinook screen exposure as compared to the Authority's proposed bypass flows paired with pulse flow protection. (Exh. Sites-300, pp. 314–322.) CDFW reasoned that replacing the pulse flow protection with the flow-dependent diversion criteria would allow the Project to divert when flows are high while protecting flows from diversion during drier conditions. (Exh. Sites-300, p. 312.)

The NGO Parties support inclusion of pulse flow measures but assert that the duration of the Authority's proposed pulse protection is arbitrary and fails to protect juvenile Chinook salmon after seven days, even though the fish are likely to remain in the river upwards of five weeks after a qualified pulse has ended. (Exh. BK-1, p. 28, ¶ 56.) The Protestants also assert that, while pulse flow protection would reduce some Project

REVISED DRAFT

impacts on outmigrating Chinook salmon, the rules for reset of the pulse flow protection criteria would not protect pulse flows in critical and dry years. (Exh. CSPA-1c, p. 4, ¶ 10; Exh. BK-1, p. 28, ¶ 57.) Instead, the Protestants propose a longer pulse protection with a shorter reset period of seven days — prohibiting diversions for 14 days following a two-day increase in flow of 19 percent or more between the two PODs as compared to the Authority's proposed seven-day period of protection. (2025-05-27 NGO Parties Closing Br., p. 68 [NGO Term 3].) Finally, the Protestants seek to limit the authorized diversion period to end on or before April 30 to protect important flow pulses in the late spring, which is a peak outmigration season for many fish species. (Exh. CSPA-1c, p. 21, ¶ 57; Exh. BK-1, p. 22, ¶ 42; 2025-05-27 NGO Parties Closing Br., p. 67 [NGO Term 1].)

We concur that pulse flows meaningfully contribute to survival of migrating juvenile salmon, at least until base flows in the Sacramento River at Bend Bridge reach approximately 24,720 cfs as an annual average. (Exh. BK-1, p. 18, ¶ 38 (a); Exh. BK-28, p. 15; Exh. BK-132, p. 10, ¶ 26.) Pulse protection in addition to the 2024 ITP criteria are likely to avoid or reduce impacts on juvenile salmon survival that result from Project diversions. Pulse flows are particularly important and have a greater effect on survival probability of outmigrating salmon during dry periods as compared to wet periods with higher base and pulse flow conditions. (Exh. BK-1, p. 18, ¶ 38 (a); Exh. BK-28, p. 15; CIC Tr. Comb., pp. 2217:15–25, 2321:16–22.) Finally, pulse flows serve ecological functions for salmon and other species such as activating juvenile green sturgeon migration and supporting survival in the migration period in all water year types. (Exh. BK-1, pp. 47–48, ¶¶ 106–107.)

Pulse flow protections in addition to flow-dependent diversion criteria will further reduce fish screen exposure, thereby reducing fish mortality caused by Project operations. Even with the 2024 ITP criteria, spring-run Chinook will have significant screen exposure at the Red Bluff intake — as calculated by CDFW, the exposure will remain 269 percent greater than without Project diversions. (Exh. Sites-300, p. 318, tbls. 5-2, 5-3.) In addition, fall-run and late-fall-run salmon out-migrate past Red Bluff in high abundance from January through April, largely overlapping the anticipated timing of

REVISED DRAFT

most Project diversions from December through March. (Exh. Sites-395c, p. 11, ¶ 23; Exh. AHO-162, pp. 22, 31, figs. 11A1-19,11A1-28.)[53] When comparing fish screen exposure under the flow-dependent diversion criteria to the Authority's proposed diversion criteria, including pulse flows, CDFW found that that the flow-dependent diversion criteria resulted in lower screen exposure overall. (Exh. Sites-300, pp. 315, 318.)

CDFW did not, however, analyze how combining the two approaches could further reduce impacts on fish. Risk of fish screen exposure increases based on both the fraction of Sacramento River flow diverted and the number of outmigrating fish present near the fish screens during diversion. (*Id.* at pp. 110–111.) Flow-dependent diversion criteria prevent the Project from diverting a substantial fraction of the Sacramento River when flows are low. (*Id.* at p. 312.) But because fish movement is associated with pulse flows, pulse flow protections limit diversion during times associated with high fish passage. (Exh. AHO-069, p. 80; Exh. Sites-104, pp. 3–4, ¶ 6, Exh. BK-21, p. 11; Exh. AHO-161, pp. 27, 32, 35, 60, 64–65.) In this way, the two criteria reduce harm from both factors that increase risk of fish screen exposure.

We find that the evidentiary record supports protection of pulse flows and the ecological functions they support during spring months. Michel et al. (2021) identifies implementation of managed spring pulse flows as improving survival by restoring functional parts of the flow regime. (Exh. BK- 59, pp. 13, 16.) Pulse flows in spring months cue outmigration for juvenile salmon before low flows and higher thermal conditions seen in late spring. (Exh. BK-67, p. 86.) Pulse flows in spring also support rearing and migration survival and increased food availability. (Exh. BK-67, pp. 22–29.)

[53] CDFW did not include the impacts on fall-run Chinook salmon when developing flow-dependent diversion criteria in the 2024 ITP.

REVISED DRAFT

Accordingly, from March through May, the Permit requires compliance with the Bend Bridge pulse protection measure as described in the Authority's Final EIR.[54] (Exh. AHO-069, pp. 80–81.) We find based on the evidence in the record that pulse flow protections, in addition to flow-dependent diversion criteria, will reduce impacts of diversion on pulse flow migration cues, fish screen exposure, and survival of migrating juvenile salmon. We reject the NGO Parties' proposal to lengthen the period of pulse flow protection and shorten the reset period because (1) there is inadequate evidence in the record that heightened pulse protection would materially reduce Project impacts on fisheries, and (2) such a restriction would reduce Project yield by prohibiting Project diversions even when flows are relatively high, without a demonstrated corresponding reduction in Project impacts.

Wilkins Slough Bypass Flow

The Authority proposes a bypass flow of 10,700 cfs at Wilkins Slough from October 1 to June 14 as a condition of diversion in its project description in the Final EIR and in its water right application.[55] The purpose of the requirement is to reduce Project impacts on survival of outmigrating juvenile salmon and, as an ancillary matter, reduce impacts on white sturgeon, longfin smelt, and Delta smelt. (Exh. Sites-300, pp. 326–327.) The 2024 ITP imposes a slightly higher minimum flow of 10,930 cfs at Wilkins Slough. (Exh. Sites-298, p. 44 [Condition of Approval 9.12].)

The 2024 ITP identified flow-survival response to flow at Wilkins Slough as a threshold effect. (Exh. Sites-300, p. 327.) A threshold effect means that fish receive significantly

REVISED DRAFT

[54] See the discussion in the section titled Project Yield and Permit Term 23, *infra*, for a discussion of the impact of Term 23(b) and the collective impact of Term 23 on Project yield.

[55] The Authority proposed a bypass flow of 5,000 cfs at Wilkins Slough as a condition on diversion in the month of September. Because we find that water is not available for appropriation in September, we do not discuss this proposal further.

less benefit from river flows below the threshold.[56] Flows above the threshold increase fall-run Chinook salmon smolt survival to about 51 percent compared to about 19 percent at flows immediately below the threshold. (Exh. BK-1, p. 26, ¶ 49; Exh. BK-59, pp. 10–11.) There is, however, some uncertainty in the administrative record as to the exact flow where survival pivots from approximately 20 to 50 percent. (Exh. Sites-300, p. 327; Exh. BK-59, pp. 10–11; Exh. BK-132, p. 4, ¶ 11.) Based on several statistical models, the range extends from below 10,000 cfs to above 11,000 cfs. (Exh. BK-59, p. 9, fig. 4.)

Michel et al. (2021)

Both the Authority and CDFW relied on the same study, Michel et al. (2021) (Exh. BK-59), to identify an appropriate bypass flow requirement at Wilkins Slough. While the study determined that the threshold for flow-survival at Wilkins Slough was likely 10,712 cfs, five of the top statistical models the study used found the flow threshold that produced maximum survival to be 10,930 cfs. (*Id.* at p. 11; Exh. Sites-300, p. 327.) Recognizing the uncertainty associated with determining an exact flow threshold, CDFW required a bypass flow of 10,930 cfs in the ITP, to ensure protection of threatened and endangered species. (Exh. Sites-300, p. 327.) To account for flow attenuation and downstream travel time, which could result in reductions of up to 250 cfs for 72 hours after diversions have ceased, the 2024 ITP requires a three-day forecasted flow at Wilkins Slough to reduce the risk that Sites diversions may temporarily reduce river flows below the survival threshold. (*Id.* at pp. 326–327.)

The Protestants argue that, if the Board is going to rely on the Michel et al. study, the Board should select a bypass flow at Wilkins Slough at or above 11,030 cfs, which is the upper end of the statistical error bound. (2025-05-27 NGO Parties Closing Br., p. 67 [NGO Term 2B]; Exh. BK-1, p. 26, ¶ 50.) The Protestants assert that selecting the upper end of the statistical error bound would ensure that the bypassed flow would meet or

[56] By contrast, a linear flow-survival relationship means that benefits to fish populations increase continuously as flows increase, in appropriate locations at appropriate times. (Exh. BK-1, p. 7, ¶ 12.)

REVISED DRAFT

exceed the threshold for significant survival benefits. The Protestants also propose a 250 cfs buffer to account for flow attenuation and downstream travel time. In total, the Protestants propose a bypass flow of 11,280 cfs at Wilkins Slough. (Exh. BK-132, p. 6, ¶¶ 15–16.)

We accept the reasoning and methodology CDFW relied upon in selecting 10,930 cfs as the appropriately protective default bypass criteria at Wilkins Slough based on the Michel et al. study. We reserve authority to modify the requirement if new information becomes available as to the precise threshold at which significant survival benefits are triggered, whether that threshold is demonstrated to be above or below 10,930 cfs.

Del Rosario et al. (2013)

The Protestants also urge the Board to rely upon a study by del Rosario et al. (2013) (Exh. BK-21), rather than Michel et al. (Exh. BK-59), as the best available science addressing flows at Wilkins Slough and impacts on Chinook migration. (2025-05-27 NGO Parties Closing Br., pp. 36–37; Exh. BK-21, p. 15.) That study determined that flows of 14,125 cfs at Wilkins Slough trigger substantial winter-run Chinook migration while flows of 10,600 cfs do not. (Exh. BK-21, pp. 11, 16; CIC Tr. Comb., p. 2223:3–24.)[57]

The Protestants assert that the del Rosario et al. study is more reliable because it considered winter-run Chinook of all sizes, including pre-smolt that migrate in the winter, while the Michel et al. study primarily considered larger and more mature fish, mostly consisting of fall-run juveniles that migrate in the spring. (Exh. BK-59, pp. 6 [tbl. 1], 16; Exh. BK-1, p. 21, ¶ 39.) CDFW also noted that the conclusions of Michel et al. may not hold true for winter-run and spring-run Chinook salmon because these runs exhibit different behavior, size, and migration timing from fall-run salmon. (Exh. Sites-300, pp. 197–199.) Michel et al. similarly recognized this data gap, stating:

[57] Exhibit BK-21 presents flowrates in metric units. 14,125 cfs is equal to 400 m^3/s and 10,600 cfs is equal to 300 m^3/s.

REVISED DRAFT

> [O]ther juvenile life history types, namely fry and parr (approximately <55 mm and 55–75 mm [fork length], respectively), are important contributors to California Central Valley Chinook salmon populations (Sturrock et al. 2020). While higher winter and spring flows also benefit fry and parr life histories (Sturrock et al. 2015, 2020), the flow thresholds defined in this study are for smolt outmigration and are likely not directly compatible with fry and parr life histories.

(Exh. BK-59, p. 16.) The Protestants argue, based on del Rosario et al., that bypass flows at Wilkins Slough during peak winter-run Chinook migration should be 14,125 cfs, not 10,930 cfs, to provide cues for outmigration necessary for reasonable protection of the fisheries. (2025-05-27 NGO Parties Closing Br., p. 67 [NGO Term 2B].)

The Protestants' evidence and CDFW's discussion regarding the limitations of Michel et al. (2021) are compelling. Pre-smolt outmigration to rear in downstream reaches is an important life history strategy which was not accounted for in any flow survival studies, including the Michel et al. flow survival study. (Exh. Sites-300, pp. 197–198.) While the del Rosario study helps fill this data gap, there are at least two areas of relative uncertainty in applying the results of that study.

First, del Rosario analyzed the relationship between flow and certain biological cues, but the study was not a flow-survival study. It is unclear whether salmon survival is correlated with initial flow levels that trigger fish movement, higher flows for a duration of time after fish movement is triggered, or some other combination of a flow threshold and duration.

Second, del Rosario only analyzed the effect of flow on winter-run Chinook. The applicability of the del Rosario study to other runs of Chinook is uncertain. The Final EIR identified a high abundance of fall-run at Knights Landing and the Red Bluff Diversion Dam from January through April. (Exh. AHO-161, p. 48, tbl. 11A-6.) The majority of fall-run caught during this time at the Red Bluff diversion dam were pre-smolt with <80 mm fork length (fry and parr). (Exh. AHO-078, p. 188.) The Final EIR additionally states that fall-run Chinook salmon fry abundance in the Delta increases after high winter flows, characterizing an ecological behavior consistent with pre-smolt fish moving downstream

REVISED DRAFT

in winter to rear in non-natal habitat. (Exh. AHO-161, p. 45.) However, the record, including del Rosario, does not address the specific timing associated with these flows, when and to what extent pre-smolt fall-run are present at Knights Landing, and what specific flows, if any, are best suited to avoid adverse impacts to these juveniles.

Hassrick et al. (2022)

Although the NGO Parties submitted the study by del Rosario et al. (2013) in support of a bypass flow at Wilkins Slough of 14,125 cfs from December through April, the NGO Parties' primary position is that a significantly higher bypass flow from January through March than that identified by the Michel et al. study or del Rosario et al. study is necessary to protect Chinook salmon. Dr. Rosenfield testified that a more recent study, Hassrick et al. (2022) (Exh. BK-28), demonstrates a strong relationship between flow and the survival of migrating juvenile Chinook salmon that continues to increase even as flows exceed the thresholds identified in Michel et al. and del Rosario et al. (Exh. BK-1 p. 18, ¶ 38(a-f); Exh. BK-59, pp. 9–11; Exh. BK-21, p. 10.) According to Dr. Rosenfield's testimony, pulse flows contribute significantly to survival of migrating juvenile winter-run Chinook salmon until base flows in the Sacramento River at Bend Bridge reach approximately 24,720 cfs, and survival continues to increase as baseflows exceed 24,720 cfs. (Exh. BK-1, p. 18, ¶ 38(a-f); Exh. BK-28, p. 16, fig. 8a; Exh. BK-132, pp. 10–11, ¶ 26.) Based on this evidence, the Protestants propose a bypass flow at Wilkins Slough of 24,720 cfs from January through March. (2025-05-27 NGO Parties Closing Br. p. 67 [NGO Term 2B].)

Although the Hassrick study supports a finding that flows above 14,125 cfs at Wilkins Slough contribute to survival of migrating salmon, the pulse flow protections in the Permit will limit the impact of Project diversions on survival of migrating salmon by protecting higher pulse flows when the elevated bypass requirement at Wilkins Slough is not in place. (Exh. BK-28, pp. 15, 18.) The additional reduction of Project impacts on fish from a 24,720 cfs bypass flow requirement with pulse flow protections in place is unclear, and the combined reductions in impacts on fish may be diminishing. Moreover, the reduction in impacts on migrating salmon must be weighed against the significantly

REVISED DRAFT

reduced opportunities for diversion. During the period of analysis used in the Authority's ITP Historical Analysis water availability tool, flows at Wilkins Slough met or exceeded 14,125 cfs on 1,362 days while flows at Wilkins Slough met or exceeded 24,720 cfs on only 479 days. (Exh. Sites-335R [based on Wilkins Slough flow values in column AC of sheet titled "WAA"].)

Conclusion

Based on the weight of available evidence, the Board concludes that flows at Wilkins Slough are important for triggering pre-smolt movement downstream to rearing habitat and in providing adequate flows to assist downstream travel. (Exh. BK-28, p. 17; Exh. BK-21, p. 5; Exh. BK-59, p. 16.) We must, however, weigh the benefits of flow protection at Wilkins Slough against uncertainty in the available scientific evidence as to the biological effect of specific flows and the estimated impacts to Project yield. We find that a 14,125 cfs bypass requirement at Wilkins Slough from December through February appropriately balances these considerations.[58]

In the future, additional study may reduce relevant data gaps and further refine the weight of these considerations. Should additional study more clearly identify survival flow relationships for pre-smolt outmigration, the Board may consider this new information to revise the Wilkins Slough bypass requirement.

Additional Study Requirements

As discussed, the available scientific information contains uncertainty regarding the extent to which specific timing and magnitude of flows support different life history behaviors and runs of salmon. (See, e.g., Exh. Sites-300, pp. 20–23 [CDFW discussing its approach to modeling, biological, and operational uncertainty].) Recognizing this uncertainty, Term 23(d) allows for modification of the requirements of Term 23 based on

[58] See the discussion in the section titled Project Yield and Permit Term 23, *infra*, for a discussion of the impact of Term 23(c) and the collective impact of Term 23 on Project yield.

REVISED DRAFT

new scientific information. Such revisions may only occur if the Deputy Director finds, after consultation with CDFW and notice and opportunity for comment by the public and interested Tribes, that new information warrants amending the term and the new term will prevent unreasonable effects on fish and wildlife. New information could include, for example, studies that narrow the data gaps related to the flow-survival relationship for pre-smolt salmon previously described. To the extent the Authority intends to conduct studies in support of a request to amend Term 23, we encourage the Authority to design, develop, and conduct those studies in consultation with the Board to ensure that the studies address relevant factors that may support a requested change in the term.

To address uncertainty regarding impacts of Sites' operations on fall- and late-fall-run Chinook salmon, Term 23(e) requires the Permittee to include analysis of the impacts on fall- and late-fall-run when conducting studies specified in the 2024 ITP. Because the 2024 ITP only applies to listed species, the required studies also only apply to listed species. For example, Condition of Approval 8.7.1 of the 2024 ITP requires the Authority to study whether juvenile winter-run and spring-run experience higher mortality due to fish screen exposure. (Exh. Sites-300, p. 323.) Similarly, Condition of Approval 8.7.5 requires the Authority to provide estimates of migratory survival of pre-smolt juvenile winter-run and spring-run salmon. (Exh. Sites-300, p. 346.) Term 23(e) requires the Authority to include fall-run and late-fall-run within the scope of these studies.

Additional Conditions Proposed by the NGO Parties

In addition to flows in the upper Sacramento River, Sacramento River flows into the Delta affect fish migration survival and reproductive success. The NGO Parties propose that Project diversions be prohibited when flows at Freeport[59] are less than approximately 35,300 cfs from December through April, to maximize migration survival of winter-run and fall-run Chinook salmon through the Delta and support reproductive

[59] This location corresponds to the Sacramento River watershed outlet to the Delta. (Exh. AHO-039, p. 77.) It is also the location of USGS gage 1144765 on the Sacramento River. (*Id*. at p. 28.)

REVISED DRAFT

success for white sturgeon. (2025-05-27 NGO Parties Closing Br., p. 67 [NGO Term 2C]; Exh. BK-1, pp.18–21, 39–40, ¶¶ 38–41, 83–85.) Dr. Rosenfield testified that protection of even higher flows of approximately 35,300 to 53,000 cfs at Freeport is necessary to optimize survival of winter-run smolts through the Delta. (Exh. BK-1, pp. 18–19, ¶ 38(b).) The Authority maintains that a bypass flow requirement at Freeport is unnecessary because Project diversions will have negligible effects on juvenile salmon through-Delta survival. (2025-06-26 Sites Reply Br., p. 37.)

Flows at Freeport are significantly influenced by several large tributaries downstream of the Project, including the Feather and American rivers. Due to the system-wide nature of flows into Freeport and the Bay-Delta, and the bypass requirements already imposed by the Permit at Wilkins Slough of 14,125 cfs from December through February (Permit Term 23(c)) and a pulse protection measure at Bend Bridge from March through May (Permit Term 23(b)), we conclude that regulation of flows at Freeport is appropriately addressed in this instance through the Bay-Delta Plan.

To support juvenile salmon rearing and outmigration, the Protestants also advocated for a prohibition on diversions from December through January in any water year following greater than 30 percent temperature-dependent mortality of winter-run eggs and egg-to-fry survival of less than 20 percent. (Exh. CSPA-1c, p. 22, ¶ 60; 2025-05-27 NGO Parties Closing Br., p. 70 [NGO Term 16].) As discussed above, we conclude that the flow-dependent diversion criteria, and seasonal bypass requirement of 14,125 cfs at Wilkins Slough will protect juvenile salmon rearing and outmigration from the impacts of Project diversions to the extent feasible. The Board also reserves the authority to revise the Permit, after notice and opportunity for a hearing, based on new information demonstrating a reasonable likelihood that operations authorized by this Permit have caused or may cause unreasonable harm to fish, wildlife, or other instream beneficial uses.

Project Yield and Permit Term 23

In determining appropriate permit conditions to avoid unreasonable impacts to fish and wildlife and protect public trust resources to the extent feasible, we must weigh the need

REVISED DRAFT

for instream flows against the public interest in developing water supplies for consumptive uses, such as municipal, domestic, agricultural, and industrial purposes.

Term 23 imposes three conditions on diversion in addition to the requirements of the 2024 ITP: (1) from January through February, elevated flow-dependent diversion criteria for the Red Bluff POD (Permit Term 23(a)), (2) from March through May, Bend Bridge pulse protection as described in the Authority's Final EIR (Permit Term 23(b)), and (3) from December through February, a bypass requirement of 14,125 cfs at Wilkins Slough (Permit Term 23(c)). The timing of conditions (b) and (c) is staggered and thereby avoids overlapping requirements. Together, the three conditions reduce the impact of Project diversions on river flows at relevant locations for the various runs of salmon over the winter and spring months.

In its comments submitted on the March 2026 Draft Decision and Permit, the Authority uses a modified version of its Historical WAA Tool to estimate the impact of draft conditions on diversions on Project yield.[60] Using this tool, the Authority estimates a "baseline" annual average yield of the Sites Project of 301 TAF. (Exh. Sites-426, pp. 3, 15, tbls. 1, 10.) This annual average yield is an estimate of the volume of water the Project would have been able to divert from January 2000 through March 2026 with the conditions on diversion imposed by the 2024 ITP. (*Id.* at pp. 1, 3, 15.) The yield analysis is based on actual diversion demand using historical gage data, rather than potential future demand based on the full face-value of senior water rights. (Exh. Sites-334-R, p. 30; Exh. Sites-426, p. 15.) Accordingly, the Historical WAA Tool yield estimates assume that senior diverters will not increase their diversions beyond historical diversions from January 2000 through March 2026.

[60] The Authority also uses CalSim 3 to estimate the impact of the March 2026 Draft Permit Terms 23, 30, and 31 on Project yield. (Exh. Sites-426, p.1.) Although some differences exist, the CalSim 3 and Historical WAA Tool produced comparable estimates of impacts on the annual average Project yield with proposed permit terms. (Exh. Sites-426, p. 15, tbl. 10.) Because State Water Board staff do not have access to the CalSim 3 model, we rely on the Historical WAA Tool provided by the Authority rather than CalSim 3 to assess the effects of each element of Term 23 on Project yield.

REVISED DRAFT

By modifying the Historical WAA Tool used by the Authority to analyze the potential effects of March 2026 Draft Permit terms, State Water Board staff estimated the impact of revised diversion requirements in Term 23 individually and collectively, with and without an unimpaired Delta outflow requirement of 55 percent.

When the effects of Terms 23(a), (b), and (c) are analyzed in isolation, without unimpaired flow requirements under the 2026 Bay-Delta Plan regulatory pathway, the terms result in the following reductions to annual average diversions:

Table 6

Reductions to Annual Average Diversions Based on Isolated Terms 23(a), (b), and (c).

Full Period of Analysis (2000-2026)	Average Annual Diversions (TAF)	Change From Baseline (TAF and %)
Baseline (2024 ITP)	301	-
Only Term 23(a)	291	-10 (-3%)
Only Term 23(b)	298	-3 (-1%)
Only Term 23(c)	290	-11 (-4%)
Total Cumulative	280	-21 (-7%)

As shown in Table 6, the effect of each criterion in isolation does not reflect the cumulative impact of Term 23 on Project yield. Because different permit terms may limit diversions simultaneously, the total cumulative impact to Project yield is less than the sum of each terms' individual impact. When analyzed without an unimpaired Delta outflow requirement, the conditions of diversion in Term 23 reduce the Project's annual average yield by 7 percent as compared to the baseline (a change from 301 TAF to 280 TAF).[61]

[61] To estimate the potential yield effects of permit terms, the AHO relied on the Authority's Historical WAA Tool. (Exh. Sites-440.) To analyze the impact of revised Term

REVISED DRAFT

The total impact of Term 23 on Project yield is less than 2 percent when viewed in combination with an unimpaired flow requirement approximating the impact of the regulatory pathway in the 2026 Bay-Delta Plan.[62] A condition requiring 55 percent of unimpaired flow (equivalent to the March 20 Draft Permit Term 30(a))[63] approximates the greatest expected impact on Project yield of the regulatory pathway unimpaired flow requirement in the 2026 Bay-Delta Plan.[64] Incorporating a 55 percent unimpaired flow as Delta outflow requirement and Terms 23(a), (b), and (c), results in average reductions to as follows:

Table 7

Reductions to Annual Average Diversions Based on Incorporating a 55 Percent Unimpaired Flow Delta outflow Requirement and Terms 23(a), (b), and (c)

Shortened Period of Analysis (2012-2026)	Average Annual Diversions (TAF)	Change From Baseline (TAF and %)

23, staff made the following modifications: On the Control worksheet, using the ITP Historical Analysis condition: (1) turn on the Bend Bridge Pulse Protection (F3) and change months to Mar-May (set F4 and F5 to 6.01 and 8.31); (2) adjust the Wilkins Minimum Bypass Flow to 14,125 for December through February (F15:F26); and (3) change the Jan-Feb Red Bluff FDD table to match the Oct-Dec and Mar-Jun table (E31:F45). To implement the revised Term 23(b) in the WAA worksheet, the logic in column U was modified to remove restriction on diversion outside the pulse protection period.

[62] The 2026 Bay-Delta Plan authorizes compliance by either a regulatory pathway or a Voluntary Agreement (VA) pathway. (See Section 4.3.2.1, *infra.*) Consideration of this Permit for inclusion in the VA pathway would be subject to a future and separate public process and would require additional scientific and environmental documentation. Therefore, this discussion focuses on the requirements of the regulatory pathway in the 2026 Bay-Delta Plan.

[63] The March 2026 Draft Permit Term 30(a) was revised in the Permit, to require compliance with the 2026 Bay-Delta Plan. It is now Permit Term 30.

[64] The Authority also modeled an unimpaired Sacramento inflow requirement of 55 percent as measured at Freeport. (Exh. Sites-426, p. 10.) That estimate provides a lowest expected impact on Project yield of the regulatory pathway unimpaired flow requirement in the 2026 Bay-Delta Plan, with an average annual yield of 219 TAF. (*Ibid.*)

REVISED DRAFT

Baseline (2024 ITP)	297[65]	-
Only 55% Delta Outflow	188	-109 (-37%)
Total Cumulative (55% Delta Outflow plus Term 23)	183	-114 (-39%)

When isolating the impacts from a 55 percent unimpaired Delta outflow requirement, the Project's annual average yield decreases by 37 percent (from 297 TAF to 188 TAF). When the unimpaired flow requirement and Term 23 are analyzed together, the two requirements collectively reduce average annual yield to 183 TAF, a total 39 percent reduction compared to the baseline. These results demonstrate that the requirements of the 2026 Bay-Delta Plan will control diversions significantly more often than the requirements of Term 23. (Exh. Sites-426, p. 6, fn. 7 ["[T]here is a fairly limited frequency that Term 23 is more restrictive than Term 30(a)"].) With a 55 percent unimpaired Delta outflow requirement, only 2 percent of the reduction in average Project yield, approximately 5 TAF per year, is attributable solely to the conditions of diversion in Term 23 (see Table 7).

If the requirements of Term 30 change in the future, such as through a future revision of the Bay-Delta Plan to incorporate a high-flow offramp for the unimpaired Delta outflow requirement or to include this Permit within the Voluntary Agreement (VA) pathway, Term 23 may control diversions more frequently — but the total yield of the Project will also increase. (Exh. AHO-346, p. 137.) Without a Delta outflow requirement, average annual Project yield would increase by almost 100 TAF, from 183 TAF to approximately 282 TAF even with the requirements of Term 23 (see Table 7). The analysis of impacts to Project yield with and without an unimpaired inflow-based outflow requirement

[65] The 297 TAF baseline is based on a shorter period of analysis than the 301 TAF baseline. (Exh. Sites-426, p. 6.) This shorter period is required when analyzing impacts related to unimpaired flow requirements because data availability for unimpaired flow begins October 1, 2012, not January 2000. Otherwise, the two baselines maintain the same assumptions.

REVISED DRAFT

approximating the regulatory pathway in the 2026 Bay-Delta Plan supports our conclusion that the conditions in Term 23 appropriately balance the public interest in water supplies for consumptive use against instream needs in the Sacramento River and the Bay-Delta.

Protection of Terrestrial and Plant Species

In addition to impacting fisheries, Project construction and operation will cause impacts on terrestrial and plant species. These impacts include permanent impacts from inundation within the reservoir footprint and placement of new infrastructure, as well as temporary impacts from construction.

The Authority's botany and wildlife experts testified about impacts of the Project on natural resources within the reservoir footprint. Because the Authority did not have access to private property, the ability to perform surveys was limited. (CIC Tr. Comb., p. 2630:5–2632:24; Exh. Sites-114c, pp. 3, 6, ¶¶ 4, 8.) Instead, the Authority's method of analysis relied upon aerial photographs, existing available information, and Geographic Information Systems modeling. (Exh. Sites-114c, p. 3. ¶ 4; Exh. AHO-077, pp. 7–8.) Habitats identified from these analyses included perennial and seasonal wetlands, streams, and riparian corridors, which CDFW and USFWS recognized as habitats associated with high species diversity. (Exh. AHO-076, pp. 6–12; Exh. AHO-077, pp. 8–15; Exh. AHO-335, p. 4.)

The Final EIR concluded that the impact of construction of Sites Reservoir on vegetation and wetland resources would not be significant with the incorporation of Mitigation Measures VEG-1.1, VEG-1.2, and VEG-1.3, which generally require pre-construction surveys identifying the location of special-status plant species, avoiding those locations where feasible, and acquiring compensatory mitigation for permanent impacts in locations that cannot be feasibly avoided. (Exh. AHO-076, pp. 25–26.) The Authority's project description also incorporates best management practices to avoid impacts, including development and implementation of a Stormwater Pollution Prevention Plan, implementation of a Worker Environmental Awareness Program, construction monitoring for fish, wildlife, plant species habitats, and natural

REVISED DRAFT

communities, and control of invasive plant species. (Exh. AHO-069, pp. 110–111; Exh. AHO-108, pp.12–14, 29.)

The Final EIR assessed the potential for the Project to impact 33 special-status wildlife species and their habitats that have the potential to occur in the Project area. Listed species identified as having potential to occur within the Project area include California red-legged frog (federally listed as threatened), conservancy fairy shrimp (federally listed as endangered), vernal pool fairy shrimp (federally listed as threatened), vernal pool tadpole shrimp (federally listed as threatened), and giant garter snake (federally and state listed as threatened). The Final EIR concluded that with the incorporation of mitigation measures, the Project would have no significant impact on 32 of the 33 special-status species. (Exh. AHO-077, pp. 100–101.) The Authority's proposed mitigation measures include actions to avoid effects on listed vernal pool branchiopods, compensation for impacts on vernal pool branchiopod habitat, and protective measures for giant garter snake. The Final EIR found there would be a significant and unavoidable adverse impact on golden eagle because of the long-term loss of blue oak woodland, foothill pine, and oak savanna habitat. (*Ibid.)* In addition, the Final EIR found that the Project's impact on wildlife movement and habitat connectivity would remain significant and unavoidable even after mitigation. (*Id.* at p. 144.)

In late 2024, the Authority obtained an ITP from CDFW covering construction of the Project, which expires on December 31, 2034 (Construction ITP). (Exh. Sites-299, p. 1.) That ITP covers the incidental take of giant garter snake, Swainson's hawk, tricolored blackbird, and Crotch's bumble bee. (*Id.* at p. 29.) The ITP requires the Authority to implement mitigation measures to limit the impacts on each species, including, for example, a capture and relocation plan for giant garter snake, mortality reduction and relocation plans for Swainson's hawk and tricolored blackbird, and seasonal restrictions on activities during bloom season to protect Crotch's bumble bee. (*Id.* at pp. 41, 46, 49, 52.) With these mitigation measures, CDFW concluded that the activities covered by the Permit will not jeopardize the continued existence of the covered species. (*Id.* at p. 66.) The Authority's expert, Jennifer Hale, concluded that the measures the ITP required are

REVISED DRAFT

consistent with, or exceed, mitigation measures the Final EIR required. (Exh. Sites-314, p. 3, ¶ 5.)

Reclamation, as the lead agency for the Project's ESA compliance efforts, obtained a USFWS Biological and Conference Opinion for construction of the Project. The Biological Opinion covers incidental take of federally endangered, threatened, and proposed threatened plants and animals. This list includes Keck's checkermallow, Greene's tuctoria, palmate-bracted bird's beak, vernal pool tadpole shrimp, Hoover's spurge, valley elderberry longhorn beetle, vernal pool fairy shrimp, giant garter snake, northwestern pond turtle, western spadefoot, and monarch butterfly. (Exh. AHO-339, p. 2.) USFWS concluded that adhering to the reasonable and prudent measures the Biological Opinion required would minimize take of those listed and potentially listed species. (*Id.* at p. 198.)

In addition to the terrestrial wildlife permits already issued, the Authority has committed to obtaining two biological opinions for federally listed species based on project operations, one from USFWS for terrestrial species and one from NMFS for aquatic species. (CIC Tr. Comb., p. 95:2–25; Exh. Sites-071c, p. 5, ¶ 15.) Finally, the Authority has committed to obtaining a federal permit for the take of bald and golden eagles. (Exh. Sites-071c, p. 5, ¶ 16.)

The Authority's expert witnesses testified that with the inclusion of mitigation measures and best management practices, the Project would not have unreasonable adverse impacts on special-status plants and wildlife, or wildlife movement corridors. (Exh. Sites-113c, p. 3, ¶ 4; Exh. Sites-114c, pp. 16–19, ¶¶ 28–35.) The Authority's expert, Ms. Hale, testified that despite the analyses in the Final EIR, which found that there would be significant impacts on golden eagle habitat even with the inclusion of mitigation measures, the Authority's mitigation measures will ensure that impacts on golden eagle will not be unreasonably adverse overall. (Exh. Sites-114c, p. 17, ¶ 33.) Ms. Hale also testified that the completed reservoir would have the beneficial effect of providing additional food sources for bats and several bird species. (*Id.* at p. 13, ¶ 24.)

REVISED DRAFT

The NGO Parties object that the Authority failed to accurately develop an environmental baseline for the plants and wildlife that the Project will impact. (2025-05-27 NGO Parties Closing Br., pp. 52–54.) These parties argue that the Authority's use of aerial imaging and habitat modeling to determine potential occurrence of special status species, rather than on-the-ground biological surveys, resulted in an inaccurate environmental baseline for the Authority's CEQA analysis. (E.g., Exh. FOR-344_Rebuttal Testimony_Smallwood, pp. 4–12.[66]) Dr. Shawn Smallwood, an expert witness for Friends of the River, emphasized the importance of biological surveys, and testified that he was able to detect 10 wildlife species in addition to those the Authority's experts identified during three days of biological surveys conducted from a public road in the Project area. (Exh. FOR-18, pp. 2–3, ¶ 3; Exh. FOR-344_Rebuttal Testimony_Smallwood, p. 13, ¶ 27.) Although the Final EIR includes mitigation measures requiring pre-construction surveys, the NGO Parties argue that these measures are inadequate, as the results will be obtained too late in the process, will be focused only on pre-identified species, and will not undergo public review. (2025-05-27 NGO Parties Closing Br., pp. 52–53.) To address this, the NGO Parties propose a permit term requiring the Authority to conduct additional surveys prior to Project construction in coordination with the State Water Board and CDFW, and to develop plans to fully mitigate all temporary and permanent impacts. (Baykeeper et al. – Proposed Permit Terms, p. 6 [Term 22].)

We conclude that such a term is unnecessary. The Permit incorporates mitigation measures in the Authority's Final EIR that are within the State Water Board's purview, including those applicable to wildlife resources, aquatic resources, and vegetation and wetland resources. (See Permit, Attachment 3.) These mitigation measures require the

[66] Two exhibits are identified in the Friends of the River exhibits folder with the name "FOR-344". One exhibit is a 47-page Word document containing Dr. Smallwood's testimony, identified by the file name as "FOR-344_Rebuttal Testimony_Smallwood," and the other is a pdf copy of a seven-page PowerPoint presentation that summarizes Dr. Smallwood's rebuttal testimony identified by the file name as "FOR-344_Summary_Smallwood_Rebuttal." The reference in this citation is to the longer document and is identified with the full file name.

REVISED DRAFT

Authority to conduct pre-construction surveys for special-status species, such that actual presence will be determined before construction takes place. The Authority is required to report on the status of compliance with the mitigation measures to the State Water Board.

The NGO Parties additionally raise the need for the Authority to address the changed status of the burrowing owl. (2025-05-27 NGO Parties Closing Br., p. 54.) The California Fish and Game Commission identified the burrowing owl as a candidate species on October 10, 2024, but the Construction ITP does not address potential take of burrowing owl. (ITP Tr. Comb., p. 172:21–25; Exh. Sites-299, p. 29.) The Final EIR does, however, impose mitigation measures to protect the burrowing owl and Ms. Hale testified that the Authority is pursuing an ITP for that candidate species. (Exh. AHO-077, pp. 89–97; ITP Tr. Comb., p. 173:1–10.)

Based on the mitigation measures required by the Final EIR, the conditions of the Authority's ITP and Biological Opinion for construction activities, and anticipated permits to address Project operations and potential impacts on eagles and burrowing owls, we conclude that no additional terms and conditions within the State Water Board's permitting authority are necessary to adequately protect terrestrial species. The Board reserves the authority to revise the Permit, after notice and opportunity for a hearing, based on new information demonstrating a reasonable likelihood that operations authorized by this Permit have caused or may cause unreasonable harm to wildlife.

4.3.2 Bay-Delta Plan Update and Delta Outflows

The Project's diversions from the Sacramento River will impact the timing and volume of flows into and out of the Delta. This section addresses impacts of the Project on Delta inflows and outflows, and consistency of the Permit with anticipated updates to the Bay-Delta Plan.

The Board must consider appropriate Delta outflow requirements on which to condition Project diversions. This obligation arises from the Board's responsibilities to consider: the amount of water required to support instream beneficial uses, including the preservation and enhancement of fish and wildlife (Wat. Code, §§ 1243, 1243.5); the

REVISED DRAFT

effect of approving the application on public trust resources and protection of those resources where feasible and in the public interest (*National Audubon Society, supra,* 33 Cal.3d at pp. 446–447); terms and conditions that will best develop, conserve, and utilize in the public interest the water sought to be appropriated (Wat. Code, § 1253); reasonable and prudent alternatives to avoid jeopardy to the continued existence of any endangered or threatened species, and destruction or adverse modification of critical habitat (Fish & G. Code, §§ 2053, 2055); and terms and conditions necessary to carry out applicable water quality control plans. (Wat. Code, § 1258.) These legal and factual issues are identified by the June 5, 2024, Amended Hearing Notice for this proceeding in Hearing Issues 3.a.iii and 3.a.iv. (2024-06-05 Amended Notice of Public Hearing and Pre-Hearing Conference (Sites), p. 13.)

4.3.2.1 Regulatory Background

The Bay-Delta Plan

The Bay-Delta Plan was developed and is updated[67] pursuant to the requirements of the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) and the federal Clean Water Act (33 U.S.C. § 1251 et. seq.) The Bay-Delta Plan applies to the Bay-Delta estuary and tributary watersheds. (Exh. AHO-346, p. 11.) The Bay-Delta Plan identifies beneficial uses of water in the Bay-Delta watershed, water quality objectives for the reasonable protection of those beneficial uses, and a program of implementation to achieve the objectives. (*Id*. at p. 14; see Wat. Code, § 13000 et seq.) The beneficial uses protected by the Bay-Delta Plan include municipal, industrial, agricultural, and various uses related to fish and wildlife. (Exh. AHO-346, pp. 18–20.) The Bay-Delta Plan includes flow-dependent water quality objectives, including salinity, river flows, Delta outflows, and implementation measures to protect beneficial uses consistent with the

[67] The Bay-Delta Plan was first adopted in 1978 and amended in 1991, 1995, 2006, 2018, and 2026. (Exh. AHO-341, pp. 2, 8; Exh. AHO-346, p. 18.) Unless otherwise specified, the term “Bay-Delta Plan” refers to the version as amended in 2026.

REVISED DRAFT

Board's dual responsibilities to protect water quality and administer water rights. (*Id*. at pp. 22–24.)

The Board's D-1641, issued in 2000, allocated primary responsibility for meeting the 1995 Bay-Delta Plan's water quality objectives to Reclamation and DWR. (Revised Decision 1641 [Exh. AHO-277], pp. 13–14, 101, 142–144, 158, 170–175.) D-1641 imposes conditions on water right permits and licenses for the CVP and SWP that require these projects to be operated to meet water quality objectives and comply with implementation measures in the Bay-Delta Plan. (*Ibid*.) Among other requirements, the CVP and SWP must be operated to meet year-round Delta outflow objectives, which vary depending on hydrologic conditions and season. These Delta outflow objectives include objectives for minimum net flows from the Delta to Suisun and San Francisco bays (Net Delta Outflow Index or NDOI)[68] and maximum salinity measured as EC. (*Id*. at pp. 196–199, 202–203.)

When natural flows in the watershed are insufficient to satisfy demands and D-1641 requirements, DWR and Reclamation must release water from storage. Demands in the watershed are referred to as in-basin entitlements and are comprised of water right diversions senior to the SWP and CVP, natural losses in the system, and flows required by D-1641. Supplemental project water is water imported to the basin and released by the CVP, such as Trinity River water, and water released from storage by the CVP and SWP, that is in excess of export diversions by the SWP and CVP, carriage water, and in-basin deliveries. (State Water Board Decision 1594 (1984), p. 63.) Carriage water is the amount of additional Delta outflow needed to offset incremental changes in water quality caused by exports. (*Id*. at p. 19.) Water right permits and licenses junior to the SWP and CVP include Standard Term 91, which prohibits diversions when satisfaction of in-basin entitlements requires release of supplemental project water by the SWP or CVP.

[68] NDOI is calculated by subtracting net Delta consumptive use and Delta exports from Delta inflow at specified locations. (Revised Decision 1641, p. 202, fig. 3.)

REVISED DRAFT

A concept closely related to Standard Term 91 is the designation of conditions in the Delta as either in “balance” or in “excess”. DWR and Reclamation determine whether the Delta is in balanced or excess conditions. Balanced conditions occur when upstream SWP and CVP reservoir releases plus unregulated flow approximately equal the water supply needed to meet Sacramento Valley in-basin uses, including requirements on operations of the CVP and SWP under D-1641, plus exports by the SWP and CVP. (Revised Decision 1641, p. 162, fn. 81; Exh. AHO-346, p. 176.) Excess conditions occur when unregulated flow, plus any upstream reservoir releases, exceed the flows needed for Sacramento Valley in-basin uses, D-1641 requirements, and export amounts. (Revised Decision 1641, p. 162, fn. 79; Exh. AHO-346, p. 176.)

In 2018, the State Water Board updated the Bay-Delta Plan’s Lower San Joaquin River flow and southern Delta salinity objectives and implementation provisions. The updates adopted in 2018 include San Joaquin River flow objectives to protect fish and wildlife beneficial uses and a southern Delta salinity objective to protect agricultural beneficial uses. (Exh. AHO-341, p. 18.) Among other flow-based requirements to achieve these objectives, the Bay-Delta Plan requires 40 percent of unimpaired inflow, within an adaptive range of 30 to 50 percent, from each of the Stanislaus, Tuolumne, and Merced rivers to the confluence of the San Joaquin River with the Delta at Vernalis from February through June. (*Id*. at p. 28.)

Flow Criteria Developed Pursuant to Delta Reform Act of 2009

The Sacramento-San Joaquin Delta Reform Act of 2009 established the coequal goals for the Delta of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. (Pub. Resources Code, § 29702.) In furtherance of these goals, the Act required the State Water Board to develop flow criteria for the protection of public trust resources of the Bay-Delta ecosystem. (Stats. 2009–2010, 7th Ex. Sess., c.5 (S.B.1).) Although the flow criteria do not have direct regulatory effect, the Board was required to submit these flow criteria to the Delta Stewardship Council to inform various decisions, including the update of the Bay-Delta Plan. (Wat. Code, § 85086, subd. (c).) Pursuant to the Act’s narrow statutory directive,

REVISED DRAFT

the State Water Board identified flow criteria to protect fisheries in its report titled, "Development of Flow Criteria for the Sacramento San Joaquin-Delta Ecosystem." (See Exh. BK-96.)

The 2010 Flow Criteria Report concluded that Delta outflow of 75 percent unimpaired flow on a 14-day average is necessary from January through June to promote increased abundance and improved productivity for longfin smelt and to protect other public trust resources in the Delta ecosystem. (Exh. BK-96, pp. 110–111, 143.) The report did not consider water supply needs for other beneficial uses such as agricultural and municipal supply, nor did the report attempt to balance potentially competing public trust interests such as adverse effects of increased Delta outflow on maintenance of cold-water resources in upstream storage to support ecosystem functions for the survival of salmonids. (*Id.* at p. 15.) These broader considerations not addressed by the 2010 Flow Criteria Report were at issue in the Board's process to update the Bay-Delta Plan. (Exh. AHO-271, p. 31; Exh. AHO-347, p. 124.)

2026 Bay-Delta Plan: Regulatory Pathway

The State Water Board updated the Bay-Delta Plan in 2026 in response to continued fishery and ecosystem declines in the Bay-Delta watershed and its tributaries. (Exh. AHO-271, pp. 27–28; Exh. AHO-272, pp. 4–6; Exh. AHO-347, pp. 119, 673–675.)

In 2017, following public comment and independent peer review, the Board issued the "Scientific Basis Report in Support of New and Modified Requirements for Inflows from the Sacramento River and its Tributaries, and Eastside Tributaries to the Delta, Delta Outflows, Cold Water Habitat, and Interior Delta Flows" (2017 Scientific Basis Report). (See Exh. AHO-271.) This report found that "best available science … indicates that the requirements [in D-1641 and Biological Opinions for CVP and SWP Delta export operations] are insufficient to protect fish and wildlife." (*Id.* at p. 28.) The 2017 Scientific Basis Report further describes the scientific bases for updates to the Bay-Delta Plan, including increased Delta inflows and outflows to protect native fish and wildlife in the Sacramento River, Delta, and associated tributaries. (*Id*. at pp. 39–45.)

REVISED DRAFT

Among other topics, the 2017 Scientific Basis Report evaluated the potential benefits to native fish and aquatic species of various unimpaired tributary inflows and Delta outflows based on a percentage of unimpaired flow. (Exh. AHO-271, pp. 276–302.) Tributary inflow is the amount of instream flow contributed from a watershed to a confluence location, which may be within or upstream of the Delta. (*Id.* at pp. 39–42.) Delta outflow is the amount of fresh water that flows past the confluence of the Sacramento and San Joaquin rivers into Suisun Bay. (*Id.* at pp. 43–45.) Unimpaired flow is the amount of water that would be present in a watershed without diversions given current infrastructure (i.e., levees or other channel modifications). (*Id.* at p. 49.) By basing inflow and outflow requirements on a percentage of unimpaired flow, a selected percentage of flows in the watershed are dedicated to instream uses to protect fish and wildlife beneficial uses. (*Id.* at pp. 283, 300.) The remaining percentage of flow may be diverted for other uses.

The 2017 Scientific Basis Report evaluated a range of year-round unimpaired inflows to the Delta and corresponding Delta outflows from 35 to 75 percent. (Exh. AHO-271, p. 284.) Because Delta outflows are a product of inflows, the report proposes Delta outflow requirements based on inflows with adjustments for downstream natural losses and gains. (*Id*. at p. 301.) The volume of tributary inflows and Delta outflows affects the survival and migration of native aquatic estuarine and anadromous fish species and their food sources, including phytoplankton and zooplankton, and the quality and quantity of suitable habitat for those species. (*Id*. at pp. 230, 300.) Freshwater inflow to the Delta also affects concentrations and residence time for nutrients, organic content, and pollutants. (*Id*. at p. 300.) The 2017 Scientific Basis Report concluded that unimpaired Delta inflows and outflows of 35 to 45 percent would provide “limited benefits,” inflows and outflows of 55 percent would provide “modest benefits,” and inflows and outflows of 65 to 75 percent would provide “more substantial benefits,” for fish and wildlife. (*Id.* at p. 299.)

In 2018, the State Water Board released a Framework for the Sacramento/Delta Update to the Bay-Delta Plan (2018 Framework). (See Exh. AHO-272.) The 2018 Framework identified a proposed Sacramento and Delta tributary inflow objective of 55 percent of

REVISED DRAFT

unimpaired flow within an adaptive range of 45 to 65 percent. (*Id.* at p. 14.) The Framework found that Sacramento and Delta tributary inflows and corresponding Delta outflows of 55 percent of unimpaired flow would be more likely to provide improvements in protection of fish and wildlife beneficial uses as compared to lesser percentages, due in part to consistent achievement of flow thresholds associated with protection of various aquatic species. (*Id.* at p. 15.)

In 2023, the State Water Board released a Draft Staff Report and Substitute Environmental Document in Support of Potential Updates to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary for the Sacramento River and its Tributaries, Delta Eastside Tributaries, and Delta (2023 Draft Staff Report). (See Exh. AHO-279.) The 2023 Draft Staff Report evaluated the environmental and economic benefits and impacts of possible updates to the Bay-Delta Plan for the Sacramento River watershed, Delta tributaries, and Delta. (*Id.* at p. 74.) The report incorporated the finding in the 2017 Scientific Basis Report that Delta outflows of 55 percent of unimpaired flow would achieve flow thresholds associated with increases in population abundance and improvements in habitat conditions that support survival and population growth relative to lower flow levels. (*Id.* at p. 552.)

In October 2024, the Board released an initial draft of updates to the Bay-Delta Plan. The Board circulated subsequent drafts in July 2025 (July 2025 Draft Plan), December 2025 (December 2025 Draft Plan), with a final draft released in August 2026 (August 2026 Final Draft Plan), along with recirculated portions of the Draft Staff Report in December 2025 (December 2025 Draft Staff Report) and a final draft in August 2026 (August 2026 Final Staff Report). (Exh. AHO-336 [July 2025 Draft Plan]; Exh. AHO-337 [December 2025 Draft Plan]; Exh. AHO-338 [December 2025 Draft Staff Report]; Exh. AHO-346 [August 2026 Final Draft Plan]; Exh. AHO-347 [August 2026 Final Staff Report].)

REVISED DRAFT

The Board adopted updates to the Bay-Delta Plan on [Reserved]. (Exh. AHO-346 [2026 Bay-Delta Plan].)[69] The 2026 Bay-Delta Plan includes new water quality objectives and two implementation pathways: (1) a VA pathway (described further, below), which would allow right holders to implement flow and habitat restoration commitments included in the Healthy Rivers and Landscapes (HRL) proposal to implement certain objectives in the Bay-Delta Plan; and (2) a regulatory pathway that would apply to all water rights not on the VA pathway or to water rights if the VA pathway is discontinued for those rights. (Compare Exh. AHO-346, pp. 28–29, 56–58, 74–75 with Exh. AHO-341, p. 28.)

The 2026 Bay-Delta Plan includes a narrative Sacramento River and Delta tributary inflow objective. (Exh. AHO-346, p. 28.) Under the regulatory pathway, this objective is implemented by numeric tributary inflow requirements. (*Id.* at p. 56–58.) These numeric requirements are based on the supporting scientific information and conclusions in the 2017 Scientific Basis Report, 2018 Framework, 2023 Draft Staff Report, 2025 Draft Staff Report, summarized above, and the 2026 Final Staff Report, that 55 percent of unimpaired flow would provide marked improvements in the abundance of numerous fish species. (Exh. AHO-347, pp. 681–682.) The program of implementation in the 2026 Bay-Delta Plan requires that flows in the Sacramento River, and other Delta tributary inflows, be maintained at 55 percent of unimpaired flows on a seven-day running average to meet the narrative inflow objective, within an adaptive range of 45 to 65 percent. (Exh. AHO-346, pp. 57, 61.)

In recognition of the water supply and reservoir storage impacts of a 55 percent of unimpaired flow requirement for existing water rights, the 2026 Bay-Delta Plan includes water supply adjustments that reduce the numeric flow requirement during average and drier conditions. (Exh. AHO-346, pp. 57–58; Exh. AHO-347, pp. 130, 2755, 2759–2762.) Water supply adjustments do not apply to water rights obtained after December 31, 2025, unless supported by necessary environmental and scientific documentation and incorporated as part of a water rights proceeding or approved in the annual or periodic

[69] Citations in this Revised Draft Decision are to the August 19, 2026 Draft Bay-Delta Plan, except as otherwise noted.

REVISED DRAFT

review process.[70] (Exh. AHO-351, p. 56.)[71] For water rights approved after December 31, 2025, the Bay-Delta Plan imposes a default inflow requirement of 55 percent of unimpaired flow within an adaptive range of 45 to 65 percent. (*Id.* at p. 60.) The Board may, however, apply water supply adjustments to a new right or other new water supply project as part of the annual or periodic review process. (*Id.* at p. 56.)

The 2026 Bay-Delta Plan also includes narrative Delta outflow and inflow-based Delta outflow objectives. (Exh. AHO-346, at p. 29.) Under the regulatory pathway, these objectives are implemented by requiring the prescribed inflows from Sacramento/Delta tributaries and San Joaquin River tributaries to also be met as outflows, with adjustments for downstream natural depletions and accretions. (*Id.* at pp. 29, 67–68.) The inflow-based Delta outflow objective provides for continuity of flows from tributaries through the Delta and aligns outflow requirements with inflows in recognition that unimpaired tributary flow requirements within the watershed will vary among diverters based on flexibilities within the plan, such as water supply adjustments. (Exh. AHO-347, pp. 694–695.) All water rights not covered by the VA pathway are subject to these numeric inflow and inflow-based Delta outflow requirements except those water rights determined to have a de minimis effect. (Exh. AHO-346, p. 56.)

REVISED DRAFT

[70] The water supply adjustments require less than 55 percent of unimpaired inflow except during the wettest third of hydrologic conditions. (Exh. AHO-346, p. 57.) During the intermediate third of conditions, the adjustments reduce inflow requirements to 45 percent, and under the driest third of conditions, the adjustments reduce inflow requirements to 35 percent, in addition to other tributary specific water supply adjustments not applicable to this proceeding. (*Ibid.*)

[71] On October 19, 2026, the Board released a document identifying the proposed changes to the August 2026 Final Draft of the Bay-Delta Plan using strikeout and underline. The State Water Board may take official notice of such acts as may be judicially noticed by courts of this state. (Cal. Code Regs., tit. 23, § 648.2.) The Board takes official notice of the Board's October 19, 2026, Proposed Changes to August 2026 Final Draft Plan as Exhibit AHO-351.

2026 Bay-Delta Plan: Voluntary Agreement Pathway

In 2022, the State Water Board received a Memorandum of Understanding (2022 MOU) proposing an alternative method for updating and implementing the Bay-Delta Plan from signatory parties that included state and federal agencies, local public water agencies, and other water users. (Exh. AHO-279, pp. 4727–4791.) The 2022 MOU proposed voluntary agreements, later referred to as the HRL proposal, as an element of the updates to the Bay-Delta Plan and implementation thereof. (*Id*. at p. 4731.)

The 2026 Bay-Delta Plan includes a VA pathway that allows flow and habitat restoration and other related commitments to be implemented in lieu of the regulatory pathway provisions described in the Plan. (Exh. AHO-346, pp. 74–75.) The flow commitments (HRL flow commitments or HRL flows) are intended to increase net Delta inflows and outflows from January through June, particularly in above-normal, below-normal, and dry years, through a combination of land fallowing, groundwater substitution, reservoir reoperations, and foregone SWP and CVP Delta exports. (*Id.* at pp. 77–81.) These flow commitments are meant to be additive to base flows, as defined in the Bay-Delta Plan, consistent with the scientific and environmental analyses supporting the VA pathway. (*Id.* at p. 78.)

Water rights included in the VA pathway are excepted from curtailments imposed to meet tributary inflow and inflow-based Delta outflow requirements during the term of the VA pathway. (Exh. AHO-346, p. 79.) The 2026 Bay-Delta Plan includes a list of these water rights in Appendix B.1. (*Id*. at pp. 251–384.) Other water rights may be considered for inclusion in Appendix B.1 through the annual or periodic review process, with supporting environmental and scientific documentation to evaluate and consider the associated impacts and benefits of including the additional rights. (*Id*. at p. 75.)

4.3.2.2 Sites Reservoir Project Impacts on Delta Inflows and Outflow

Diversions to Sites Reservoir will necessarily reduce Sacramento River inflow and corresponding Delta outflow both seasonally and on a net annual basis. (Exh. AHO-078, p. 298.) CalSim II modeling conducted by the Authority and relied upon in the Final EIR

REVISED DRAFT

indicated that, on average, the long-term annual reduction to Delta outflow from the Project would be approximately 150,000 AFY, although the CalSim 3 model results discussed below revise this estimate.[72] (Exh. AHO-124, p. 94, tbl. 5B3-5-4c [Full Simulation Period Average values for each month converted to units of acre-feet per day and multiplied by the number of days in each month results in approximately 150,000 AFY].) The combined effects of Project diversions, releases to the Sacramento River, and operational changes for Shasta Reservoir, Oroville Reservoir, and Folsom Reservoir due to exchanges with Sites Reservoir, would reduce Delta outflow primarily during the winter and spring.[73] (*Ibid*.) In general, average monthly reductions in Delta outflow would be greatest from December through March of wet, above-normal, and below-normal years. (*Ibid.*) Reductions in Delta outflow could occur, however, in any water year type because Project diversions could occur in any water year type. (*Ibid.*)

The 2024 ITP imposes a Delta outflow condition on Project diversions that is in addition to the operational constraints the Authority proposed and analyzed in the Final EIR — requiring an increase of at least 3,000 cfs in NDOI above flows that produce excess

[72] The Authority's CalSim II modeling estimates Project operations, including diversions, releases, and exchanges, with the applied constraints of water availability, infrastructure capacity at the PODs, and available storage in Sites Reservoir. (Exh. AHO-072, pp. 31–33; see Exh. AHO-114.) The CalSim II modeling assumes compliance by the CVP and SWP with D-1641 Delta outflow and salinity requirements, D-1641 Export/Inflow (E/I) requirements, the 2019 USFWS/NMFS Biological Opinions, and 2020 SWP ITP. (Exh. AHO-069, pp. 78–79; Exh. AHO-114, pp. 47–49 [applicable assumptions for regulatory standards on pp. 2, 5–13].) The modeling also assumes that the Delta must be in excess conditions for Sites diversions to occur. (Exh. AHO-069, p. 78; Exh. AHO-114, p. 50 [applicable assumptions for Project diversions on p. 28].) Finally, the modeling assumes that Project releases into the Yolo Bypass would contribute to Delta outflow, as the results pre-date the change in proposed Project operations to exclude the release of Project water into the Yolo Bypass. (2026-04-10 Sites Authority Ltr to AHO Reg Yolo Bypass, p. 1.)

[73] Increases in Delta outflow in certain months are minimal, and are due to modeled Yolo Bypass habitat flows, carriage water, and operational changes for reservoirs at Shasta, Oroville, and Folsom reservoirs. (Exh. AHO-072, p. 36; Exh. AHO-074, pp. 21–22.) Releases to Yolo Bypass are no longer expected, which may impact how Project operations would affect Delta outflow. (Exh. AHO-344, p. 5; 2026-04-10 Sites Authority Ltr to AHO Reg Yolo Bypass, p. 1.)

REVISED DRAFT

conditions before diversions can occur. (Exh. Sites-298, p. 43.) This condition is intended to allow the SWP and CVP to meet water demands while meeting regulatory requirements. (Exh. Sites-300, pp. 342, 352.) Of particular concern to CDFW was the protection of Delta outflow in winter and spring, an important rearing and migration period for winter-run and spring-run Chinook salmon and white sturgeon, and an important period in the life histories of longfin smelt and Delta smelt. (*Ibid.*) CDFW found that an additional 3,000 cfs increase in NDOI after a determination of excess conditions, combined with the maximum annual diversion limit of 986,000 acre-feet, would avoid or minimize indirect impacts on longfin smelt and Delta smelt habitat quality, habitat quantity, and food production. (*Id.* at pp. 351–352.)

The Authority conducted additional modeling following the issuance of the 2024 ITP using CalSim 3. (2025-11-03 Sites Letter to AHO Re CalSim 3.) In addition to the 2024 ITP diversion criteria, the CalSim 3 model runs are based on updated hydrology, climate conditions, and operational rules that collectively contribute to differences in modeled diversions, releases, and changes to Delta outflow relative to the CalSim II results.[74] (*Id*. at pp. 9–12.) These modeling results show that the long-term average annual net reduction to Delta outflow caused by the Project, with the conditions in the 2024 ITP, is 190,000 AFY, and Project diversions would reduce Delta outflow primarily from November through April.[75] (*Id.* at p. 19, figs. 8, 9.)

[74] Among other differences, CalSim 3 includes an extended simulation period, updated CVP and SWP requirements from the 2024 Biological Opinions and 2024 SWP ITP, increased spatial resolution and accuracy of reservoir operations and surface water and groundwater flows, and a daily time step for estimating diversions. (2025-11-03 Sites Letter to AHO Re CalSim 3, pp. 9–12.)

[75] The increase of 40,000 acre-feet in the modeled average annual net reduction to Delta outflow caused by the Project with ITP requirements appears to be due to differences between the CalSim II model and the CalSim 3 model, as described in footnote 69.

REVISED DRAFT

4.3.2.3 Applicant's Proposal to Address Delta Inflows and Outflows

The Authority asserts that Standard Terms 91 and 96, in addition to bypass flow requirements at the PODs and Wilkins Slough, are sufficient to avoid unreasonable impacts on fish, wildlife, and other instream beneficial uses from reductions in Delta outflow. (2025-05-27 Sites Closing Br., pp. 24, 72.)

Standard Term 91, referenced above, prohibits diversions when the SWP or CVP are releasing supplemental project water during balanced conditions. (*Id.* at pp. 103–104.)

Standard Term 96 states:

> The State Water Board is currently in the process of amending the [Bay-Delta Plan] to establish new and modified Delta tributary inflow and cold water habitat and Delta outflow objectives that may significantly reduce the season when water is available for diversion and the amount of water available for diversion under this permit. Subject to appropriate procedure, the season of diversion and the maximum amount authorized to be diverted may be reduced to implement existing or revised water quality and flow objectives included in the Bay-Delta Plan.
>
> (*Id.* at p. 104.)

The Authority claims that Standard Term 96 would address compliance with the Bay-Delta Plan. (*Id.* at pp. 42–43.) Because there will be additional periodic review periods before the Project is in operation, the Authority asserts that more specific limitations on diversion to implement the 2026 Bay-Delta Plan would be "premature." (*Id.* at p. 42.) For the same reasons, the Authority argues that prohibiting Project diversions until the 2026 Bay-Delta Plan is implemented is unnecessary. (*Id.* at p. 43.)

In August 2025, after the Board's release of the July 2025 Draft Bay-Delta Plan, the hearing officer scheduled a status conference in this proceeding to address: (1) incorporation of an anticipated future-adopted update to the Bay-Delta Plan into any permit issued to the Authority, and (2) appropriate Delta outflow requirements pending adoption and implementation of an updated Bay-Delta Plan. (2025-08-08 Notice of Status Conference, pp. 3–6.) Parties had the opportunity to comment on these issues in status conference statements and during the status conference.

REVISED DRAFT

The Authority asserted during the status conference and in comments on the March 2026 Draft Decision and Draft Permit, that a permit term explicitly imposing an interim 55 percent of unimpaired Delta outflow requirement was not necessary because the Board will implement any outflow requirements in accordance with the updated Bay-Delta Plan expected to be adopted before the Project is operational. (2025-09-04 Zoom-generated Tr., p. 9; 2026-05-22 Sites Comments on Draft Decision-Draft Permit, p. 17.) The Authority additionally expressed its position that it would be inappropriate to impose "the proposed 55% unimpaired flow requirements solely on the Sites Project prior to the adoption of the Bay-Delta Plan." (2025-08-28 Sites Status Conference Statement p. 4, fn. 8.)

4.3.2.4 NGO Parties' Arguments and Evidence Addressing Delta Inflows and Outflows

The NGO Parties maintain that 75 percent of unimpaired Delta outflow is necessary to support and protect public trust resources and native fish populations and seek denial of the application on this basis. (2025-05-27 NGO Parties Closing Br., pp. 32, 61; Exh. BK-1, pp. 12–13, ¶ 23.) Additionally, because current environmental conditions and regulations are not sufficient to support the Bay-Delta ecosystem or its fisheries (Exh. BK-1, pp. 7, 9-13, ¶¶ 13, 18–20, 22–23), the NGO Parties argue that even proportionally small changes in Delta outflow negatively impact populations of native zooplankton prey that native fish, waterfowl, and shorebirds rely upon and "will reduce flows that are needed to support outmigration of juvenile salmonids, that provide migration cues for white Sturgeon and green Sturgeon, and that provide critically needed flows to support the continued existence of Longfin Smelt and Delta Smelt." (2025-05-27 NGO Parties Closing Br., p. 32; Exh. BK-1, pp. 70–71, ¶ 164; Exh. BK-132, pp. 14–15, ¶¶ 37–38.) The NGO Parties also argue as a procedural matter that the Authority's application should be denied because the Authority did not consider or present evidence relevant to the hearing issues assuming a 75 percent Delta outflow requirement applied to Project diversions. (2025-05-27 NGO Parties Closing Br., p. 61.)

In the alternative, the NGO Parties propose a variety of conditions on diversion based on Delta outflow, including a term that would require an NDOI of 75 percent of the total

REVISED DRAFT

calculated unimpaired outflow and a cumulative average NDOI of at least 42,800 cfs to protect fish species. (2025-05-27 NGO Parties Closing Br., p. 67 [Terms NGO2A, NGO2D].) To support a 75 percent unimpaired flow Delta outflow requirement, the Protestants' experts rely in significant part on information about the biological significance of varying levels of Delta outflow addressed in the Board's 2010 Flow Criteria Report and 2017 Scientific Basis Report. (2025-05-27 NGO Parties Closing Br., p. 67; Exh. BK-96; Exh. AHO-271.) In addition, Dr. Rosenfield testified in detail about the importance of flows into and through the Delta for fish and wildlife beneficial uses. (See Exh. BK-1.) Dr. Rosenfield offered detailed and specific testimony about the impacts of reductions in Sacramento River inflow and Delta outflow from Sites Project diversions on particular species. (*Id.* at pp. 13, 33, 43, 51, 62, ¶¶ 25, 69, 94, 118, 142.)

4.3.2.5 Analysis

Term 30 integrates, by reference, regulatory requirements implementing the Bay-Delta Plan that impose numeric Sacramento River inflow and inflow-based Delta outflow requirements applicable to diversions under the Permit. Unlike the project-specific bypass flows, which are intended to protect fisheries and other instream beneficial uses from impacts of this Project's diversions on flows in the Sacramento River mainstem, the Delta outflow requirements are intended to address the collective impacts of Project diversions and other diversions from the Sacramento-San Joaquin watersheds on flow conditions in the Delta. The Bay-Delta Plan is the most appropriate mechanism by which this Board balances the cumulative demands on the watershed and impacts of diversions on fisheries and other instream beneficial uses at a system-wide scale.

The NGO Parties submitted evidence of the benefits to fisheries and the Bay-Delta ecosystem of a 75 percent Delta outflow requirement, but this evidence does not consider the significant competing state-wide demands for other beneficial uses of water. The 2010 Flow Criteria Report identifies flows to protect public trust resources in the Delta if fishery protection was the *sole purpose* for which its waters were put to beneficial use. (Exh. BK-96, pp. 15, 19.) Because we are tasked in this proceeding with determining those requirements that are reasonable and feasible to limit impacts on fish

REVISED DRAFT

and wildlife, we must weigh the competing demand for appropriation of water pursuant to Application 33534 to support domestic, industrial, municipal, agricultural, and other consumptive uses.

As described in Section 4.3.2.1 *supra*, year-round Delta outflows of 55 percent of unimpaired flow are associated with marked improvements in the protection of native fish and wildlife. (See Exh. AHO-271, p. 299; Exh. AHO-347, pp. 681–682, 2760–2761.) The 2026 Staff Report considers and incorporates the scientific studies Dr. Rosenfield referenced in his testimony and reaches the conclusion that Delta outflows of 55 percent of unimpaired flow, within an adaptive range of 45 to 65 percent, achieve substantial benefits for fisheries as compared to lower levels of outflow. (Compare Exh. BK-1, pp. 74–92, ¶¶ 178–297 with Exh. AHO-347, pp. 544, 560–598.) We conclude based on the information, analysis, and balancing of competing beneficial uses described in the 2017 Scientific Basis Report, the 2018 Framework, and the 2026 Staff Report, as supported by other evidence in the record, that the Delta outflow requirements imposed by the updated Bay-Delta Plan are appropriate and are expected to avoid unreasonable impacts to fish and the Bay-Delta ecosystem.[76]

The NGO Parties urge the State Water Board to act on the pending updates to the Bay-Delta Plan before acting on the Authority's water right application, to "allow the State Board to make an ultimate decision on the application based on the best information for

[76] The VA pathway in the 2026 Bay-Delta Plan allows HRL participants to meet flow, habitat, and other required commitments in lieu of meeting the inflow, cold water habitat and Delta outflow requirements for a period of eight years with the possibility of extension. (Exh. AHO-346, pp. 74–75.) The VA pathway includes differing amounts of flow commitments and non-flow habitat restoration actions targeted at improving spawning and rearing capacity for native fish and wildlife. (*Id.* at pp. 80–81.) Increases in spawning, rearing, and floodplain habitats are expected to contribute toward the narrative objectives in the Plan. (Exh. AHO-347, pp. 2550, 2970.) The Bay-Delta Plan allows newly issued water rights approved after December 31, 2025, to be included in the VA pathway. (Exh. AHO-346, p. 75.) The Board may consider approving inclusion of new rights as part of the annual or periodic review process, with any necessary supporting environmental and scientific documentation or other documentation determined to be needed by the Executive Director, after notice and opportunity for public comment. (*Ibid.*)

REVISED DRAFT

water availability, water supply benefits, unit costs, and impacts of the Project ….” (2025-05-27 NGO Parties Closing Br., p. 28.) Although we declined to defer consideration of the Authority’s water right application pending updates to the Bay-Delta Plan, the updates to the Bay-Delta Plan were adopted just prior to issuance of this Decision. [Reserved.] This approval of the Authority’s water right application precedes, however, implementation of the updated Plan and resolution of any associated litigation challenging the Board’s action. Because the Permit does not include a Delta outflow requirement for this interim period,[77] the Permit prohibits diversions unless and until the Bay-Delta Plan is implemented to prevent unreasonable impacts from Project diversions on fisheries and other public trust resources. For the purposes of this Decision, such implementation occurs at the time the Board approves corresponding regulatory actions applicable to this Permit.

Project Diversions and HRL Flow Commitments

Absent appropriate terms and conditions, Project diversions may reduce the additive flows to Sacramento River inflow and Delta outflow provided by HRL flow commitments under the 2026 Bay-Delta Plan and the underlying baseline to which those flows are intended to be added. To assess quantitatively how Project diversions might affect HRL flows and corresponding Delta outflows, the Authority performed a daily and a monthly analysis.[78]

[77] The March 2026 Draft Decision and Draft Permit included an interim 55 percent unimpaired Delta outflow requirement pending adoption and implementation of an updated Bay-Delta Plan. The Authority objected to the interim requirement. (2026-05-22 Sites Comments on Draft Decision-Draft Permit, p. 17.)

[78] The Authority relies on several simplifying assumptions to facilitate these analyses. First, the analyses utilize the flow schedule for the HRL flow commitments identified in the January 2023 Draft Scientific Basis Report Supplement. (Exh. Sites-070c, ¶ 34; Exh. AHO-048, p. 4.) As implemented, HRL flows will not necessarily follow this assumed flow schedule but will most likely vary from year to year and may include releases in months outside of the assumed schedule, particularly in below normal and dry years. Second, the analyses assume equal distribution of HRL flow commitments across each day of the month. In fact, HRL flows would likely involve pulse flows on sub-monthly time steps.

REVISED DRAFT

The Authority's daily analysis utilizes the Authority's Historical WAA Tool to graphically evaluate overlap between Project diversions and HRL flows. (Exh. AHO-048, pp. 5–26, figs. 1–22.) The analysis shows some days of overlap in most years, with more overlapping days in wet and above-normal years and fewer overlapping days in dry years. (*Id.* at p. 27, tbl. 1.) The Authority's monthly analysis utilizes CalSim model results to quantitatively estimate the effects of Project diversions on Delta outflow by adding the estimated decreases in Delta outflows with Project operations and estimated increases to Delta outflows with HRL flows.[79] (*Id.* at p. 31.) The monthly analysis indicates that absent additional conditions on diversion, Project diversions would in some months partially offset HRL flow contributions toward increased Delta outflow in all water year types commensurate with Project diversions: less in drier years and more in wetter years. (*Id*. at pp. 30, 33–34, tbls. 7, 12; see also Exh. AHO-347, p. 2866.) The NGO Parties submitted their own analysis of impacts on Delta outflows that generally yielded similar results. (Exh. CSPA-101c, p. 7, ¶ 21, tbl. CSPA-101B.)

To ensure that the Project does not divert HRL flows provided pursuant to the Sacramento River Mainstem HRL, the Authority proposes the following term, in relevant part:

> Permittee shall not divert the flow assets that have been made available by the Sacramento River Mainstem HRL parties (Sacramento River Mainstem HRL flow assets) when they are present. To implement this, available scheduling and/or accounting of Sacramento River Mainstem HRL flow assets shall be used to determine when Sacramento River Mainstem HRL flow assets are present. For all days that Sacramento River Mainstem HRL flow assets are present, the allowable diversions shall be based on flow conditions absent any Sacramento River Mainstem HRL flow assets….

[79] The Authority relied upon post-processed estimates of changes in Delta outflow with HRL flows in the January 2023 Draft Scientific Basis Report Supplement to evaluate interaction between Project diversions and HRL flow contributions. Since issuance of that report, updated estimates of changes in Delta outflow with HRL flows based on dynamic modeling results were included in the September 2023 Final Draft Scientific Basis Report Supplement and, most recently, in the 2026 Staff Report. (Exh. AHO-279, p. 4988; Exh. AHO-347, p. 5534.)

REVISED DRAFT

> (2025-05-27 Sites Closing Br., pp. 109–110, ¶ 36 [SPA Special Term 15].)

This term would protect Sacramento River Mainstem HRL flows from diversion but would not prevent the diversion of other flows in the Sacramento River, including base flows to which the HRL flows are additive. Thus, at times, Project diversions could reduce or eliminate any increase in flows that would otherwise result from HRL flow commitments.

To prevent the erosion of these flows, the NGO and Tribal parties propose a permit term that would prohibit Project diversions in any month in which HRL flow commitments are added to the Bay-Delta Watershed. (2025-08-28 NGO-Tribal Status Conference Statement, pp. 6–7.) These parties assert that limiting the months during which diversions can occur would prevent the Project from diverting HRL flows either directly, by diverting when HRL flows are present in the Sacramento River, or indirectly, by diverting base flows. (*Ibid.*) Such a term would, however, significantly restrict the opportunities for Project diversions outside of wet years. (See Exh. AHO-048, pp. 5–26.)

SWC also propose a permit term to protect HRL flows, which is substantially similar to the limitation on operation of the CVP and SWP in the 2026 Bay-Delta Plan. (Exh. AHO-346, p. 84.) The proposed term would prohibit the direct diversion of HRL flows and limit the diversion of underlying base flows:

> Sites Reservoir must bypass other HRL flow commitments to achieve the additive HRL Delta outflow commitments above base conditions, as well as other flows provided by non-HRL parties to meet Bay-Delta Plan regulatory requirements and other instream flow dedications.

(2025-08-28 SWC Status Conference Statement, p. 3; Exh. AHO-346, p. 84.)

We concur with the Protestants and SWC that limitations on diversion are necessary and appropriate to ensure that Project diversions will not (1) undermine the intended benefits of HRL flows, (2) directly divert flows made available by HRL flow commitments, or (3) divert flows not available for diversion by non-HRL parties senior to the Project's water right, to which HRL flows are intended to be additive.

REVISED DRAFT

The appropriation authorized by the Permit will be a junior right subject to curtailment when water is not available at its priority date. If HRL flows are provided when there is insufficient water to satisfy all demands in the watershed, the Permit's junior status will not allow diversions, thereby protecting the additive benefits of those HRL flows. Similarly, absent addition of this Permit to the VA pathway pursuant to a future revision of the Plan, the Permit is subject to the unimpaired flow requirements of the regulatory pathway in the 2026 Bay-Delta Plan. (Exh. AHO-346, pp. 56, 205.) If HRL flows are provided when flows are not meeting unimpaired flow requirements, the regulatory actions that implement the Bay-Delta Plan will curtail Project diversions, and again, protect the additive benefits of those HRL flows.[80] (Exh. AHO-346, pp. 58, 70.)

Term 31 prohibits diversions on any day when Sacramento River Mainstem HRL flow commitments are contributing to Delta outflow to prevent diversion of HRL flows and underlying base flows and avoid undermining the intended benefits of those flows. Term 31 also limits impacts of diversions under the Permit on net additive Delta inflows and outflows system-wide. Although diversions will necessarily decrease average Delta outflow on a seasonal and long-term basis, we find based on the evidentiary record that Terms 23, 30, and 31, and other diversion criteria in the Permit will prevent unreasonable impacts to fisheries in the Sacramento River and the Delta.

The Authority asserted both in its closing brief and comments on the March 2026 Draft Decision and Draft Permit that there would be limited interaction between Project operations and HRL flows because the Project would not divert when HRL flows are provided. (2025-05-27 Sites Closing Br., p. 44; 2026-05-22 Sites Comments on Draft Decision-Draft Permit, pp. 21–22.) Project diversions would occur when Sacramento River flows exceed regulatory requirements and bypass flows required by Permit conditions, while HRL flows would generally be provided when additional flow is expected to be most beneficial to the system. (Exh. Sites-070c, p. 22, ¶ 34; 2026-05-22

[80] For this reason, Term 31(b) of the March 2026 Draft Permit is not included in the Permit, as the effect of the term will be achieved through implementation of the 2026 Bay-Delta Plan.

REVISED DRAFT

Sites Comments on Draft Decision-Draft Permit, p. 22.) The Authority's initial analysis of impacts demonstrated some overlap of Project diversions with HRL flows. (Exh. AHO-048, pp. 27, 34, tbls. 1, 12.)

In its subsequent analyses of Project yield, however, which the Authority submitted with its comments on the March 2026 Draft Decision and Draft Permit, the Authority assumed that flow assets would be deployed *every day* from March through May in above-normal, below-normal, and dry years, and in March and April in critical years. (Exh. Sites-426, p. 12.) As a result, the Authority calculated the impact on Project yield of the March 2026 Draft Term 31 as if no diversions could occur under the Permit in those months. (Exh. Sites-425, pp. 5, 16; Exh. Sites-426, pp. 12–13.) During the July 24 Supplemental Hearing, Wesley Walker, expert witness for the Authority, testified that assumptions about the interaction between Sites diversions and HRL flows was based on a "better and newly … developed understanding of how [the flow] assets might be implemented" not only as pulse flows but to contribute to "higher base flow, or a higher … constant level of [D]elta outflow, or floodplain inundation … ." (Vol 33_Transcript of Proceedings, Vol XXXIII 07-24-2026_full, p. 53:15–22.) Chad Whittington added that even if it is unlikely that Sacramento River Mainstem HRL flow assets will be deployed every single day, HRL flow assets may be present in the Sacramento River on any given day from March through May if HRL flows from tributaries such as the Feather and American Rivers are considered. (*Id.* at p. 75:18–24.) Mr. Walker, however, still generally agreed that potential project diversions have minimal overlap with Sacramento River Mainstem HRL flow assets. (*Id.* at p. 52:4–18.)

We conclude that Term 31, as clarified to prohibit diversions when Sacramento River Mainstem HRL flow assets are present, will likely only prevent diversions in limited circumstances and as necessary to protect the benefits of the HRL Program. The expected contribution of the Sacramento River Mainstem HRL flows is in April and May of above-normal, below-normal, and dry years. (Exh. AHO-346, pp. 86–91.) In addition, Term 31 requires the Authority to coordinate its diversions with the State Water Board and Sacramento River Mainstem HRL participants. The intended purpose of coordination is to minimize the number of days on which diversions would otherwise be

REVISED DRAFT

authorized under the Permit but for the deployment of Sacramento River Mainstem HRL flows.

Term 31 also provides for two possible exemptions, in which diversions under the Permit would not be prohibited even when Sacramento Mainstem HRL flows are present in the system. First, if a future update to the Bay-Delta Plan includes a high-flow offramp at which Delta outflow requirements are suspended under the regulatory pathway, Term 31 would not apply when the high-flow offramp threshold is exceeded.[81] Second, Term 31 does not apply if the Authority submits, and the Board approves, a VA Proposal that effectively coordinates with other HRL Parties to protect the benefits of HRL flows. Such coordination must, however, adequately incorporate HRL flow commitments from all HRL Parties, not solely the Sacramento River Mainstem HRL Parties. For example, coordination through the Bay-Delta Plan's Governance Program may be sufficient to satisfy this requirement.

In acknowledgement that the precise provisions of any VA pathway in effect at the time the Project becomes operational is subject to change, consistent with Term 57, the Board reserves the authority to modify Term 31 following notice and opportunity for public comment to ensure consistency with the Bay-Delta Plan.

Voluntary Agreement Pathway

The Authority has indicated its intent to seek inclusion of any water right for the Sites Reservoir Project in the VA pathway, including Appendix B.1 and other relevant sections, pursuant to the appropriate process in the Bay-Delta Plan as it may be updated. (2025-09-04 Zoom-generated Tr., pp. 12–13.) If the Authority develops a proposal to include the Permit in the VA pathway, the Board may consider the proposal through a public process supported by necessary scientific and environmental documentation. Such a proposal may include as a component for the Board's

[81] The 2026 Bay-Delta Plan identifies a possible high flow offramp for the inflow and outflow requirements as one of the topics for prioritized discussion during a future periodic review. (Exh. AHO-346, pp. 136–137.)

REVISED DRAFT

consideration, the amount of project-specific bypass flows required under Term 23 that exceed Sacramento River inflow and Delta outflow regulatory requirements as proposed flow commitments.

4.4 Water Quality

In 1967, the Legislature merged the State Water Quality Control Board with the State Water Rights Board to ensure the coordinated consideration of water rights and water quality. (Wat. Code, § 174.) To this end, the Water Code mandates that when acting upon water right applications, the Board shall "consider water quality control plans … and may subject such appropriations to such terms and conditions as it finds are necessary to carry out such plans." (Wat. Code, § 1258.) The Board may also consider water quality as part of its broad authority to subject a new appropriation to such "terms and conditions as in its judgment will best develop, conserve, and utilize in the public interest the water sought to be appropriated." (Wat. Code, §§ 1253, 1257.) Finally, the Board must consider the water quality effects of approving a water right application on public trust resources and protect those resources where feasible and in the public interest. (*National Audubon Society*, *supra,* at pp. 426, 446–447.)

There are three main water quality impacts that diversion of water from the Sacramento River to storage in Sites Reservoir, and subsequent releases of that water for delivery, may cause or contribute to: (1) increases in temperature in the Sacramento River; (2) high levels of methylmercury in Sites Reservoir and in reservoir releases; and (3) harmful algal blooms (HABs) in Sites Reservoir and downstream of the reservoir. The Final EIR additionally analyzed how the Project could impact other water quality parameters, such as metal concentrations other than methylmercury, salinity within the reservoir and the Sacramento River, and pesticide concentrations. (Exh. AHO-073, pp. 47, 72–75, 94–100.) We find that the mitigation measures required by CEQA will appropriately address potential impacts from these other water quality constituents. (*Id.* at pp. 112–121.)

REVISED DRAFT

4.4.1 Temperature

Sites Project operations may impact temperature in the Sacramento River in two ways. First, diversions will decrease the volume of flow in the Sacramento River, which can increase river temperature downstream of the PODs. Second, releases of Project water into the Sacramento River that are warmer than the river will increase river temperatures.

Exposure of Chinook salmon populations to elevated water temperature is a major factor contributing to population decline in the Sacramento River watershed. (Exh. AHO-161, pp. 51–52; Exh. BK-1, pp. 14, 17, ¶¶ 26, 35.) Temperatures above 53.4°F can cause temperature-dependent mortality of salmon eggs and alevin while temperatures above 56°F can cause substantial mortality to salmon eggs and alevin. (State Water Board Order WR 90-05, p. 3; Exh. Sites-300, p. 169.) As temperature increases, migrating juveniles and adults may also be affected.

> [Although] Chinook Salmon are most sensitive to temperature during spawning and egg incubation … [w]ater temperature reaching or exceeding 70°F (21°C) blocks migration and can be lethal for [winter-run Chinook salmon] and [spring-run Chinook salmon] adults and juvenile Chinook Salmon in the Sacramento River Basin. Sub-lethal effects of increased water temperatures can also indirectly cause mortality, as fish are more susceptible to disease, contaminants, and predation. Survival studies of juvenile Chinook Salmon have found that survival declines steeply when temperatures exceed 68°F (20°C). A recent study in the Sacramento River found that mortality for migrating Chinook Salmon smolts was six times higher in temperatures exceeding 68°F (20°C). Lower stream flows and warming water temperatures reduce the spatial and temporal extent of rearing and migration habitat as well as functionally disconnect the migratory corridor, which truncates migration and reduces life history and genetic diversity of populations.

(Exh. Sites-300 [2024 ITP, Attachment 5], p. 136 [internal citations omitted]; see also Exh. AHO-078, pp. 19, 38; Exh. AHO-163, pp. 11–14 [noting temperature index values needed for survival, growth, or presence]; Exh. BK-47, pp. 354–355; Exh. PCFFA-1, pp. 11–12, ¶ 27; Exh. BK-1, p. 17, ¶ 35.)

REVISED DRAFT

Central Valley Basin Plan Objectives for Temperature

The Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region (Central Valley Basin Plan) includes a general basin-wide water quality objective for temperature to reasonably protect fisheries, and it includes specific objectives for particular water bodies. (Exh. SCS-40, p. 50.) If there is any conflict between the two objectives, "the more stringent objective applies." (*Ibid*.) The general objective states that intrastate waters designated with cold freshwater habitat or warm freshwater habitat beneficial uses shall not be "increased more than 5°F above natural receiving water temperature." (*Ibid*.) The waterbody specific objective for the Sacramento River states:

> The temperature shall not be elevated above 56°F in the reach from Keswick Dam to Hamilton City nor above 68°F in the reach from Hamilton City to the I Street Bridge during periods when temperature increases will be detrimental to the fishery.
>
> In determining compliance with the water quality objectives for temperature, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

(*Ibid.*)

The Central Valley Basin Plan also includes a Controllable Factors Policy, which states:

> Controllable water quality factors are not allowed to cause further degradation of water quality in instances where other factors have already resulted in water quality objectives being exceeded. Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State, that are subject to the authority of the State Water Board or Regional Water Board, and that may be reasonably controlled.

(Exh. SCS-40, p. 75.)

Pursuant to this policy, actions such as the diversion of water that may be reasonably controlled shall be prohibited even when water quality objectives are already exceeded.

The specific temperature objective for the Sacramento River at the Red Bluff POD extending downstream to Hamilton City is 56°F. The objective for the reach that

REVISED DRAFT

includes the Hamilton POD and Knights Landing, continuing downstream to the I Street Bridge, is 68°F. (*Id.* at p. 50.) These objectives apply "during periods when temperature increases will be detrimental to the fishery." (*Ibid.*) The Central Valley Basin Plan does not specify when temperature increases are detrimental to the fishery or how such a determination is to be made.[82]

Temperature Impacts from Diversions to Sites Reservoir

Diversions of water to Sites Reservoir will decrease the volume of flow in the Sacramento River, thereby tending to increase river temperature downstream of the PODs at Red Bluff and Hamilton City. These impacts are expected to be relatively small. (Exh. Sites-115c2, p. 5, ¶ 13; Exh. AHO-138, pp. 204, 226 [Appendix 6C].) The Authority's temperature modeling showed that temperature impacts from diversion to storage in Sites Reservoir and re-operation of other upstream reservoirs through exchanges would be less than 1°F modeled as a monthly average. (Exh. Sites-115c2, p. 5, ¶ 13; Exh. AHO-138, pp. 204, 226 [Appendix 6C].) The Protestants estimate that Sites Project diversions may, "on some days" between October 1 and June 14, increase temperatures in the Sacramento River by up to 1.8°F, but concede that these impacts would not occur at times when the increase would contribute to daily mean temperature exceeding 68°F at Wilkins Slough. (Exh. SCS-8a, pp. 10–11, ¶ 13; Exh. SCS-11, pp. 10–11, ¶ 13.) Diversions are unlikely to occur at times when the diversions may cause Sacramento River temperatures to exceed the temperature objectives because the authorized season of diversion does not include the month of September, and the Wilkins Slough bypass requirements will limit diversions to relatively high flow conditions. (Exh. SCS-11, pp. 10–11, ¶ 13; 2025-05-27 Sites Closing Br., p. 61.) We conclude that diversions of water from the Sacramento River to storage in Sites

[82] The only precedential order by the State Water Board addressing this issue is Order WR 92-02, which states that temperatures above 56°F upstream of Hamilton City would be detrimental to the fishery "when any of the four runs of Chinook salmon are spawning or incubating eggs in the upper Sacramento River." (State Water Board Order WR 92-02, p. 4.)

REVISED DRAFT

Reservoir is not expected to cause or contribute to exceedances of the water quality objectives.

Temperature Impacts from Releases from Sites Reservoir

Water released from Sites Reservoir for conveyance in the Sacramento River will first be temporarily impounded in Funks Reservoir and then travel 40 miles through the Tehama Colusa Canal and more than 10 miles through the Colusa Basin Drain, mixing with waters therein, before being released into the Sacramento River at Knights Landing. (Exh. AHO-139, pp. 6–11; Exh. SCS-11, p. 2, ¶ 2; Exh. Sites-300, p. 144.) From May through September, the Authority intends to target a release minimum temperature from Sites Reservoir of 65°F for rice growing. (Exh. Sites-115c2, pp. 4–5, ¶ 10; see Exh. AHO-073, pp. 37–39; 2025-05-27 Sites Closing Br., p. 60.) As the released water travels through the Tehama Colusa Canal, Glenn County Irrigation District Main Canal, and the Colusa Basin Drain (collectively, the Canal System) and the Colusa Basin Drain, the water may warm depending on the temperature of the receiving waters, ambient air temperatures, travel time, and other factors.

The Authority asserts that releases from Sites Reservoir into the Sacramento River will "result in a slight reduction in water temperature" and that modeled monthly average Sacramento River water temperature with and without Sites Project operations are "nearly the same." (2025-05-27 Sites Closing Br., p. 61; see Exh. AHO-73, pp. 70–71, tbl. 6-12d.) The Authority's model results show that releases from Sites Reservoir would, at maximum, increase the long-term monthly average temperature in the Sacramento River by 0.1°F. (2025-05-27 Sites Closing Br., p. 55; Exh. Sites-407, p. 6, ¶ 16, tbl. 2; Exh. AHO-73, pp. 70–71, tbl. 6-12d.) The Final EIR and the Authority's expert on water quality impacts, Anne Huber, concluded that Sites operations would not cause any exceedance of the general temperature objective prohibiting a 5°F change in the receiving water temperature. The Final EIR and Ms. Huber did not address whether any exceedance of the Central Valley Basin Plan's specific temperature objectives for the Sacramento River might occur.

REVISED DRAFT

We find the Authority's analysis of potential temperature impacts of the Project insufficient for two reasons: (1) the Final EIR and the Authority's witnesses applied the general rather than the specific temperature objective, even though increases in temperature above the specific objective would likely be detrimental to the fishery; and (2) the results from the Authority's temperature model are unreliable for reasons discussed below.

The Final EIR and Ms. Huber analyzed the likelihood that Project operations would cause exceedances of the general water quality objective for temperature in the Central Valley Basin Plan but did not address the specific objectives applicable to the Sacramento River. (Exh. Sites-115c2, p. 4, ¶ 9; Exh. AHO-073, p. 69.) Ms. Huber concluded that operations would not increase natural receiving water temperature by 5°F or more based on the modeled monthly averages but expressed no opinion as to whether operations could increase Sacramento River water temperature above 56°F in the reach from Keswick Dam to Hamilton City or 68°F in the reach from Hamilton City to the I Street Bridge. The Authority argues in its closing brief that Ms. Huber rightly applied the general temperature objective rather than the specific objectives for the Sacramento River, because the Authority's "fish effects analysis" demonstrated that the potential temperature impacts of Sites Reservoir releases on salmonids were minimal. (2025-05-27 Sites Closing Br., p. 62.)

The Authority's evidence does not overcome evidence in the record that a seven-day average daily maximum temperature above 68°F is likely to impact juvenile salmonid rearing and growth, and lead to overall decreased survival in the Sacramento River when fish are present. (Exh. Sites-300 [2024 ITP, Attachment 5], p. 136; Exh. BK-1, pp. 21–22, ¶ 41; Exh. BK-129, p. 34.) CDFW found that for salmonids, 60°F is the upper bound of the stressful range of temperatures for juvenile rearing, 66°F is the thermal avoidance threshold for adult migration, and 70°F is the thermal blockage threshold, which is potentially lethal to adult salmon. (Exh. Sites-300 [2024 ITP, Attachment 5], pp. 137–139.) The Final EIR indicates that Chinook salmon are generally present in the relevant reaches of the Sacramento River downstream of Knights Landing year-round, so there appears to be no time period in which, as a general matter, exceedance of

REVISED DRAFT

68°F as a seven-day average daily maximum temperature in the Lower Sacramento River reach would not be detrimental to salmonids. (Exh. AHO-161, pp. 30-31, 41, 47–48.) Therefore, we conclude that 68°F is the appropriate water quality objective against which impacts of releases from Sites Reservoir should be assessed, absent additional information about specific conditions.

In addition, we find that some of the assumptions and input to the Authority's temperature modeling weaken the conclusions in the Final EIR and the opinions of Ms. Huber. CDFW similarly found that the Authority's temperature models left "extremely high uncertainty associated with model outputs and their ability to inform analyses of the Project's impacts on downstream water temperature," and that "the water temperatures of releases into the river [from Sites Project operations] are currently poorly understood." (Exh. Sites-300, pp. 144, 146.)

First, the Applicant's modeling assumes that water released from the reservoir will warm in the Canal System at the same rate as if flowing in the Sacramento River. (2025-05-27 NGO Closing Br., p. 46; Exh. AHO-073, p. 38; CIC Tr. Comb., p. 5021:2-6.) Several factors, including the total volume of flow and channel morphology, will cause water to warm significantly faster in the Canal System than in the Sacramento River. (CIC Tr. Comb., pp. 5201:2-13, 5022:22-5023:13; Exh. Sites-300, pp. 144–145.) This assumption will cause the model to underestimate the temperature of water originating from Sites Reservoir when it is released into the Sacramento River.

Second, the Authority's model assumes that releases would travel for three to eight days down the 40-mile length of the Tehama Colusa Canal and 10.5-mile length of the Colusa Basin Drain to Knights Landing, where the releases would then enter the Sacramento River. (Exh. AHO-139, p. 12; Exh. SCS-11, p. 2, ¶ 2.) To determine the rate at which releases would warm during transit, the Authority's "estimations used assumptions for warming as a function of canal length." (Exh. AHO-073, p. 38.) But during irrigation season, operation of the Knights Landing Outfall Gates, which control flow from the Colusa Basin Drain to the Sacramento River, create "an upstream ponding effect" for several miles. (Exh. AHO-072, pp. 11, 53; Exh. King-81, pp. 37, 81, 91.) This

REVISED DRAFT

ponding extends upstream of the proposed location of the Dunnigan Pipeline, where releases from Sites Reservoir enter the Colusa Basin Drain. (Exh. AHO-072, pp. 11, 53; Exh. King-81, pp. 37, 81, 91.) The Authority's model does not account for the additional time that water may remain in the Colusa Basin Drain due to ponding and operation of the outfall gates nor does the Authority address how the Knights Landing Outfall Gates may be operated to accommodate Sites Project releases. (Exh. AHO-073, p. 38; Exh. AHO-139, p. 13; CIC Tr. Comb., p. 2319:17-22.)

Third, the Authority utilized a water temperature blending model that produces only monthly average estimates and does not model daily maximum temperature or any other sub-monthly time step. (Exh. Sites-300, p.144; 2025-05-27 Sites Closing Br., pp. 60–61; Exh. AHO-138, p. 2.) As we have discussed elsewhere in this Decision, monthly averages tend to mask shorter-term but potentially significant impacts. (See Discussion, *infra*, Section 4.2.1.2; Exh. Sites-407, p. 6, tbl. 2; Exh. Sites-300, pp. 144–145.) Although the Central Valley Basin Plan allows for appropriate averaging periods to determine compliance with the temperature water quality objectives, a monthly time-step is generally not adequate to protect fisheries from temperature effects. (Exh. SCS-40, p. 50; Exh. Sites-300, pp. 144–145.) CDFW also identified the masking effect of monthly averages as a weakness in the Authority's temperature model, stating that "impacts to protected species could result from daily or sub-daily changes in water temperature." (Exh. Sites-300, p. 144.) United States Environmental Protection Agency recommends use of a seven-day average of daily maximum values to identify whether temperature effects will be detrimental to a fishery (Exh. AHO-163, p. 11); CDFW requires a three-day average in the 2024 ITP to identify potentially significant temperature impacts. (Exh. Sites-298, p. 51.) We conclude, therefore, that a monthly average is inappropriate to assess potential impacts on fisheries and attainment of water quality objectives.

Given the uncertainty of impacts on temperature from Sites Reservoir releases based on the record before us, the Permit allows the Authority two options to ensure that its operations do not cause or contribute to an exceedance of the Sacramento River temperature objective or cause an unreasonable impact on fish.

REVISED DRAFT

First, Sites may opt to develop a Sacramento River Temperature Strategy (Temperature Strategy) based on an improved temperature model and more extensive network of monitoring data to more accurately quantify and forecast temperature changes in the Sacramento River caused by releases of water from Sites Reservoir. The purpose of the Temperature Strategy is to allow flexibility in Project operations that do not contribute to exceedance of the temperature objective based on actual conditions and forecasted impacts, including the status, life-stage, and presence of fish at the time of releases to the Sacramento River. The Authority would be required to consult with CDFW regarding whether any exceedance of a seven-day average daily maximum of 68°F in the reach of the Sacramento River from Hamilton City to the I Street Bridge will not detrimentally affect fisheries. In recognition that temperature in the Sacramento River is largely controlled by releases from Shasta Reservoir, the Authority would be required to consider the potential role of exchanges between Sites Reservoir and Shasta Reservoir to increase cold-water pool available for temperature management. We also encourage the Authority to consider other actions in coordination with right holders and operators of infrastructure in the Sacramento River watershed to offset temperature increases that might otherwise occur, including, for example, a coordinated operations plan for the Colusa Basin Drain and the Knights Landing Outfall Gates.

As an alternative to developing a Strategy, the Authority may comply with numeric temperature criteria that condition releases from Sites Reservoir intended for conveyance through the Sacramento River. Pursuant to Permit Term 42, such releases are prohibited unless the water to be conveyed in the Sacramento River is (a) cooler than the Sacramento River, or (b) less than a seven-day daily maximum of 68°F, at the point of release from the Colusa Basin Drain into the Sacramento River as measured on a seven-day average daily maximum basis. These criteria will prevent exceedance of the temperature objective for the Sacramento River and further degradation if the objective is already exceeded. We conclude that this condition is appropriate in the absence of reliable information in the evidentiary record about: (1) the operation of the Knights Landing Outfall Gates at times when the Sites Project Authority is likely to release water into the Sacramento River; (2) circumstances in which exceedance of

REVISED DRAFT

68°F in the Sacramento River may or may not be detrimental to fisheries; and (3) the expected temperature of water released from Sites Reservoir entering the Sacramento River at Knights Landing. As described above, if new information becomes available demonstrating that these release criteria may be modified or relaxed without causing or contributing to temperatures that would be detrimental to the fisheries, the Authority may develop a Temperature Strategy that incorporates modified criteria for approval by the Executive Director.

4.4.2 Mercury

The federal Clean Water Act identifies inorganic mercury as a priority pollutant. (40 C.F.R. § 423, Appendix A.) Bioaccumulation of organic methylmercury is the main route by which mercury endangers humans and wildlife. (Exh. AHO-073, pp. 16–17.) In California, the most likely pathway for humans to be affected is through consumption of fish that have elevated mercury due to accumulation of methylmercury. (*Id.* at p. 16.) Heightened levels of methylmercury in publicly accessible waterways interfere with the public's interest in the state's fisheries and undermine the value of the fisheries, which the state holds in trust for the public. Mercury in fish tissue has the greatest impact on those who consume large quantities of affected fish, which may occur through consumption for subsistence or as a matter of cultural practice. (Exh. FOR-2, p. 12, ¶ 20; Exh. AHO-073, p. 43.)

Mercury in reservoirs can be present in the underlying soils, in water that enters the reservoir through surface or subsurface flow, and from atmospheric deposition. (Exh. AHO-073, p. 43.) Multiple environmental variables influence mercury methylation, including concentration of inorganic mercury, presence of organic carbon, and water chemistry conditions. (*Ibid.*) In newly constructed reservoirs, the initial inundation of organic matter, like soils and vegetation, can cause relatively short-term increases in mercury methylation. Upon the initial fill of a new reservoir, methylmercury concentrations may be double or triple the expected long-term average for up to 10 years. (*Id.* at p. 17.)

REVISED DRAFT

The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWBE) and the Central Valley Basin Plan set methylmercury water quality objectives. The ISWBE methylmercury sport fishing objective applies to the Colusa Basin Drain, Stone Corral Creek, and Funks Creek, and will likely apply to Sites Reservoir based on beneficial uses of water designated for the reservoir under the Porter-Cologne Water Quality Control Act and the Clean Water Act. (Exh. AHO-342, p. 4.) The objective is measured in fish tissue as 0.2 mg/kg wet weight of trophic level 4 fish.[83] (*Id*. at p. 5.) The ISWBE also contains a Tribal subsistence methylmercury objective of 0.04 mg/kg wet weight of a mixture of 70 percent trophic level 3 fish[84] and 30 percent trophic level 4 fish. (*Ibid.)* The ISWBE methylmercury provisions are implemented through water quality discharge permits that incorporate load allocations set by the total maximum daily load for the receiving waterbodies. (Exh. AHO-342, p. 8.)

The Central Valley Basin Plan contains numeric water quality objectives for methylmercury in waterbodies within the legal Delta, including the Sacramento River and Yolo Bypass. (Exh. SCS-40, p. 44.) These objectives are 0.08 mg/kg wet weight of trophic level 3 fish and 0.24 mg/kg wet weight of trophic level 4 fish. (*Ibid*.) The Central Valley Basin Plan implements the Delta methylmercury water quality objectives through its Delta Mercury Control Program. (Exh. SCS-40, pp. 148–170.) The program included Phase 1, which required entities discharging methylmercury within the Delta to conduct source control studies and develop and evaluate methylmercury management programs. (*Id.* at p. 149.) The Central Valley Regional Board will use the information gathered in Phase 1 to identify modifications to the Delta Methylmercury Control Program such as site-specific water quality objectives, load and waste load allocations,

[83] Under the Central Valley Basin Plan, representative trophic level 4 fish in the Delta are generally fish species that consume other fish, including largemouth bass, striped bass, channel and white catfish, crappie, and Sacramento pikeminnow. (Exh. SCS-40, p. 206.)

[84] Trophic level 3 fish include American shad, black bullhead, bluegill, carp, Chinook salmon, redear sunfish, Sacramento blackfish, Sacramento sucker, and white sturgeon. (Exh. SCS-40, p. 207.)

REVISED DRAFT

requirements and schedules for implementing methylmercury management practices, and the creation of a mercury offset program. (*Ibid.*)

Although neither the ISWBE nor the Central Valley Basin Plan explicitly require the State Water Board to allocate responsibility for meeting methylmercury water quality objectives through water right proceedings, Section 4.3.1.8 of the Central Valley Basin Plan recommends that the State Water Board consider methylmercury impacts when acting on new water right applications. (Exh. SCS-40, p. 112.) That section instructs the Board to consider the following in any future proceedings related to permitting: (1) methylmercury controls for new water management activities that have the potential to increase methylmercury levels; (2) evaluation and implementation of feasible management practices to reduce or prevent the project from increasing methylmercury; and (3) funding or conducting studies to develop and evaluate management practices to reduce methylmercury production. (*Ibid*.)

Once filled, Sites Reservoir is expected to contain mercury concentrations of 2.8 ng/L, which is higher than other Northern California reservoirs such as Oroville Reservoir or Shasta Reservoir. (Exh. Sites-116c, p. 10, ¶ 28; Exh. AHO-073, p. 19; Exh. AHO-144, p. 44.) Inorganic mercury will be introduced into the reservoir from the Sacramento River and atmospheric deposition. (Exh. AHO-073, p. 44.) Organic carbon in the inundated area and anoxic conditions that are likely to occur in the water column will further stimulate mercury methylation. (Exh. Sites-116c, p. 7, ¶ 19; Exh. AHO-073, p. 16.) The Final EIR predicts concentrations of 0.16 ng/L of aqueous methylmercury during the first 10 years after the reservoir initially fills, decreasing to 0.08 ng/L in the long-term. (Exh. AHO-073, pp. 60, 85, tbls. 6-11, 6-18.) By comparison, Shasta Reservoir has a mean methylmercury concentration of 0.021 ng/L, and Oroville Reservoir has a mean methylmercury concentration of 0.011 ng/L. (Exh. AHO-144, p. 45.) The Authority's expert testified that, absent mitigation, he expects "mercury concentrations in largemouth bass in a future Sites reservoir to exceed State objectives," with concentrations of approximately 0.47 to 0.85 mg/kg, well-exceeding the 0.20 mg/kg wet weight sport fish objectives. (CIC Tr. Comb., pp. 1567:20–1568:22; Exh. Sites-116c, pp.11–12, ¶¶ 30–31.)

REVISED DRAFT

The Delta, Sacramento River, and Colusa Basin Drain are listed under the Clean Water Act as impaired by mercury. (Exh. Sites-116c, pp. 14–15, 21–22, ¶¶ 38, 52; Exh. AHO-073, p. 21.) The Final EIR estimates that releases of water from Sites Reservoir, absent effective mitigation, could increase aqueous methylmercury concentrations in the immediate receiving waterbodies, Colusa Basin Drain, Stone Corral Creek and Funks Creek, and the Sacramento River. (Exh. AHO-073, pp. 65, 68.) The expected heightened concentrations in the first decade after the initial fill could result in levels of methylmercury within fish tissue in these waterways that exceed the sport fishing water quality objective. (*Id.* at p. 65; Exh. Sites-116c, pp. 14–15, ¶ 38.) These impacts will lessen over time as methylmercury concentrations within the reservoir diminish.

Sites Reservoir releases are also expected to increase aqueous methylmercury concentrations in the Sacramento River. The Authority estimated that Sites Project operations could increase aqueous concentrations at Freeport by up to 10 percent during dry and critically dry years in the first decade after the initial fill. (Exh. Sites-116c, p. 20, ¶ 51, fig. 3.) The Authority's expert, Cameron Irvine, concluded that, absent mitigation, such an increase "could result in statistically significant increases in the body burdens of methylmercury in fish which would increase risks of adverse effects to humans and wildlife that consume Delta fish during these water year types." (*Id*. at pp. 21–22, ¶ 52.) In the long term, and without effective mitigation, the Project is expected to increase aqueous methylmercury during dry and critical years at Freeport by about 1 percent. (*Id*. at p. 19, ¶ 51, fig. 1.)

Mitigation Measure WQ-1.1 is intended to minimize methylmercury concentrations and associated impacts in Sites Reservoir, although the Final EIR identifies the impacts from methylmercury as significant and unavoidable even with mitigation. (Exh. AHO-073, p. 65.) Pursuant to Mitigation Measure WQ-1.1, the Authority must not stock the reservoir with fish for the first 10 years after the initial fill and implement a fish sampling program to identify if any fish are present (e.g., due to unauthorized fish stocking), post fish consumption and warning signs if necessary, manage reservoir water chemistry to control methylmercury production such as by adding an oxidant to the water, and, after the initial 10 years, manage reservoir fisheries to reduce methylmercury in fish tissues.

REVISED DRAFT

(*Id.* at pp. 65–68.) The Final EIR acknowledges that although current research suggests that there may be other means to reduce methylmercury concentrations, "the degree of effectiveness of any single methylmercury minimization action or combination of actions … is not known at this time." (*Id.* at p. 65.)

Given the developing body of information and evolving state of technology to address mitigation of methylmercury in waterbodies, more information is necessary to identify specific requirements for managing methylmercury within Sites Reservoir and releases from the reservoir to protect human health and meet applicable water quality objectives.[85] The Permit generally requires the Authority to avoid or reduce to the extent feasible elevated mercury concentrations that may occur from the initial fill and operation of Sites Reservoir. To develop additional information about possible control mechanisms, the Permit requires the Authority to conduct a feasibility assessment of actions and technologies that may be utilized for this purpose before constructing the reservoir, including hypolimnetic oxygenation. The results of this assessment must be considered and incorporated into a Methylmercury Mitigation Plan to be submitted by the Authority. The Plan shall identify methylmercury controls and management measures and require water quality monitoring and data gathering to identify the effectiveness of the measures employed.

The Methylmercury Mitigation Plan shall be developed in consultation with the Central Valley Regional Water Quality Control Board, Office of Environmental Health Hazard Assessment, and the State Water Board, and must be consistent with applicable methylmercury water quality objectives in the ISWBE and the Central Valley Basin Plan. To achieve consistency with water quality objectives, the Plan must include an implementation target for methylmercury discharges from the reservoir to be developed in consultation with the Central Valley Regional Board. If the Authority demonstrates to

[85] In their reply brief, the NGO Parties renew their objection to Sites witness Alicia Forsythe's opinion testimony regarding the effectiveness of Mitigation Measure WQ-1.1 because she was not identified as a water quality expert. (2025-06-26 NGO Reply Br., p. 13.) Because we do not rely on Ms. Forsythe's testimony in reaching our conclusions, we do not address this objection further.

REVISED DRAFT

the satisfaction of the State Water Board's Executive Director that meeting the identified methylmercury implementation target through mitigation measures and operational changes is not within the Authority's reasonable control, then the Authority may take alternative compliance actions as identified in the Plan.

4.4.3 Harmful Algal Blooms

Harmful Algal Blooms (HABs) are a growing and persistent problem throughout California. (Exh. AHO-073, p. 28.) HABs occur when cyanobacteria grow out of control within a waterbody. (*Id.* at p. 24.) Blooms of cyanobacteria physically choke waterways and may release chemical cyanotoxins, impeding beneficial uses and presenting health risks to people and wildlife. (*Ibid*; Exh. BK-1, pp. 71–72, ¶ 167.) Generally, HABs occur in warmer, calm water where there are non-limiting concentrations of dissolved nutrients. (Exh. AHO-073, p. 25.) Some cyanobacteria produce dormant cells that may sink to the lake bottom or stream bed sediment where they can remain viable for extended periods of time. (*Id.* at p. 26.) If environmental conditions are conducive, these cells may germinate, serving as inoculum to seed the cyanobacterial population. (*Ibid.*) The Final EIR includes a detailed summary of current information and knowledge about HABs formation and the fate of resulting cyanotoxins in waterbodies. (Exh. AHO-073, pp. 24–28.)

There is currently no regulatory standard for HABs, although the State Water Board and regional water quality control boards are in the process of developing water quality objectives for cyanotoxins. (Exh. Sites-337c, p. 2, ¶ 4; CIC Tr. Comb., p. 1617:13–18.) Absent water quality objectives, the Reservoir Management Plan (RMP) outlined in the Final EIR bases adaptive management triggers on California's Water Quality Monitoring Council's HABs warning levels for recreationalist use of water. (Exh. AHO-108, p. 36.) Each trigger level is characterized by increasing concentrations of cyanobacteria, cyanotoxins, and other site-specific indicators, like algal mats or discoloration. (*Ibid.*) At the "Caution" level, the Water Quality Monitoring Council recommends keeping children away from algae in the water and preventing pets and other animals from going into or drinking the water. (*Id*. at p. 37.) At the "Warning" level, toxins from algae in the water can harm people and kill animals. (*Ibid.*) At the "Danger" level, boating on the water is

REVISED DRAFT

not recommended. (*Ibid*.) Save California Salmon's expert witness, Jacob Kann, testified that the "Caution" level provides a useful protective threshold to prevent the transportation of new sources of cyanobacteria to downstream waterways. (Exh. SCS-8a, p. 28, ¶ 30.) Even absent a water quality objective or other regulatory standard, the potential impact on human health and beneficial uses of water requires that the Board consider the effect of proposed Project operations on HABs formation as a matter within the public interest and for the protection of public trust resources.

Sites Project operations may contribute to the occurrence of HABs through (1) releases from the reservoir, by supporting conditions for HABs within Sites Reservoir and releasing cyanotoxins and cyanobacteria seedstock of toxin-producing strains that may migrate downstream and develop into HABs; and (2) diversions from the Sacramento River, by reducing flushing flows that might otherwise impede HABs formation and growth downstream.

Cyanobacteria in Sites Reservoir and Reservoir Releases

There is no factual dispute that conditions within Sites Reservoir are likely to result in HABs formation. The Final EIR and the Authority's own expert concluded that nutrient concentrations and water quality conditions in Sites Reservoir during summer and fall, when there are warmer temperatures and reduced reservoir storage volume, will be conducive to the formation and maintenance of HABs. (Exh. AHO-073, pp. 62, 80, 101; Exh. Sites-115c2, pp. 27–28, ¶¶ 71, 74; Exh. Sites-337c, p. 27, ¶ 77; Exh. SCS-8, pp. 15–16, ¶ 14.) If HABs occur near the I/O Tower, reservoir releases through the I/O Tower may transport cyanotoxins and cyanobacteria seedstock from the reservoir to downstream waterways.

To manage HABs, the Authority intends to take the actions identified in its RMP, as described in Appendix 2D of the Final EIR. (Exh. AHO-108, pp. 32, 36.) Requirements in the RMP will include:

- Visual monthly monitoring for HABs from at least April 1 through October. If toxic cyanobacteria is suspected, the presence or absence will be confirmed

REVISED DRAFT

with microscopy. Monitoring will increase to weekly if toxic cyanobacteria is confirmed to be present in suspected blooms and further increase in frequency if cell density and cyanotoxin concentrations at any monitored location reaches the Caution action trigger level.[86]

- If a bloom is suspected or if sampling confirms that the Caution action trigger level has been reached or exceeded, the Authority will post Caution advisory signs in visible locations around the reservoir.
- If there are HABs near the I/O Tower, water sampling will occur at multiple depths and locations in the vicinity of the tower and downstream, as necessary, to assess cyanobacteria and cyanotoxin concentrations. If cyanobacteria and cyanotoxins are confirmed near the I/O Tower at a level at or exceeding the Caution action trigger level, reservoir releases will be made from deeper in the reservoir to avoid high concentrations of cyanobacteria and cyanotoxins, with consideration of other water quality objectives (e.g., water temperature for rice).

Appendix 2D states that if HABs become "a consistent problem" near the I/O Tower, the RMP will include "additional measures [that] may be implemented to manage HABs and/or reduce the potential for release of high concentrations of cyanobacteria and cyanotoxins from Sites Reservoir." (Exh. AHO-108, p. 41.) Appendix 2D does not determine specific mitigation measures to be imposed but acknowledges that HABs prevention and intervention technology is evolving and states that measures to be considered will include hypolimnetic oxygenation, flocculants, algaecides, and use of a physical barrier. (*Id.* at p. 42.) In managing the depths of reservoir releases to avoid release of poor-quality water, the Authority will be required to consider and balance

[86] The Caution trigger is reached if any of the following criteria are met: (1) total microcystins equal or exceed 0.8 micrograms per liter (µg/L); (2) cylindrospermopsin equals or exceeds 1 µg/L; (3) Anatoxin-a is detected; (4) the cell density of potential toxin producers equals or exceeds 4,000 cells/mL; or (5) there is discoloration, scrum, algal mats, soupy or paint-like appearances, or suspected illness. (Exh. AHO-108, p. 38.)

REVISED DRAFT

various water quality factors while meeting the target release temperature of 65°F water for rice-growing. Appendix 2D acknowledges that under certain conditions, such as when reservoir levels are low, "it could be difficult to completely avoid releasing lower-quality water … (e.g., higher metal concentrations from the bottom of the reservoir or HABs from near the surface of the reservoir)." (*Id.* at pp. 49–50.)

The monitoring and management measures in the RMP as described in Appendix 2D of the Final EIR are likely to reduce impacts from cyanobacteria in Sites Reservoir and in water released from Sites Reservoir. The NGO Parties object that although the terms of the RMP may reduce these impacts, the RMP is non-binding. (2025-05-27 NGO Parties Closing Br., p. 49.) Additionally, the RMP does not include standards for the balancing of competing water quality interests in determining the withdrawal elevation of reservoir releases or set clear triggers for responsive actions. (*Ibid.*) To address these concerns, the Permit requires incorporation of certain sections of the RMP into the Water Quality Portfolio, which is binding on the Authority upon the State Water Board's approval. Additionally, and as further described below, if the Authority elects to develop a comprehensive HABs Prevention and Mitigation Strategy (HABs Strategy), that submittal must include clear triggers and thresholds for mitigation actions. Absent an approved HABs Strategy, the Permit prohibits the Authority from releasing water from the reservoir when cyanobacteria or cyanotoxin levels in the released water are at the Caution level.

In response to the risk that releases from Sites Reservoir may transport cyanobacteria inocula downstream, the Authority asserts that any inocula spread by the release will be diluted during transit and, because the Delta "is already replete with cyanobacteria," these diluted releases are unlikely to be biologically meaningful. (Exh. Sites-337, p. 27, ¶ 77.) The Final EIR similarly concluded that the dilution of cyanobacteria concentrations, coupled with the RMP's management actions, would result in less than significant effects on downstream water quality. (Exh. AHO-073, p. 109.) The Protestants, including the NGO Parties, Tribal Parties, and the Delta Parties, challenge the Authority's assertion that releases of cyanobacteria will have no effect on the likelihood of HABs occurrences within the Delta. These Protestants argue that

REVISED DRAFT

cyanotoxins and cyanobacteria released from Sites Reservoir are likely to persist in Delta waters, increase cyanobacteria inocula in the Delta, and exacerbate drivers of HABs formation. (2025-05-27 NGO Parties Closing Br., p. 49; 2025-05-27 SDWA Closing Br., pp. 27–28; Exh. SCS-8a, pp. 28–29, ¶¶ 30–31; Exh. BK-1, p. 74, ¶ 174.)

We conclude that the effects of dilution and the pre-existing presence of cyanobacteria seedstock within the Delta will not necessarily neutralize impacts of reservoir releases. The conditions for the spread of cyanobacteria and cyanotoxins into the Delta through reservoir releases and factors that stimulate HABs formation are currently poorly understood, and the testimony of the Authority's expert witness on this point lacks robust supporting scientific information.[87] (Exh. Sites-337c, p. 27, ¶ 77.) Further investigation of mitigation technology, additional monitoring, adaptive management, and conditions on reservoir releases, in addition to the provisions of the RMP, are necessary and appropriate to limit the likelihood that Project operations will contribute to HABs or the spread of toxic cyanobacteria.

First, the Permit requires the Authority to investigate, prior to construction of the reservoir, emerging technologies and other management measures that may reduce the occurrences of HABs in the reservoir and the presence of cyanobacteria in reservoir releases. The Authority must prepare, in consultation with the State Water Board and the Central Valley Regional Water Quality Control Board, a feasibility assessment of actions that may be taken prior to construction and technologies that may be installed during and after construction to control cyanobacteria and cyanotoxin production in Sites Reservoir. The Authority is directed to consider pilot programs in evaluating these actions and technologies, which may be conducted in coordination with other existing efforts to develop reservoir management measures to prevent or reduce HABs.

[87] Ms. Huber cited a technical report prepared for the Central Valley Regional Water Quality Control Board and the State Water Resources Control Board in 2015 (Exh. BK-6), for the proposition that conditions within the Sacramento River may not be conducive for growth of cyanobacteria. This report does not address the risks posed by spread of inocula within Delta channels.

REVISED DRAFT

Second, in addition to monitoring within the reservoir as the RMP requires, the Permit requires monitoring for cyanobacteria in receiving waters of releases from Sites Reservoir. This monitoring shall occur in coordination with any existing or future-developed HABs monitoring networks within the same watersheds. Utilizing existing monitoring in coordination with the monitoring required by the Permit, the Authority shall assess:

- Whether HABs increased or decreased in duration, frequency, or intensity at any of the monitoring locations;
- Whether detections of cyanobacteria or cyanotoxins occurred, and the timing of these occurrences in relation to diversions and releases under the Permit and HABs drivers such as flow, temperature, or nutrient conditions in the water body where cyanobacteria or cyanotoxins occurred; and
- The varieties of cyanobacteria or cyanotoxins that were detected and whether varieties detected downstream of the reservoir were of the same variety as those occurring in the reservoir.

This information will be used to determine whether Sites Reservoir operations are a contributing factor to downstream HABs formation and, if so, appropriate conditions on reservoir releases and diversions to reduce impacts on downstream water bodies.

Third, the Permit provides the Authority an option to adaptively manage HABs-related water quality impacts. We recognize that prevention and mitigation of toxic cyanobacteria within the reservoir and reservoir releases while minimizing impacts on Project yield will require operational flexibility, given the multiple water quality and other factors that the Authority must balance in making releases. To achieve this flexibility, the Permit allows the Authority to develop a HABs Strategy. The HABs Strategy must identify actions and technologies to be applied that will prevent or reduce HABs within the reservoir and reservoir releases; operational changes and other actions to be taken if monitoring indicates the presence or threat of HABs in the reservoir or a threat of release of toxic cyanobacteria from the reservoir; monitoring locations and thresholds

REVISED DRAFT

that will trigger these operational changes or other actions; and pilot studies or other ongoing feasibility assessments of technology, methods, and actions to prevent or mitigate the production or release of toxic cyanobacteria.[88] Within the framework of the Strategy, the Authority will have discretion to adaptively manage reservoir releases to achieve water quality objectives and meet water supply demands.

Finally, if the Authority elects not to develop a HABs Strategy, or prior to developing such a Strategy, the Permit prohibits water from being released from Sites Reservoir when toxic cyanobacteria or cyanotoxin in the released water are above the Caution level. Although not a regulatory standard, we find the Caution level to be an appropriate standard on which to condition releases from Sites Reservoir to avoid potential downstream impacts. The Authority similarly relies on the Caution level in its proposed RMP to trigger releases from deeper strata of the reservoir to avoid water with higher concentrations of cyanobacteria that may be harmful to human health or contribute to the spread of cyanobacteria inocula. (Exh. AHO-108, p. 38; Exh. SCS-8a, p. 28 ¶ 30.) If, in the future, the State Water Board or a regional water quality control board adopts a numeric water quality objective for cyanobacteria or cyanotoxins to protect beneficial uses, that numeric objective may be substituted for the Caution level in this term of the Permit.

Impacts from Diversions to Sites Reservoir

The Protestants allege that, in addition to potential impacts caused by releases of water from Sites Reservoir, diversions to Sites Reservoir will contribute to downstream conditions supporting the growth of HABs. (2025-05-27 NGO Parties Closing Br., pp. 49–50.) Reduced flows into the Delta generally correspond with increased residence time in Delta channels, increased temperature, and lower turbidity, all of which are known to contribute to HABs formation. (See Exh. BK-6, p. 59.) Dr. Rosenfield testified

[88] The HABs Strategy is not required to utilize the “Caution” level threshold, but does require consultation with the Board, the Central Valley Water Quality Control Board, CDFW, and California Native American Tribes in the development of an appropriate framework to protect water quality. (Permit Terms 34, 36.)

REVISED DRAFT

that diversion of water to Sites Reservoir and the corresponding reduction in winter and spring Sacramento River flows will contribute to the formation of HABs in the Delta. (Exh. BK-1, pp. 71–73, ¶¶ 166, 170–172.) Dr. Rosenfield expressed the opinion that even reductions in high flows may contribute to HABs formation because these flows mix the water column, which impedes bloom formation and growth, and flush stagnant channels where HABs are otherwise likely to form. (Exh. BK-1, pp. 72–73, ¶¶ 168, 171–172; Exh. Sites-337c, p. 25, ¶ 72.)

The Authority presented opposing testimony on rebuttal. The Authority's water quality expert, Ms. Huber, opined that diversions to Sites Reservoir would not contribute to HABs formation in the Delta because: (1) diversions to Sites Reservoir will largely occur in winter (from November to March), whereas HABs tend to occur in the late spring, summer, and early fall; (2) Sacramento River flows do not materially contribute to flushing flows in stagnant Delta channels; (3) cyanobacteria seeds persist in the Delta in spite of flushing flows; and (4) decreases in Sacramento River flows from diversions to Sites Reservoir would be a small percentage of total river flow. (Exh. Sites 337c, p. 22, ¶ 66; Exh. AHO-073, pp. 28, 110.)

Although we do not necessarily agree with all of Ms. Huber's points on this issue, she rightly notes that the authorized season of diversion under the Permit excludes summer and fall months when HABs typically occur. Furthermore, Permit conditions to protect flows for fish and compliance with requirements in the Bay-Delta Plan, such as bypass requirements and Delta outflow requirements, will have the ancillary effect of generally prohibiting diversions when flows and other conditions in the Sacramento River and the Delta are conducive to the growth of HABs. We conclude based on currently available information and current conditions, that Project diversions are unlikely to reduce flows that would otherwise disrupt a HABs occurrence or contribute to conditions that would increase the likelihood of HABs formation. We acknowledge, however, that future changes in climate or other changed conditions may lead to earlier formation of blooms, resulting in more overlap with the HABs growth and the season of diversion under the Permit. (Exh. BK-50, p. 18.)

REVISED DRAFT

To address changing circumstances and continuing uncertainty about contributing factors to HABs formation, the Permit requires that the Authority participate in Delta monitoring for cyanobacteria and cyanotoxins. This monitoring data will provide additional information about any association between Project diversions, Delta conditions, and downstream HABs. The Authority must identify as part of its monitoring whether detections of cyanobacteria or cyanotoxins occurred and the timing of these occurrences in relation to diversions under the Permit and HABs drivers such as flow, temperature, and nutrient conditions in the water body where cyanobacteria or cyanotoxins occurred. (Permit Term 35.) If an association is demonstrated between diversions and downstream HABs, the Board may revise the terms and conditions for diversion under the Permit pursuant to its general reservation of authority to protect the public interest and public trust resources.

4.4.4 Water Quality Portfolio

The Water Quality Portfolio required by the Permit consolidates certain sections of the RMP described in Appendix 2D of the Final EIR, and any additional monitoring and management actions relative to temperature, methylmercury, and HABs that are either required by the Permit or submitted pursuant to an optional plan by the Authority. Within the Water Quality Portfolio, the Authority shall describe how it intends to monitor and manage these water quality constituents, and whether the Authority has elected to develop and implement a HABs or Temperature Strategy. To ensure consistency with existing regulatory and monitoring programs, incorporate relevant expertise, and provide a meaningful opportunity for California Native American Tribes to comment on impacts and management of Project operations, the Authority must consult with the Central Valley Water Quality Control Board, CDFW, and any California Native American Tribe requesting consultation when developing the Portfolio. (See Exh. SCS-40; discussion, *infra*, at Section 4.3.1.) The State Water Board must approve the initial Portfolio, after notice and opportunity for public comment, prior to the diversion of water to storage in Sites Reservoir. (Permit Term 34.)

The Authority must submit updates to the Water Quality Portfolio at least every five years following initial approval. Updates to the Water Quality Portfolio shall identify

REVISED DRAFT

actions implemented during the prior five years, the impact of those actions on water quality in waterbodies affected by Project operations, and any proposed changes or additions to actions in the Portfolio. Approval of the Water Quality Portfolio and subsequent updates shall expire six years after their respective approval dates.

In developing the Water Quality Portfolio, we urge the Authority and its Storage Partners to consider the potential benefits of Project operations that minimize the conveyance of water through the Sacramento River. The three primary potential water quality impacts from operation of the Sites Reservoir Project — temperature, methylmercury, and HABs — arise primarily because water will be released from the reservoir for conveyance in the river. (See discussion, *supra*, at Sections 4.4.1–4.4.3.) By focusing Sites Project operations on local, in-basin deliveries through the Canal System and the Colusa Basin Drain, the Authority might avoid these impacts and corresponding conditions on releases from the reservoir that are necessary to protect the quality of Sacramento River water. (*Id*.) The in-basin deliveries of Sites Project water might be made as part of an exchange for higher quality water stored in Shasta or other north-of-Delta reservoirs for export through the Delta. In so doing, the Sites Project may be able to achieve similar water supply benefits while protecting Sacramento River water quality.

4.5 Tribal Interests

The parties representing Tribes and Tribal interests (Tribal Parties) assert that construction and operation of the Sites Reservoir Project will harm Tribal interests and cultural resources. As the Tribal Parties described, the impacts of the Project will include not only the inundation area of the reservoir and associated infrastructure but will extend through the estuarine habitat of the Delta, and the migratory path of salmonids from the Pacific Ocean to natal spawning grounds. (See 2025-05-27 Tribal Parties Closing Br., p. 5; Exh. FOR-4, p. 11, ¶ 35; Exh. FOR-6, p. 2, ¶ 3; Exh. FOR-304, pp. 4, 9–10, ¶¶ 9, 23–26.) These parties further argue that the Authority's Tribal consultation was inadequate, and therefore insufficient to identify and mitigate harms to Tribes and Tribal interests that are threatened by Project construction and operation. In particular, the Tribal Parties object that, as a credible source of information, Traditional Ecological

REVISED DRAFT

Knowledge (TEK) should have been incorporated into the Authority's analysis of impacts. (2025-05-27 Tribal Parties Closing Br., pp. 7, 22–23; Exh. FOR-4, p. 11, ¶ 35.)

This section of the Decision addresses the Tribal Parties' claims regarding the consultation process, consideration of TEK, portions of Hearing Issue 3.d.i., regarding impacts of the proposed appropriation on Tribal lands, Tribal interests, and Tribal cultural resources, and Hearing Issue 3.d.ii., regarding racial equity and environmental justice. Many of the significant interests the Tribal Parties raised are considered elsewhere in this Decision, according to the subject matter, and are addressed with terms and conditions as follows:

Injury to Senior, Federal Reserved Water Rights

See Section 4.2.2.

- The Authority's permit is subject to prior rights, including federal reserved rights. Diversions are prohibited when available supplies are insufficient to satisfy the demands of senior rights, whether or not those senior rights are adjudicated. (Permit Term 26.)
- The Authority is required to develop a groundwater monitoring program to identify whether its diversions are causing or threatening to cause injury to groundwater right holders, including groundwater rights held by Cachil DeHe. (Permit Term 52.)

Water Quality Impacts

See Section 4.4.

- The Authority must develop a Water Quality Portfolio in consultation with Tribes to address HABs, methylmercury, and temperature. The Water Quality Portfolio shall contain plans for monitoring and mitigation of water quality impacts in receiving waters such as the Sacramento River and the Delta. (Permit Term 34.)

REVISED DRAFT

- The Water Quality Portfolio and associated consultation requires the Authority to take the following actions:
    - Conduct a feasibility assessment of actions and technologies, prior to construction, that may be incorporated into the Project to reduce HABs and prevent or mitigate elevated levels of methylmercury within the reservoir and its releases. (Permit Term 32.)
    - Conduct a pre-construction survey to identify areas that may have higher concentrations of mercury within the inundation area, and identify actions the Authority will take to address these areas of higher concentration. (Permit Term 33.)
    - Monitor for cyanobacteria and cyanotoxins and conduct associated analysis to determine whether operations are impacting the timing and frequency of HABs in receiving waters. (Permit Term 35.)
    - Absent a HABs Strategy, cease releases from the reservoir if specified limits on levels of cyanobacteria or cyanotoxins are exceeded. (Permit Term 37.)
    - Monitor for temperature and take associated actions to ensure that water released from the reservoir to the Sacramento River avoids temperature-related detrimental effects on fisheries. (Permit Terms 40, 41, 42.)
    - Identify limits on levels of methylmercury in reservoir releases, and actions the Authority must take to reduce methylation of mercury within the reservoir to the maximum feasible extent. (Permit Terms 38, 39.)

Impacts on Tribal Beneficial Uses

See Sections 4.3.2. and 4.5.2.

REVISED DRAFT

- The State Water Board reserves the authority to amend the Permit when relevant water quality control plans are updated to include water quality objectives and associated implementation plans to protect Tribal Beneficial Uses. (Permit Term 57.)

- The State Water Board reserves the authority to amend the Permit upon receipt of new information demonstrating a reasonable likelihood that operations authorized by this Permit have caused or may cause unreasonable harm to fish, wildlife, or other instream beneficial uses, including tribal beneficial uses, regardless of whether those uses are designated under a relevant water quality control plan. (Permit Term 57.)

Impacts on Fish and Wildlife

See Section 4.3.1.

- The Authority is required to develop operating criteria that will prevent the release of HABs into Stone Corral and Funks creeks and ensure sufficient water is allowed to pass into the creeks to keep in good condition any fish that may be planted or exist below the dams. (Permit Terms 19, 20.)

- Diversions from the Sacramento River are prohibited unless the pumping plants install fish screens in accordance with CDFW screening criteria. (Permit Term 21.)

- The Authority must operate in compliance with its Incidental Take Permit and the Mitigation Monitoring and Reporting Program in the Final EIR. (Permit Terms 22, 25.)

In addition to the requirements of the ITP, the following conditions apply to diversions under the Permit:

- Additional bypass flows are required at the Red Bluff POD from January 1 to February 28, specifically for fall-run Chinook salmon;

REVISED DRAFT

- From March through May, diversions are prohibited during the first seven days of pulse flows meeting certain criteria; and
- From December through February, heightened Wilkins Slough bypass criteria apply. (Permit Term 23.)

4.5.1 Tribal Consultation

Assembly Bill No. 52 (2013–2014 Reg. Sess.) (AB 52) establishes government-to-government consultation between agencies and California Native American Tribes as part of the environmental review process mandated by CEQA. Pursuant to the consultation process, a lead agency must engage in meaningful consultation with Tribes that are "traditionally and culturally affiliated with the geographic area of the proposed project." (Pub. Resources Code, § 21080.3.1, subd. (b).) "'[C]onsultation' means the meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties' cultural values and, where feasible, seeking agreement." (Gov. Code, § 65352.4.)[89] Consultation ends when parties agree to mitigate or avoid significant effects on Tribal cultural resources or, after acting in good faith and through reasonable effort, a party concludes that a mutual agreement cannot be reached. (Pub. Resources Code, § 21080.3.2 subd. (b).)

Here, the Authority was the CEQA lead agency. The Authority, therefore, had the obligation to meaningfully consult with Tribes affiliated with the geographic area that would be impacted by the Sites Reservoir Project. The Tribal Parties argue that consultation was inadequate because the Authority failed to include relevant Tribes affiliated with the geographic region beyond the physical footprint of the Project that could be impacted by the Project, and failed to achieve the quality of consultation appropriate to the Tribes' status as sovereign entities. (2025-05-27 Tribal Parties Closing Br., pp. 11–12, 25–30; Exh. FOR-304, pp. 5–7, ¶¶ 11, 14–16, 19; 2025-06-26 Tribal Parties Reply Br., pp. 8–10.)

[89] Public Resources Code section 21080.3.1 (b) states that "'consultation' shall have the same meaning as provided in section 65352.4 of the Government Code."

REVISED DRAFT

According to the Authority's testimony and associated documentation, the Authority consulted with Cachil DeHe and Yocha Dehe Wintun Nation (Yocha Dehe) pursuant to the AB 52 process and engaged in other communications about the proposed project with other Tribes outside the AB 52 consultation process. (Exh. Sites-071c, pp. 20, 22, ¶¶ 72–73, 79; see also Exh. Sites-095.) This consultation led to the Authority's coordination with Cachil DeHe and Yocha Dehe as Tribal monitors during geotechnical investigations, and the transfer to the Authority of Yocha Dehe's Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation. (2025-05-27 Sites Closing Br., p. 55; Exh. AHO-090, p. 11; Exh. Sites-071c, p. 21, ¶ 75.) During consultation, Tribal Parties informed the Authority that Tribal cultural resources would be impacted by Project construction and operations, but due to concerns about confidentiality, did not provide information regarding the specific nature, location of, or potential impacts on, these resources. (2025-05-27 Sites Closing Br., p. 56; 2025-06-26 Tribal Parties Reply Br., pp. 8–9.)

In addition to CEQA-required consultation, the Authority attempted to establish a long-term strategy to incorporate further coordination with Tribes by convening a Tribal Government Working Group with five Tribes geographically and culturally affiliated with the Project footprint. (2025-05-27 Sites Closing Br., p. 58; Exh. Sites-071c, p. 26, ¶ 89.) The goal was to "create a forum for efficient, effective, and meaningful tribal nation input into the development of the Project." (Exh. Sites-071c, p. 26, ¶ 89; see also Exh. Sites-097, p. 1.) For various reasons, the effort lacked Tribal support. (2025-06-26 Tribal Parties Reply Br., pp. 10–11.)

As stated above, AB 52 imposes on the CEQA lead agency the requirement to consult with Tribes traditionally and culturally affiliated with a project's geographic area. The purpose of the consultation is to assist the lead agency in identifying and assessing the significance of a project's impacts on Tribal cultural resources and evaluating any mitigation measures or alternatives that may reduce those impacts. (Pub. Resources Code, § 21080.3.2, subd. (a).) As a responsible agency, the State Water Board must conclusively presume that a certified EIR is adequate, with certain limited exceptions not applicable here. (Cal. Code Regs., tit. 14, § 15231 [CEQA guidelines].) A

REVISED DRAFT

determination as to the legal adequacy of the Authority's consultation as required by CEQA under AB 52 is, therefore, not within the scope of this proceeding. We may consider, however, whether the quality of consultation may have impaired consideration of impacts on Tribal cultural resources in the Final EIR, which in turn affects the Board's consideration of whether and under what conditions to approve the proposed appropriation.

The Tribal Parties ask the Board to prohibit construction and operation of the Project until the Authority develops, and the Board approves, a new plan for Tribal consultation and involvement for the full geographic range of potential impacts, and the Authority completes a survey of Tribal cultural resources that will be impacted by construction or inundation within the immediate Project footprint. (2025-05-27 Tribal Parties Closing Br., p. 38.) This Decision does not, however, require a second round of Tribal consultation. Such a term would impose a duplicative consultation requirement in addition to the explicit procedures crafted and adopted by the Legislature.

The Permit does, however, require the Authority to consult with Tribes in developing a Water Quality Portfolio to address the potential impacts of Project operations related to temperature, methylmercury, and HABs in receiving waters, including the Sacramento River and the Delta. As the Tribal Parties described, Tribal members may contact potentially affected waterways and consume fish from these waterways when engaged in cultural practices or traditional subsistence fishing, and Tribal members have a cultural connection to the health of the ecosystems supported by these waterways. (Exh. FOR-2s, pp. 7–9, 11–12, ¶¶ 18, 20, 24; Exh. FOR-6, pp. 4–5, ¶ 9.) An opportunity for consultation would support the exchange of additional relevant information and knowledge in the Authority's development of effective mitigation strategies and the Board's evaluation of those strategies. Consultation is also appropriate in recognition of the Tribes' sovereign status and significant interest in the quality of the receiving waters that may be affected. Because cultural resources that may be affected by changes in water quality extend throughout the Sacramento River watershed and the Delta, for this consultation process, the Authority must develop a notification list of Tribes with current or ancestral lands in any county that overlies either the Delta or the Sacramento River

REVISED DRAFT

watershed. The notification list must also include all Tribes that have requested, in writing, notification of the opportunity to consult and all Tribes that participated as parties in this proceeding.

4.5.2 Tribal Cultural Resources and Racial Equity

Through the hearing process, Tribes, Tribal organizations, and Tribal community members offered evidence of the cultural significance of the resources contained within the Project impact area, including the Sacramento River watershed upstream and downstream of the PODs, and through the Delta. (See Exh. FOR-2s; Exh. FOR-4; Exh. FOR-6; Exh. FOR-8.) In their closing brief, the Tribal Parties identify impacts on salmon, water quality, Tribal Beneficial Uses, and federal reserved water rights, as matters of significant concern. (2025-05-27 Tribal Parties Closing Br., pp. 12–13, 16–18, 20–21.) As identified above, these matters are addressed in the relevant sections of this Decision. The Tribal Parties also assert impacts on ancestral lands and culturally significant plants and seek consideration of TEK in the identification and mitigation of impacts, which we address here. (*Id.* at, pp. 7, 22–23.) Finally, the Tribal Parties assert that approval of the proposed appropriation would hinder racial equity and environmental justice goals. (*Id.* at, pp. 33–34.)

California Tribes historically occupied the lands that would be inundated by Sites Reservoir, and multiple Tribes consider the larger area that would be impacted by the Project to be ancestral homelands. (Exh. King-14, pp. 22, 30–31; Exh. FOR-4, p. 3, ¶ 4; Exh. FOR-6, pp. 2–3, ¶¶ 4–5.) Cachil DeHe's ancestral homelands are within the Sacramento Basin. (Exh. SCS-3, at pp. 10–11, ¶¶ 30–32; Exh. FOR-8, p. 2, ¶ 2; Exh. King-2, p. 3.) Shingle Springs Band of Miwok Indians (Shingle Springs Band) had major village sites along the Sacramento River and greater Delta waterways. (Exh. FOR-330, pp. 5–6, ¶ 8.) The Shingle Springs Band now owns lands that once held the ancestral village site of Wallok in Verona, at the confluence of the Feather and Sacramento rivers. (*Id.* at p. 6, ¶ 9.) The traditional homeland of the Winnemem Wintu Tribe covers the upper Sacramento River watershed and the McCloud River watershed. (Exh. FOR-4, pp. 2–3, ¶¶ 3–4.) As described in testimony, the cultural practices of these and other Tribes "cannot occur without healthy river ecosystems, which include the land, plants,

REVISED DRAFT

animals, and fish that the tribe has incorporated into its culture and traditions since time immemorial." (2025-05-27 Tribal Parties Closing Br., p. 19; see also Exh. FOR-6, p. 7, ¶ 16; Exh. FOR-330, pp. 6–7, ¶¶ 10–12.)

As identified in the Final EIR, Project construction and inundation of the lands within the reservoir will permanently impact certain Tribal cultural resources. (Exh. AHO-090, pp. 4, 6, 21 [impacts under Alternative 3].) Some of these impacts cannot be mitigated. To the extent that specific impacts from construction activities can be avoided or mitigated, those measures are required by the Mitigation Monitoring and Reporting Program in the Final EIR, and are incorporated as a condition of the Permit. (Exh. Sites-075; see Permit Attachment 3.) For construction activities, the Authority must include Tribal monitors to observe all ground-disturbing activities and identify, avoid, and protect Tribal cultural resources and any found human remains in accordance with resource-specific treatment plans and burial treatment plans developed in consultation with Tribes. (Exh. AHO-090, pp. 21–23.)

In addition to the culturally significant ecological resources addressed elsewhere in this Decision such as fish and terrestrial species (see discussion, *supra*, at Section 4.3), riparian plants such as tule reeds are essential to many Tribal cultural practices, including boat building, basket weaving, and making of regalia, as well as other cultural purposes. (2025-05-27 Tribal Parties Closing Br., p. 23; Exh. FOR-6, pp. 4–5, ¶ 9; Exh. FOR-330, p. 13, ¶ 25; Exh. AHO-090, p. 7.) The Tribal Parties assert that changes in Sacramento River flows caused by Project diversions will harm existing riparian plant life and prevent reestablishment of culturally significant riparian plants, such as tule, that were historically prevalent. (2025-05-27 Tribal Parties Closing Br., p. 23.; Exh. FOR-6, pp. 4–5, ¶ 9; Exh. FOR-330, pp. 13–14, ¶¶ 25–26; Exh. FOR-2s, pp. 11–12, ¶ 24.) There is no specific evidence in the record as to the relationship between particular flow levels and growth or abundance of tule in the Sacramento River or the Delta. However, the Permit's site-specific bypass flow requirements, pulse flow protections, and Delta outflow bypass requirements, will reduce impacts on flows from Project diversions, and as an ancillary matter, help to protect flows — including pulse flow events — to support riparian plant life. In addition, the Board reserves the authority to amend the Permit and

REVISED DRAFT

its terms to better protect instream beneficial uses, including Tribal uses, and public trust resources, and to incorporate water quality objectives or implementation plans to protect designated Tribal beneficial uses as relevant water quality control plans are updated.

The Tribal Parties object that the Authority failed to consider TEK in identifying and assessing impacts of the Project in the Final EIR. (2025-05-27 Tribal Parties Closing Br., pp. 22–23; see Exh. FOR-330.) TEK is an "evolving knowledge acquired by Indigenous Peoples through direct contact and experience with the environment over millennia." (Exh. FOR-330, p. 1.) This Board recognizes TEK as a valuable, scientific knowledge system. Testimony based on TEK may be admitted as relevant evidence and relied upon in adjudicative proceedings before the State Water Board and the AHO. The State Water Board has also passed resolutions recognizing TEK to be consistent with best available scientific information and directing agency staff to incorporate TEK where feasible. (State Water Board Resolution No. 2021-0050 [Exh. SCS-86], p. 8; No. 2023-0028, p. 4; No. 2023-0044, p. 2; No. 2024-0036, p. 9.[90]) Similarly, we support the application of TEK in the development of plans required by this Decision and to inform the Board's consideration of approval of these plans, and any future amendments to the Permit pursuant to the Board's reservations of authority.

Finally, Hearing Issue 3.d.ii. asks whether the proposed appropriation would advance racial equity and environmental justice as part of the Board's consideration of whether approval of the proposed appropriation would be in the public interest. The Board has resolved to make racial equity, diversity, inclusion, and environmental justice central to its work so the outcomes influenced by Board decisions are not determined by a person's race and the benefits are shared equitably by all people. (State Water Board Resolution No. 2021-0050 [Exh. SCS-86], p. 7.) This consideration is an essential part

[90] Copies of State Water Board resolutions, decisions, and orders cited in this Decision are saved as a courtesy in a subfolder in the administrative record for this proceeding. Some parties have also introduced copies of resolutions as exhibits, and for ease of reference, we have cited those exhibit numbers as well.

REVISED DRAFT

of the Board's duty to ensure that approval of an application to appropriate water is in the public interest. (*Id.* at pp. 2–4; Wat. Code, §§ 1253, 1255.) The Protestants argue that approval of the Authority's water right application would violate the commitments the Board has made to racial equity and environmental justice in its decision-making. (2025-05-27 Tribal Parties Closing Br., p. 34; 2025-05-27 NGO Parties Closing Br., pp. 16, 62.)

The Final EIR identifies impacts on Tribal cultural resources through disturbance and inundation of lands within the footprint of the reservoir that cannot be fully mitigated. A water infrastructure project of this magnitude will, however, cause some unavoidable impacts from land disturbance. There is no evidence here that a modified location for the proposed reservoir or associated infrastructure, or other changes in reservoir construction or mitigation measures could avoid these potential impacts. In support of approval of the proposed appropriation, there is significant evidence that changes in climate and resulting impacts on the water supplies of the state support the development of additional supplies through diversion and storage of high flows, if appropriately conditioned. (See, e.g., Exh. Sites-067, pp. 4, 6, 8–9; Exh. Sites-088; Exh. Sites-090, pp. 153–155.)

The Tribal Parties also assert that additional consultation is necessary to achieve racial equity and they call on the State Water Board to impose additional measures to require meaningful consultation, even if AB 52 consultation requirements were legally satisfied. (2025-05-27 Tribal Parties Closing Br., pp. 31–32.) As discussed above, we conclude that it would be inappropriate for this Board to require a second consultation process that parallels the requirements of AB 52, in conflict with the Legislature's judgment as to the specific procedures and obligations for public agency consultation with Tribes. This Decision does, however, require the Authority to meaningfully consult with Tribes about potential water quality impacts from Project operations to incorporate TEK and other input that may be offered through the consultation process in the development of strategies to mitigate or avoid these impacts.

REVISED DRAFT

With the conditions in the Permit that: (1) acknowledge the senior priority of federally reserved rights, (2) limit diversions to reduce impacts on fish and other aquatic life, (3) require Tribal consultation to develop effective strategies to maintain water quality, (4) require compliance with mitigation measures in the Mitigation Monitoring and Reporting Program, (5) reserve authority to amend Permit terms as necessary to reduce impacts to fish and wildlife, and other instream beneficial uses, including Tribal uses, and (6) reserve authority to amend Permit terms as necessary to protect Tribal beneficial uses as they may be designated and implemented in relevant water quality control plans, we conclude that this approval is consistent with the goals identified in the Board's Racial Equity Resolution and Action Plan, and is in the public interest.

4.6 Public Interest

Water Code section 1253 requires the Board to impose those terms and conditions necessary to "develop, conserve, and utilize" water in the public interest. Commensurately, Water Code section 1255 requires the Board to reject an application to appropriate water when, "in its judgment the proposed appropriation would not best conserve the public interest." (Wat. Code, §§ 1253, 1255.) The Board's obligation to consider the public interest is foundational to the Board's water rights authority. "[In] the field of acquisition of rights to the use of water . . . the State Water Rights Board is the guardian of the public interest." (Decision 935, p. 63.)

Certain factors relevant to the Board's consideration of the public interest are laid out explicitly in statute. Water Code section 1256 requires the Board to consider any general or coordinated plan prepared and published by DWR for the management of water resources in the state, such as the California Water Plan. (Wat. Code, § 1256.) Water Code section 1257 mandates the Board consider the relative benefit derived from all beneficial uses of water, such as those uses specified in relevant water quality control plans. (*Id.* at § 1257.) Additionally, Water Code section 1259 requires the Board to "consider the state goal of providing a decent home and suitable living environment for every Californian." (*Id*. at § 1259.)

REVISED DRAFT

In addition to these specific statutory mandates, in determining the public interest, the Board will look to "any guidelines which the Legislature has provided." (State Water Board Decision 1379 (1971), p. 26; see Decision 935, p. 59 ["Applicable criteria for our guidance are found in various statutory provisions"].) Previous Board Decisions have determined that the "most comprehensive expression of policy for the guidance of this board in determining the public interest is the [California] Environmental Quality Act of 1970 [CEQA]." (Decision 1379, pp. 26–27.) The Board has additionally found useful the general statements of policy in the Water Code, such as sections 100 through 113, and the specific statutory provisions relating to a particular project or project area. (Decision 935, p. 64 [discussing Water Code provisions relating to the CVP]; Decision 1379, pp. 27–28 [discussing Water Code provisions related to the Delta].) These directives from the Legislature include the policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. (Wat. Code, § 106.3.)

Those elements of the public interest raised by the parties and not discussed elsewhere are addressed in this section of the Decision.

4.6.1 Greenhouse Gas Emissions

The Protestants assert that Project operations will result in significant greenhouse gas (GHG) emissions that are underestimated in the Final EIR. (2025-05-27 NGO Parties Closing Br., p. 54.)

Construction and operation of a new reservoir can introduce a wide range of GHG emissions into the atmosphere. The sources of these emissions include construction-related activities, maintenance-related activities, energy required for water conveyance, decay of organic matter on the land prior to flooding, and biological productivity, or trophic status, of the reservoir after filling. (Exh. AHO-088, pp. 5–9; Exh. FOR-251, pp. 20, 31.)

The Final EIR applies a formula developed by the Intergovernmental Panel on Climate Change (IPCC) to estimate the reservoir's potential GHG emissions. The IPCC is a recognized global authority on methodologies to estimate GHG inventories. (CIC Tr.

REVISED DRAFT

Comb., pp. 3306:2–7, 4218:5–4220:14.) Experts from both the Authority and the Protestants rely in their testimony on the IPCC's 2019 refinements to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Specifically, these experts rely on portions of the guidelines that address estimates of GHG emissions from wetlands and land converted to flooded land. (Exh. FOR-317, pp. 2–3, ¶ 3; Exh. AHO-223, pp. 1–3.)

The IPCC's formula for estimating GHG emissions from flooded land includes an alpha variable, representing the trophic level of the reservoir, that increases as the biological productivity of the water body increases.[91] In general, low alpha (α) values correlate with bodies of water with low nutrients and organic matter, while high alpha (α) values correlate to warm bodies of water with high levels of nutrient loads, plant growth, and algae. (2025-05-27 NGO Parties Closing Br., pp. 55–56; Exh. FOR-317, pp. 3–5; Exh. FOR-251, p. 15.) The higher the alpha value, the higher the level of GHG emissions. The default alpha value utilized in the formula is 1.0. (CIC Tr. Comb., pp. 3338:18–20, 3470:8–12; Exh. FOR-317, pp. 3–4.) The Final EIR utilizes the default alpha value to estimate GHG emissions from Sites Reservoir. (Exh. AHO-223, p. 9.) As the Authority explained, this default value was used because "it is not possible to know the anticipated trophic level of Sites Reservoir." (2025-06-26 Sites Reply Br., p. 44; CIC Tr. Comb., pp. 3473:6–3474:15.)

Mitigation Measure GHG-1.1 requires the Authority to develop a GHG reduction plan to reduce GHG emissions resulting from construction and operation of the Project to net zero. (Exh. Sites-075, pp. 57–65; Exh. AHO-088, pp. 17–26.) The GHG reduction plan is to be developed and implemented in five-year increments. The plan must identify specific GHG reduction measures that will be implemented and include quantification of the expected reductions that will be achieved by each measure. Consistent with the

[91] This formula is: $F_{CH4res} = \alpha\ (EF_{CH4\ age\ \leq 20,j} * A_{tot\ j.})$. In this formula, ($F_{CH4res}$) is the annual reservoir surface emissions of methane as methane per year, (α) is the alpha variable emissions factor adjustment for trophic state in reservoir, ($EF_{CH4\ age\ \leq 20,j}$) is the emissions factor for methane emitted from a reservoir's surface for a reservoir less than or equal to 20 years old, (A_{tot}) is the total area of the reservoir, and (j) is a climate zone. (Exh. AHO-223, p. 9; Exh. FOR-251, p. 25.)

REVISED DRAFT

plan, the Authority may reanalyze GHG emissions from Project operations to update the required reduction commitment to achieve net zero. This analysis must use the latest available engineering data for the Project and be performed using approved emissions models and methods available at the time of that analysis. (Exh. AHO-088, p. 19.) The Authority asserts that Mitigation Measure GHG-1.1 addresses any risk that the Final EIR underestimated GHG emissions because, "regardless of the ultimate GHG emissions levels, the Authority must meet the net-zero emissions standard." (2025-05-27 Sites Closing Br., p. 79; Exh. AHO-88, pp. 17–26.)

The Protestants argue that (1) the Authority significantly underestimates GHG emissions from construction and operation of Sites Reservoir; and (2) Mitigation Measure GHG-1.1 fails to require the Authority to reanalyze its emissions to ensure that the goal of net-zero emissions is achieved.

On rebuttal, Friends of the River expert witness Mark Easter testified that the Authority's use of the default alpha value is inappropriate. (Exh. FOR-317, p. 7, ¶ 10.) The 2019 IPCC refinement states that trophic status is generally determined using total phosphorus or concentrations of chlorophyll *a*, which is a measure of the concentration of algae in water. (Exh. FOR-251, p. 31; Exh. FOR-317, p. 3, fn. 2; Exh. AHO-073, p.15.) The Final EIR found that the mean total phosphorous concentrations within the Sacramento River at the two PODs was 40 to 70 micrograms per liter (µg/L), which the 2019 IPCC refinement correlates to an alpha (α) value of 5.3 to 14.5. (Exh. AHO-073, p. 13; Exh. FOR-251, p. 15.) The Final EIR also found, and the Authority does not dispute, that the reservoir will be conducive to HABs formation and growth of invasive and noninvasive aquatic plants. (Exh. AHO-073, pp. 62, 80.) The Protestants claim that based on these two factors, the trophic status of Sites Reservoir will be hypereutrophic with an alpha value of up to 39.4, substantially higher than the default alpha value of 1.0. (2025-05-27 NGO Parties Closing Br., pp. 51–52; Exh. FOR-251, p. 15; Exh. FOR-317, pp. 4–5, ¶ 5.) Mr. Easter acknowledges that there is considerable uncertainty in evaluating biogeochemical emissions of GHGs from ecosystems. But the information in the Final EIR supports use of an alpha value with an uncertainty ranging between 5.3 to 39.4. (Exh. FOR-317, p. 11, ¶ 20.) This alpha value would result in an estimate of GHG

REVISED DRAFT

emissions from the reservoir that is approximately five to 40 times higher than the Authority estimated. (2025-05-27 NGO Parties Closing Br., pp. 54–55; Exh. FOR-251, p. 15; Exh. FOR-317, pp. 7–8, ¶ 11.)

The NGO Parties also challenge the Authority's assertion that Mitigation Measure GHG-1.1 requires the Project to achieve net-zero emissions. Mitigation Measure GHG-1.1 states:

> Although the emissions provided in this analysis could be used to inform the required mitigation commitment, the methods used to quantify emissions are conservative. This analysis does not account for any GHG reduction measures that may be implemented by the Authority pursuant to this measure. Accordingly, this EIR likely overestimates actual GHG emissions that would be generated by the Project. *The Authority may therefore reanalyze GHG emissions for construction and/or operation of the Project to update the required reduction commitment to achieve net zero.*
>
> (Exh. AHO-088, p. 19 [emphasis added].)

The Authority's expert described this measure as providing "an *opportunity* for the Authority to reevaluate what the emissions are. However, they could also use the emissions as established in the [Environmental Impact Report/Environmental Impact Statement] document." (CIC Tr. Comb., p. 3351:15–19 [emphasis added]; 2025-05-27 NGO Parties Closing Br., p. 57.) The Protestants object that the mitigation measure does not require the Authority to revise its GHG emission estimates based on updated data reflecting actual conditions in the reservoir. Rather, the Authority has the option to reevaluate emissions, or it may opt to continue to rely on the estimates in the Final EIR using an alpha value of 1.0 to quantify the Project's net-zero target.

The Protestants presented substantial evidence that actual reservoir conditions may support an alpha value significantly higher than the 1.0 default value assumed in the Final EIR's estimate of GHG emissions. To ensure that the Authority measures GHG emissions using current methods and data rather than relying on estimates using the default IPCC alpha value, the Permit requires the Applicant to update its accounting of GHG emissions every five years using best available science. Requiring reanalysis

REVISED DRAFT

based on updated data is consistent with the structure of Mitigation Measure GHG-1.1, which allows reanalysis every five years. (Exh. AHO-088, pp. 17–26.) Because the Authority's use of the 1.0 default value may underestimate the Project's GHG emissions, we find that it is in the public interest and consistent with the Authority's stated net-zero goal to require updated GHG accounting as new information becomes available to produce a more accurate estimate.

4.6.2 Financial Feasibility

The economic viability or financial feasibility of a project is one element that the Board has considered in determining whether a project is in the public interest. The Board has denied or conditioned applications for projects where applicants have been unable to demonstrate adequate financing, a market for the water sought, or contracts for water or power to be supplied by the project. (See State Water Board Decision 984 (1960), p. 13; State Water Board Decision 958 (1960), pp. 8–9; State Water Board Decision 1588 (1982), pp. 25–26.)

For example, in Decision 958, the Board denied an application to appropriate water for power generation because the applicant could not demonstrate that the project was financially feasible. (Decision 958, pp. 8–9.) There, the applicant admitted that he was unable to obtain financing for the project and lacked contracts with any specific buyers to sell the power that the project was intended to develop. (*Id*. at p. 4.) Instead, the applicant speculated that electricity the project produced could be solely based on generalized increases in demand for electricity in Southern California. (*Id*. at pp. 4–5.) In analyzing the application, the Board noted that an applicant is "not required to establish with certainty that his undertaking will be successful," but must offer a reasonable basis to find that the project will proceed promptly and diligently. (*Id*. at p. 7.) The Board found the application contrary to the public interest because the applicant had no contract to sell the power to be generated and failed to introduce any evidence on which the Board could find that the applicant would be able to finance, construct, or operate the project. (*Id*. at p. 9.)

REVISED DRAFT

Similarly, in Decision 984, the Board found that the applicant's proposed hydroelectric project was financially infeasible. (Decision 984, p. 13.) There, the applicant was unable to show that any entity had made commitments to purchase the power to be generated by the project. (*Id*. at p. 8.) The Board also found that the "economics of the proposed project baffle analysis," because the applicant "had no cash," "cannot attract investors for profit," and expected "certain unnamed wealthy men to donate the substantial sums necessary for this venture." (*Id*. at pp. 9–11.) Based on this and other evidence, the Board concluded that it would not be in the public interest to approve an appropriation for a project of such questionable feasibility. (*Id*. at pp. 13–14.)

These cases demonstrate that, when analyzing the financial and economic feasibility of a proposed project, the Board looks to whether there are reasonable assurances that there will be adequate funding for development of the project with due diligence and that the water diverted for the project will be put to beneficial use.

The Protestants argue that, without disclosing the cost of Project water, the Board "cannot conclude the Project will be affordable" and in the public interest. (2025-06-26 NGO Reply Br., p. 18.) The Authority does not dispute that affordability is "a key issue for participants." (CIC Tr. Comb., p. 109:16–17.) In 2020, the Authority developed a Value Planning Document because the project design at that time resulted in estimated unit costs for water "exceeding the ability of several participants to pay." (Exh. Sites-039, pp. 7–8 ¶ 17.) The Value Planning Document resulted in a redesigned and a "significantly less expensive project," that reduced the Project cost repayment to an estimated $600 per acre-foot in 2020 dollars. (Exh. Sites-045, p. 27; Exh. Sites-215, p. 12.) This per-acre-foot estimate was based on an estimated project cost of $3.4 billion in 2019 dollars. (Exh. Sites-045, p. 27.) In 2024, Jerry Brown, the Authority's Executive Director, estimated that Sites water would cost about $850 per acre-foot in 2021 dollars, with an additional cost of $450 per acre-foot for transportation south of the Delta. (Exh. FOR-365, pp. 8–9, ¶ 14; Exh. FOR-367, p. 11.) This revised estimate was based on an estimated project cost of $3.9 billion.

REVISED DRAFT

The Protestants estimate that the cost of project water has increased since Mr. Brown's estimate due to increasing project costs and reduction in yield from limitations on diversion imposed by the ITP. (Exh. FOR-365, pp. 8–9, ¶¶ 14, 17.) Based in part on project costs of $4.8 billion as of 2023, the Protestants estimate that the cost of Project water per acre-foot will be $1,600 for north of the Delta participants and $1,900 for south of the Delta participants. (2025-05-27 NGO Parties Closing Br., p. 24; Exh. FOR-365, p. 8, ¶ 14.) This estimate also incorporates results of the Authority's Historical WAA Tool which show that, after imposing the ITP diversion criteria, annual average potential diversion volume of the Project is 84 percent of annual average potential diversion volume without the ITP criteria. (2025-05-27 NGO Parties Closing Br., p. 24; Exh. Sites-334-R, p. 7.) In 2025, after parties submitted closing briefs, the Protestants introduced evidence that the Authority estimates that Project costs will increase from $4.8 billion to $6.2 to $6.8 billion. (Exh. BK-136, p. 2; Exh. BK-137, p. 9, Exh. BK-138, p. 15.) The Protestants emphasize that this potential $1.6 to $2.0 billion increase in total project cost will further raise the cost of water per acre- foot.

The Authority does not directly dispute these estimates. Rather, the Authority counters that the Storage Partners should determine affordability and economic viability. (2025-05-27 Sites Closing Br., p. 79.) The Authority relies on the 2023 Draft Plan of Finance to demonstrate that Storage Partners have expressed a willingness to pay for Project water. (2025-05-27 Sites Closing Br., p. 79; Exh. Sites-219, pp. 4–7.) In addition to the current list of Storage Partners, the Authority points to the "waiting list" of entities that have expressed an interest in buying into or increasing their share of storage space in the reservoir. (2025-06-26 Sites Reply Br., pp. 50–51; Exh. Sites-219, pp. 1–2; Exh. Sites-044.) The Authority asserts that the Protestants have failed to offer any evidence that a cost of $1,600 to $1,900 per acre-foot would be unaffordable for Project members. (2025-05-27 Sites Reply Br., p. 51.)

We expect that individual Storage Partners will appropriately consider the costs and impact to ratepayers when deciding whether to participate in the Project, and that Storage Partners will reach a determination based on their particularized demands, expected growth, water supply alternatives, and existing water supply portfolios. There

REVISED DRAFT

is ample evidence that Storage Partners are particularly willing to strategically incorporate Project water into their water supply portfolios for use during dry and critical water years, and that Project water will be more affordable than some alternatives these entities are considering. (Exh. Sites-417, p. 3, ¶ 8; Exh. Sites-419 pp. 3–4, ¶¶ 6–8; Exh. SWC-1, pp. 9–10, ¶¶ 29–30.) In addition, the Authority has been conditionally awarded $875 million in state funding under the WSIP for the public benefits of the Project. (Exh. Sites-039, p. 7, ¶ 16; Exh. Sites-163.) Unlike the circumstances presented in prior Board decisions where applicants failed to identify a single willing contractor for water or power, nor any reasonable likelihood of investment in the project, here, the Authority has identified willing Storage Partners to account for 100 percent of the Project yield. Therefore, we conclude that the Authority has sufficiently demonstrated that the Project will be developed and water placed to beneficial use.

4.3.6 Efficiency of Water Use

The Board "is charged with acting to prevent unreasonable and wasteful uses of water." (*Light v. State Water Resources Control Bd.* (2014) 226 Cal.App.4th 1463, 1482, mod. on denial of reh'g (July 11, 2014); *California Farm Bureau Federation v. State Water Resources Control Bd.* (2011) 51 Cal.4th 421, 429, mod. (Apr. 20, 2011); Cal. Const. Art. X sec. 2; Wat. Code, § 100.) What is a reasonable use of water is "a question of fact to be determined according to the circumstances in each particular case." (*Joslin v. Marin Municipal Water Dist.* (1967) 67 Cal.2d 132, 139, mod. on denial of reh'g (Sept. 21, 1967).) Water used for a beneficial purpose must still be used reasonably. (*Imperial Irrigation Dist. v. State Wat. Resources Control Bd.* (1990) 225 Cal.App.3d 548, 570–571.) And, even if a use is reasonable when water is present "in excess of all needs," it may be unreasonable "in an area of great scarcity and need." (*Tulare Irr. Dist. v. Lindsay-Strathmore Irr. Dist.* (1935) 3 Cal.2d 489, 567.)

In determining the reasonable use of water, the Board has considered, in the context of the particular circumstances, the efficiency of particular uses. A failure to implement water conservation measures can constitute an unreasonable use of water. (*Light, supra*, 226 Cal.App.4th at p. 1486; State Water Board Decision 1600 (1984), p. 74.) The Board has stated that when reviewing applications for "proposed water transfers utilizing

REVISED DRAFT

CVP and SWP facilities, the Board will review conservation and wastewater reclamation programs in the proposed service areas to ensure that these additional water resources will be used in the most efficient manner possible consistent with the general public interest." (State Water Board Decision 1485 (1978), pp. 22–23.) Based on the evidence before us, however, we do not find that the intended uses for Project water would be wasteful or unreasonable, or that conservation and reclamation programs within the proposed service areas are improperly inefficient.

The NGO Parties assert that the Authority failed to analyze alternative water supply and storage options that may achieve the same goals as the Project while minimizing impacts to public trust resources. (2025-05-27 NGO Closing Br., p. 63.) The NGO Parties' expert witness, Bruce Reznik, testified that water conservation and efficiency, stormwater capture, wastewater recycling, and groundwater remediation, provide viable alternative water supplies for all municipalities, including those that would be served by Sites Reservoir. (Exh. WCT-101, p. 3, ¶ 2.) Using the City and County of Los Angeles as an example, Mr. Reznik testified that the City and County have established, and made significant progress toward achieving, local water resiliency goals. (*Id.* at p. 10, ¶ 7; Exh. WCT-103, p. 44; Exh. WCT-104, p. 56.) These goals include conservation and wastewater reclamation programs. (Exh. WCT-101, pp. 10–12, ¶ 7A., pp. 15–17, ¶ 7C.)

While Mr. Reznik largely focused his testimony on Los Angeles, in 2024, the Board adopted regulations to require more efficient water use in the urban water sector throughout California (Conservation Regulations). (Cal. Code Regs., tit. 23, §§ 965–978.) Those regulations set tailored water supply targets for more than 400 water suppliers serving 95 percent of the state's population. (Exh. AHO-345, p. 12.) These regulatory goals, in addition to the efficiency and conservation efforts detailed by Mr. Reznik, demonstrate that municipalities served by Sites Reservoir are actively working toward conservation and wastewater reclamation programs to ensure efficient use of local water supplies.

The NGO Parties additionally assert that the Board should restrict water deliveries to entities that have not implemented certain types of conservation measures. (2025-06-26

REVISED DRAFT

NGO Reply Br., p. 11.) For agricultural uses, the NGO Parties argue that water users should be required to reduce wind drift, evaporative losses, canopy interception losses, and soil evaporation. These parties present evidence that more efficient systems, such as drip irrigation, could be used to avoid these inefficiencies. (Exh. WCT-003, pp. 5–10.) Additionally, the NGO Parties claim that there are measures to reduce irrigation that would correspondingly reduce crop transpiration without marginal impact to crop yield. (*Id.* at p. 10.) These measures include practices such as deficit irrigation, choice of crops that require less irrigation, and idling or fallowing land. (*Id*. at p. 6.)

The Authority's experts respond that efficient irrigation techniques are already widely implemented, and efficient water use is heavily incentivized through water pricing structures. (Exh. Sites-415, pp. 3–4, ¶ 7; Exh. Sites-417, p. 2, ¶¶ 3–5; Exh. Sites-419, p. 7, ¶ 16.)

While the NGO Parties may propose more efficient ways for Storage Partners to apply water to beneficial use, reasonable use does not require use of water as efficiently as possible regardless of cost or impacts on the intended use. (See Decision 1600, pp. 75–76 [requiring practical measures to limit waste of water, such as repairing defective infrastructure and reducing spills from canals, without mandating most efficient forms of irrigation].) Identifying the most efficient method of water use for a purpose such as irrigation is also a complex determination and will vary throughout the state.

Moreover, Board action on this water right application, through which the Board can only condition the applicant, is ill-suited to regulating efficiency for each Storage Partner and user of Project water. (2025-05-27 NGO Reply Br., p. 11.) In contrast to the complex Conservation Regulations, which set clear targets and timelines, the NGO Parties ask the Board to condition deliveries of Project water to Storage Partners on the condition that each partner meet generalized efficiency goals. Even if the Board were inclined to use a broad brush to require efficiency in this way, this proceeding is not the appropriate forum for achieving those efficiency goals.

REVISED DRAFT

While we will not at this time condition deliveries of Project water on implementation of particular conservation measures or achievement of specific efficiency goals, California's Constitution prohibits the waste and unreasonable use of water. The Authority, therefore, is responsible for ensuring that all water diverted under the Permit is put to reasonable beneficial use, and the Board will retain ongoing authority to address any specific allegations of unreasonable or wasteful water use under the Authority's Permit in the future.

4.6.4 Public Interest Balancing

The Board finds that approval of the appropriation is in the public interest. The appropriation authorized by this Permit and construction of the Sites Reservoir Project will allow diversion of up to 986,000 acre-feet of water per year to storage and contribute 1.5 million acre-feet of new storage capacity. Stored water will be available for both local and south of the Delta supplies for municipal, domestic, irrigation, and industrial uses. Coordinated operations of Sites Reservoir with the SWP and CVP will introduce additional flexibility to upstream reservoir operations, primarily for water supply benefits. (Reb. Tr. Comb., pp. 150:2–151:23.) In addition, ecosystem benefits of the Project funded by the California Water Commission include water supply for wildlife refuges both north and south of the Delta. (Exh. AHO-005, p. 25.) The Authority estimates that releases for this purpose would be approximately 21,000 acre-feet per year. (*Ibid*.)

This approval is consistent with the forthcoming 2028 California Water Plan and gives due consideration to the relative benefit to be derived from all beneficial uses of the water sought to be appropriated. (Wat. Code, §§ 1256–1257.) Although the California Water Plan is not yet finalized, Water Code section 10004.6 subdivision (f) requires the DWR to include, as part of the 2028 update, an interim water supply planning target of nine million acre-feet of additional water, water conservation, or water storage capacity to be achieved by 2040. (Wat. Code, § 10004.6 subd. (f).) The Water Code specifically identifies new surface water storage projects as a means to achieve this goal.

REVISED DRAFT

Similarly, California's Water Resilience Portfolio, developed pursuant to Executive Order N-10-19, identifies actions necessary to meet the state's water challenges. (Exh. Sites-088, p. 5.) The Portfolio notes that permitting Sites Reservoir will help achieve the goal of expanding "smart" surface water storage in California. (Exh. Sites-088, p. 20 [Goal 7.1].) California's Water Supply Strategy additionally emphasizes the importance of completing Proposition-1-supported storage projects to expand the state's water storage capacity. (Exh. Sites-067, p. 11.) This approval, therefore, is consistent with the California Water Resilience Portfolio and Water Supply Strategy.

Overall, we conclude that the terms and conditions imposed herein are necessary to best develop, conserve, and utilize the appropriated water in the public interest, and that issuance of the Permit with those terms and conditions is consistent with the public interest in the development of the water resources of the state. Those conditions reflect a careful balancing of the benefits of the Project against potential impacts. As addressed in Section 4.3.1, we weighed the potential impact of various diversion criteria on Project yield against the Project impacts to fisheries that may result absent these conditions. We also considered the effect of these criteria in conjunction with implementation of the 2026 Bay-Delta Plan. Other terms and conditions that address water quality and remaining potential impacts of Project operations are tailored to allow maximum flexibility for Project operations while avoiding unreasonable impacts and injury to other legal users. Finally, we reserve jurisdiction to amend the terms of the Permit based on new information or changed conditions, after notice to interested parties and opportunity for a hearing, to best develop, conserve, and utilize the state's water resources in the public interest.

4.7 Beneficial Uses and Purposes of Use

4.7.1 Beneficial Uses

Beneficial use is a fundamental measure of a water right. (Wat. Code, § 1240.) California's Constitution mandates that the right to appropriate water "shall be limited to such water as shall be reasonably required for the beneficial use to be served." (Cal. Const., art. X, § 2; see also Wat. Code, § 100.) The requirement that water be put to

REVISED DRAFT

beneficial use is an "overriding constitutional limit." (*United States v. State Water Resources Control Bd.* (1986) 182 Cal.App.3d 82, 105.) The Board cannot approve an application to appropriate water without first determining that the water sought to be appropriated will be applied to beneficial use. (*Central Delta Water Agency v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 245, 260, as mod. on denial of reh'g (Dec. 16, 2004); see also State Water Board Decision 1121 (1963), p. 9 [both diversion and beneficial use are necessary ingredients of valid appropriation].)

In its application, the Authority provided a list of 24 current Storage Partners and descriptions of how those partners will beneficially use Project water. (Exh. AHO-028.) Storage Partners are governmental entities and public agencies with established beneficial uses. (Exh. AHO-005, pp. 9–26.) Investment in the Project provides Storage Partners with the opportunity to improve the reliability of their water supplies and satisfy current and future demands in their service areas. (*Id*. at p. 9.) The proposed beneficial uses of the Project include: domestic, irrigation, municipal, industrial, recreational, fish and wildlife preservation and enhancement, and water quality. (2025-05-27 Sites Closing Br., p. 76; Exh. AHO-005, pp. 9–33.) Together, these planned uses account for 100 percent of the expected yield of the Project. (Exh. AHO-005, p. 37.) The Authority also identified 11 entities that are on the waiting list to become Storage Partners, and two current Storage Partners that have requested an increase in their current allocation of storage space in Sites Reservoir. (*Id*. at pp. 26–33.)

The list of Storage Partners could change. On August 27, 2024, Jerry Brown testified that the current Storage Partners and their participation levels were not yet finalized, and the Authority is "expecting these numbers to change and for these commitments to occur within the next 24 months." (CIC Tr. Comb., p. 52:18–20; Exh. AHO-005, p. 9.) According to Mr. Brown's testimony, upon an approval by the Board of the Authority's water right application, the Authority will offer a "Sites Reservoir capacity interest" to the listed Storage Partners and provide them six months to complete their individual actions and execute agreements. (Exh. Sites-039, p. 12.) During that six-month period, it is possible that "existing Storage Partners may ultimately choose to not invest in the Project or may decide to increase or decrease their investment in Sites Reservoir prior

REVISED DRAFT

to Project financing." (Exh. AHO-005, p. 9.) Although the Authority has also provided a waiting list of Storage Partners should any on the current list fail to finalize their agreements, there is still some uncertainty as to which agencies will ultimately use the water and for which specific beneficial uses. (Exh. AHO-005, p. 2; Exh. Sites-044.) We also recognize that the conditions imposed by this Decision on conveyance of Project water through the Sacramento River to protect water quality may limit deliveries to Storage Partners south of the Delta, and a corresponding increase in exchanges or deliveries to Storage Partners within the Sacramento Valley. Regardless of whether any of the current Storage Partners are replaced by an entity on the waiting list, or whether the current allocations to the Storage Partners are adjusted, the record supports the conclusion that the Storage Partners will use the water sought to be appropriated for established beneficial uses.

Permit Term 54 addresses the possibility that the Storage Partners and their proportional interests in the Project will change after permit issuance. To ensure that the amount of water authorized for appropriation under the Permit remains limited to that reasonable amount that will be put to beneficial use, the Permit requires the Authority to submit a report to the Deputy Director depicting changes, if any, to Storage Partners, purposes of use, and percent interest in reservoir storage space. Should the Deputy Director determine based on the report that the Authority proposes to make a material change to the intended recipients of Project water and their established beneficial uses as described in the Authority's application, such as by adding a new Storage Partner that was not on the waiting list at the time of this Decision, then the Board must decide whether the change is consistent with its original findings as to the intended beneficial use of water authorized for appropriation under the Permit. This requirement is not intended to require reexamination of changes in allocations among the existing Storage Partners or minor changes that would result in similar amounts of water being applied to the same beneficial uses. Rather, it is intended to ensure that the Board's finding that water will be put to beneficial use, which is based on the information in the Authority's application, is consistent with the actual beneficial uses of Project water.

REVISED DRAFT

4.7.2 Purposes of Use

This Decision generally approves the purposes of use and places of use the Authority proposed in its water right application, with the following limited clarifications. The Authority did not include stockwatering or frost protection as purposes of use in its application but proposed the uses as incidental. (Exh. AHO-001, p. 18; Exh. Sites-071c, p. 11, ¶ 44.) The Authority described these uses as incidental to irrigation because water delivered to irrigators may be used for stockwatering and frost protection. (Exh. AHO-001, p. 18.) These uses are not incidental to irrigation but are independent purposes of use that may occur following delivery. The Authority has clearly stated its intent to deliver water for use for these purposes. We clarify this issue by including stockwatering and frost protection as authorized purposes of use under the Permit instead of incidental uses.

The Permit authorizes the Project to use water for fish and wildlife preservation and enhancement in the current and potential future locations where WSIP ecosystem benefits will occur, including refuges within the Refuge Water Supply Program of the Central Valley Project Improvement Act, other non-Refuge Water Supply Program public lands, and on private lands. (Exh. AHO-349, pp. 6–8; 2026-04-10 Sites Authority Ltr to AHO Reg Yolo Bypass, p. 1.) These uses include enhancing seasonal wetlands, permanent wetlands, and riparian habitat, consistent with the uses described in the Authority's April 10, 2026, letter regarding WSIP ecosystem benefits and in the Authority's May 22, 2026, comments on the Draft Decision. (2026-04-10 Sites Authority Ltr to AHO Reg Yolo Bypass, p. 1; 2026-05-22 Sites Comments on Draft Decision-Draft Permit, pp. 36–37.) The Permit also authorizes the Sacramento-San Joaquin Delta as a place of use for water quality and fish and wildlife preservation and enhancement, consistent with Project contributions to Delta outflow being a beneficial use of water diverted and released from storage under the Permit.

The Authority has not, however, demonstrated a specific intent to use water under the Permit for fish and wildlife purposes throughout the entire place of use. Accordingly, the Permit does not include the entirety of the place of use for water quality or fish and wildlife preservation and enhancement purposes of use as such an authorization would

REVISED DRAFT

be overbroad. (See, e.g., *Central Delta Water Agency v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 245, 264, mod. on denial of reh'g (Dec. 16, 2004) [finding that Board may not approve permit based on generalized statement of intended uses].)

The Authority proposes fish and wildlife preservation and enhancement, aquaculture, and water quality as incidental purposes of use because of potential benefits associated with downstream deliveries of water from Sites Reservoir. (Exh. AHO-001, p. 18.) Aquaculture use is defined as the use of water for raising fish or other organisms for commercial purposes or large-scale private uses. (Cal. Code Regs., tit. 23, § 667.) The Authority has not proposed or described this use other than to list aquaculture as an incidental purpose of use. Therefore, incidental aquaculture is not included as a purpose of use in the Permit. Further, potential associated benefits of project operations are not purposes of use, and do not require authorization through inclusion in the Permit. Therefore, fish and wildlife preservation and enhancement is not included as an incidental purpose of use in the Permit. The application also describes an instream place of use for these incidental purposes of use. (Exh. AHO-001, pp. 20–21.) The instream place of use associated with the above incidental uses is not included in the Permit.

4.8 Rights of Access

The Board's regulations provide that an applicant who will need to occupy property or use existing works owned by others to divert and use water under a proposed appropriation must either obtain the consent of the owner or provide "evidence of the applicant's ability through condemnation proceedings or otherwise to secure the necessary right of access before the application will be approved." (Cal. Code Regs., tit. 23, § 775.) At the time it submitted its water right application, the Authority did not have any agreements for use of the existing diversion and conveyance facilities to be utilized by the Project, nor did the Authority own any land necessary for construction of the Project. (Exh. Sites-012, p. 2, ¶ 4.) The Authority will need to acquire title to roughly 15,000 acres of land as well as permanent and temporary easements in Colusa, Glenn, and Yolo counties to construct and operate the Project. (*Id*. at p. 2, ¶ 6.) Project operations will also require the Authority to acquire rights to use existing facilities that

REVISED DRAFT

local agencies and Reclamation own. (Exh. Sites-102, pp. 9–10, ¶¶ 20–24.) These facilities, referred to as Partner Facilities, include fish screens, pump stations, canals, and regulating reservoirs, which will be used to convey water into and out of Sites Reservoir. (*Ibid.*)

Although the Authority has not yet acquired the land and easements necessary to construct and operate the Project, its joint powers agreement authorizes the Authority to do so, including through the exercise of eminent domain power. (Exh. Sites-012, p. 2, ¶ 4; Exh. Sites-014, p. 3, § 2.3.4.) During the hearing, the Authority offered testimony indicating that it had begun negotiations to acquire various properties necessary for the construction of project facilities and anticipates more intensive efforts to acquire necessary property — either through negotiations or the exercise of its eminent domain power — beginning in 2026. (Exh. Sites-012, pp. 2–3, ¶¶ 6–10; see also Exh. Sites-015.) The Authority has also negotiated framework agreements with various local agencies that govern the development of final Facilities Use Agreements for use of shared project facilities. (Exh. Sites-102, pp. 9–11, ¶¶ 21–24 [discussing Cooperative Agreements between the Authority, Tehama Colusa Canal Authority, Glen-Colusa Irrigation District, and Reclamation District No. 108].) The local agencies with whom the Authority has negotiated these framework agreements are also Authority member agencies under the Authority's joint powers agreement. (Exh. Sites-014, p. 1.)

The Authority is negotiating agreements with Reclamation for the use of the Tehama-Colusa Canal system infrastructure, which may take the form of a Warren Act[92] contract or similar conveyance agreement for non-CVP water. (Exh. Sites-102, p. 10, ¶ 23.) To export water from the Delta using the CVP and SWP pumping facilities, the Authority proposes to reach a three-party operations agreement between the Authority, DWR, and Reclamation, which would govern coordinated operations of the Project in conjunction with the SWP and CVP operations and facilities. (Exh. AHO-71, pp. 8–9, tbl. 4-2.)

[92] The Warren Act, 43 U.S.C. §§ 523–525, allows the Secretary of the Interior to contract with irrigation districts and private water users. The Act allows excess storage capacity in federal reclamation reservoirs to be used for carrying or storing non-project irrigation and municipal water.

REVISED DRAFT

Although Reclamation has not yet made a final decision about whether it will participate in the Sites Reservoir Project, Congress has authorized it to do so under the Water Infrastructure Improvements for the Nation Act (Pub. L. No. 114-322 (Dec. 16, 2016) 130 Stat. 1628), and Reclamation has indicated that it supports approval of the Authority's application. (2025-05-27 Reclamation Closing Br., pp. 2, 4.) DWR also supports approval of the Authority's water right application. (2025-05-27 DWR Closing Br., p. 2.) No party has submitted evidence to suggest that the Authority will not be able to acquire the approvals necessary for the Project's use of CVP and SWP facilities from Reclamation and DWR.

Based on its eminent domain power, the framework agreements executed between the Authority and its partner agencies, and Reclamation and DWR's support for the water right application, we find that the Authority has demonstrated that it can — and is likely to — acquire rights of access to the land and facilities necessary to construct and operate the Project. (See Cal. Code Regs., tit. 23, § 775.)

5. CEQA FINDINGS

Before approving a project, a responsible agency must make findings under CEQA Guidelines sections 15091 and 15093, as applicable. (Cal. Code Regs., tit. 14, § 15096, subd. (h).)

Section 15091 requires a responsible agency to make one of the following findings for every significant environmental effect of the project that is within the agency's purview: (1) changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR; (2) such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding or (3) specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR. (Cal. Code Regs., tit. 14, § 15091, subd. (a).)

If approval of the project will cause an unmitigable significant impact, section 15093 requires the approving agency to make a statement of overriding considerations before

REVISED DRAFT

approving the project. (Cal. Code Regs., tit. 14, § 15093, subd. (b).) A responsible agency's role in considering alternatives and mitigation measures is limited to only the direct or indirect environmental effects of those parts of the project it decides to carry out, finance, or approve. (Cal. Code Regs., tit. 14, § 15096, subd. (g)(1).)

The Project will have some significant but mitigable impacts. (Exh. AHO-067 [summary of impacts and mitigation measures from Final EIR].) As described in the Final EIR, these impacts are primarily related to disturbance of vegetation and wetland resources, fish and wildlife, and GHG emissions. (Exh. AHO-067, pp. 4, 7–14, 23.)

To the extent these significant potential impacts are within the State Water Board's purview, the Board has responsibility to avoid or mitigate those impacts to the extent feasible. Therefore, the Board incorporates as a condition of the Permit the mitigation measures in the Mitigation Monitoring and Reporting Program for the Project and additional permit terms discussed elsewhere in this Decision. (Exh. Sites-075; see Permit Attachment 3 [mitigation measures that reduce these impacts to less than significant].)

Pursuant to section 15091, subdivision (a)(3), the State Water Board has reviewed the project alternatives described in the Final EIR and finds these alternatives would have the same impact as the Project or would not attain some of the Project objectives. Therefore, the alternatives identified in the Final EIR are not feasible.

The Project will have some significant and unavoidable impacts. As described in the Final EIR, these impacts are primarily related to water quality, vegetation and wetland resources, wildlife, paleontological resources and unique geologic features, agricultural resources, established communities, air quality, cultural resources, Tribal cultural resources, and visual resources. (Exh. AHO-067, pp. 1, 4, 7, 11, 16–18, 21–25.) Approval of Sites Project Authority's application will make possible the capture and storage of a substantial volume of high-quality water to improve water resiliency throughout the state and address impacts of climate change, among other benefits. (Exh. AHO-001, pp. 12–13.) Changes in climate and resulting impacts on the water

REVISED DRAFT

supplies of the state support the development of additional supplies through diversion and storage of high flows. (See, e.g., Exh. Sites-067, pp. 4, 6, 8–9; Exh. Sites-088; Exh. Sites-090, pp. 153–155.) For these reasons, reasons articulated elsewhere in this Decision, and reasons identified in the Final EIR (Exh. Sites-073, pp. 29–36) the State Water Board finds the benefits of the Project override potentially significant impacts that will not be eliminated or substantially lessened by the conditions in this Decision and Permit 21487.

6. CONCLUSION

For the reasons discussed herein, Application 33534A of the Sites Project Authority is approved, excepting any appropriation of water from Funks or Stone Corral creeks, subject to terms and conditions specified in the Permit. The petition for assignment of State-filed Application 25517 is denied. The petitions for release from priority of State-filed Applications 25513, 25514, 25517, 22235, 23780, and 23781, in favor of water right Application 33534, are denied, without prejudice. Due to the denial of assignment of State-filed Application 25517, the application filed by the Authority has been renumbered as Application 33534. The approved portion of Application 33534 is numbered 33534A and the application for appropriation of water from Funks Creek and Stone Corral Creek has been bifurcated as Application 33534B.

ORDER

IT IS HEREBY ORDERED THAT Application 33534A is approved with terms and conditions. The Division shall issue Permit 21487, with any necessary minor modifications, to Sites Project Authority.

REVISED DRAFT

Appendix A:
Response to Comments Tables

REVISED DRAFT

ADMINISTRATIVE HEARINGS OFFICE

RESPONSES TO COMMENTS ON
MARCH 20, 2026, DRAFT DECISION 1653 AND DRAFT PERMIT 21487

September 3, 2026

TABLE OF CONTENTS

About the Responses to Comments A.2
Responses to General Comments A.3
Responses to Comments on Section 3.2 ..... A.14
Responses to Comments on Section 4.1 ..... A.24
Responses to Comments on Section 4.2.1 ..... A.28
Responses to Comments on Section 4.2.2 ..... A.37
Responses to Comments on Section 4.2.3 ..... A.38
Responses to Comments on Section 4.3.1 ..... A.42
Responses to Comments on Section 4.3.2 ..... A.58
Responses to Comments on Section 4.4.1 ..... A.63
Responses to Comments on Section 4.4.2 ..... A.67
Responses to Comments on Section 4.4.3 ..... A.72
Responses to Comments on Section 4.4.4 ..... A.76
Responses to Comments on Section 4.5 ..... A.77
Responses to Comments on Section 4.7 ..... A.95

ABOUT THE RESPONSES TO COMMENTS

This document contains responses to comments received after circulating the Draft Decision and Permit in this proceeding in March 2026. The AHO received comments from the parties, as well as 46 comments from non-parties. These comment letters are organized in the administrative record in the "Comments on Draft Decision" folder.

The Board has responded to comment letters from the following parties:[1]

- Center for Biological Diversity (CBD)
- Pacific Coast Federation of Fishermen's Associations and the Institute for Fisheries Resources (PCFFA-IFR)
- T&M King Farms LLC (King)
- Department of Water Resources (DWR)
- NGO Parties (San Francisco Baykeeper, California Sportfishing Protection Alliance, Friends of the River, Winnemem Wintu Tribe, Chhé'ee Fókaa Band of Northeastern Pomo, California Indian Environmental Alliance, Fly Fishers of Davis, Golden State Salmon Association, Restore the Delta, Save California Salmon, Sierra Club California, and Water Climate Trust)[2]
- U.S. Bureau of Reclamation (Reclamation)
- Sites Project Authority (Sites)
- State Water Contractors (SWC)
- SDWA Parties (South Delta Water Agency, Central Delta Water Agency, Zuckerman-Mandeville, Inc., Delta Farms Reclamation District No. 2030, Rudy Mussi Investment L.P., and County of San Joaquin)
- Tribal Interest Parties (Cachil Dehe Band of Wintun Indians of the Colusa Indian Community Council, Chhé'ee Fókaa Band of Northeastern Pomo, Paskenta Band of Nomlaki Indians, Winnemem Wintu Tribe, California Indian Environmental Alliance, and Save California Salmon)

In the tables below, the lefthand column contains a "Comment Code," which indicates the specific identifier for each response to comment. The "Source of Comment" column identifies the author of the comment letter and where in the comment letter the comment may be found. The "Summary of Comment" column contains the Board's summary of the comment, and the "Response to Comment" column contains the Board's response.

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[1] Additionally, the Board responded to comments from the Central Valley Regional Water Quality Control Board (CVRWQCB) and California Department of Fish and Wildlife (CDFW), which were not parties to this proceeding.

[2] The groups listed as part of the NGOs, above, may differ from the groups that make up the NGO Parties as described in the Decision. We defined the NGOs for purposes of the Responses to Comment based on the identified signatories of their comment letter.

RESPONSES TO GENERAL COMMENTS

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-Gen	2026-05-22 NGO Comments on Draft Sites Water Right (NGOs Comment), pp. 5–6, Section II.	The Draft Decision correctly identifies many of the Board's legal responsibilities but gives too much weight to water supply and inadequately weighs the ecological crisis of the Bay-Delta and the Sacramento River. The Board must also evaluate the Application in the context of the availability of alternative water supplies including water recycling, water conservation and efficiency, and urban stormwater capture.	The Decision appropriately weighs competing public interest considerations. (See Decision, Section 4.6.) The Board finds that approval of the appropriation is in the public interest. The Project will create 1.5 million acre-feet of new storage capacity, introduce flexibility into State Water Project (SWP) and Central Valley Project (CVP) operations, and provide ecosystem services, among other benefits. The Permit Terms impose necessary limitations on Project operations that address the potential ecological impacts of the diversions to the Bay-Delta and Sacramento River, balancing the competing public interests in water supply development and maintenance of instream flows to support aquatic species and water quality for other legal users. (See also response to Comment 1-4.3.1.) The Decision and Permit address the narrative salmon protection objective by ensuring consistency with the updated Bay-Delta Plan's objectives and program of implementation. The updated Bay-Delta Plan establishes specific flow-based water quality objectives and a program of implementation to achieve these objectives. Insofar as the Permit is consistent with that program of implementation, it appropriately addresses the salmon protection objective. (See *State Water Resources Control Bd. Cases* (2006) 136 Cal. App. 4th 674, 775–776.)

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			The Decision is revised to explicitly address evidence related to conservation and alternative water supplies available to south of Delta participants, reflecting the Board's consideration of this aspect of the public interest. (See Decision, Section 4.6.)
2-Gen	2026-05-22 Sites Comments on Draft Decision-Draft Permit (Sites Comment), pp. 12–14, Section A.	The Draft Decision includes no analysis on the effects of Permit Terms 23, 30, and 31 on Project diversions, showing that the Board did not properly do a public interest analysis.	Sections 4.3 and 4.6 of the Decision are revised. Prior to the Authority's submission of additional yield analyses, the evidentiary record lacked a quantitative analysis of the likely impact of the terms and conditions being considered by the Board on the yield of the proposed project. The Board has considered the additional written evidence and testimony presented during the July 24, 2026, supplemental hearing regarding the effects of proposed permit terms on Project yield. (See also response to Comment 1-4.3.1; Decision, Sections 4.3.1.1, 4.6; Permit Terms 23, 30, 31.)
3-Gen	NGOs Comment, pp. 21–22, Section X. 2026-05-20 PCFFA-IFR Sites Proposed Permit Comments (PCFFA Comment), pp. 9–10, Comment 16.	The Board should evaluate the need for new Permit Terms once uncertainty regarding Reclamation's level of participation is resolved. The Permit Terms do not adequately address the potential effects of exchanges between the Project and Reclamation.	Reclamation's level of participation in the Project, like all potential Storage Partners, will be confirmed through the process required by Term 54. The Decision's findings and balancing of public interest factors do not rely on benefits from exchanges between the Project and Shasta Reservoir. The Permit also reserves appropriate authority to address water quality impacts that may result from exchanges. If the Authority elects to submit a Sacramento River Temperature Management Strategy pursuant to Term 41, it will be required to examine whether exchanges between Sites Reservoir and Shasta Reservoir may

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			benefit temperatures in the Sacramento River. (Decision, Section 4.4.1, Permit Term 41.) Moreover, Condition 9.21 of the Authority's Incidental Take Permit requires the Authority to develop a water exchange and temperature management plan to ensure that exchanges do not result in significantly higher water temperatures. (Exh. Sites-298, p. 51.) Finally, Term 51 prohibits exchanges with Reclamation that would result in violation by Reclamation of any applicable law, regulation, biological opinion, incidental take permit, or court order. The current terms in the Permit adequately address the potential effects of the exchanges and any necessary revisions to those terms may be accomplished through the reservation of authority provided by Term 57.
4-Gen	Sites Comment, pp. 38–39, Section A.5.	The Draft Decision and Draft Permit are inconsistent with the California Water Plan.	The Decision and Permit are consistent with the California Water Plan, and the Decision has been revised to clarify this consistency. (See Decision, Section 4.6.) The Decision concludes that approval of the appropriation is consistent with the statutory interim planning target of 9,000,000 acre-feet of additional water, water conservation, or water storage in the 2028 California Water Plan by enhancing storage and available water supplies. (Wat. Code, § 10004.6 subd. (f).) The Decision gives due consideration to the relative benefit to be derived from all beneficial uses sought by the Project and finds the Project is in the public interest. Contrary to the Authority's assertion, conditions on diversion and use of water to avoid unreasonable

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			impacts on fish and wildlife or contribution to violations of water quality standards, are not inconsistent with the California Water Plan. The Plan addresses protection of water quality and health of ecosystems, in addition to maintenance of water supplies, as in the interest of the people of the state. (Exh. Sites-090, pp. 45, 275–276.)
5-Gen	NGOs Comment, p. 30, edits to Term 9.	Term 9 should include a construction start date, an earlier construction completion date of Dec. 31, 2040, and a complete beneficial use deadline of December 31, 2061.	The Permit's current deadlines are reasonable and ensure progress by specifying both a deadline for construction and for full beneficial use of water.
6-Gen	NGOs Comment, p. 40, edits to Term 24.	Term 24 should require diversion to immediately cease if streamflow measurements used for determining compliance are unavailable.	The process in Term 24 reasonably addresses compliance with terms dependent on streamflow measurements if data from a streamflow measurement station is unavailable.
7-Gen	NGOs Comment, p. 41, edits to Term 27.	Term 27 should be amended to clarify that area of origin protections apply to instream beneficial uses, not just consumptive uses.	The Board's Standard Permit Term 95 (Term 27 in the Permit) implements Water Code sections 1215 et seq. These provisions of the Water Code do not explicitly reference "instream beneficial uses" or specifically identify instream beneficial uses.
8-Gen	NGOs Comment, p. 66, edits to Term 44.	Term 44 should include compliance with Term 29, and the Delta Export Facilities must be in compliance with their respective water right terms and conditions.	Reference to Term 29 is not necessary because Term 29 regulates diversions to storage, while Term 44 pertains to releases of water from Sites Reservoir. Diversions to and releases from the reservoir will not occur at the same time. The proposed addition to Term 44 is unnecessary as diversions and rediversions of exchanged water are already required to comply with the terms and conditions of the underlying permits or licenses.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
9-Gen	NGOs Comment, p. 68, edits to Term 50.	Term 50 should require disclosing the price of transferred or exchanged Project water to assist the Board and the public in evaluating whether the Project remains consistent with the public interest.	Terms 54, 55, Term F, and Term G ensure appropriate reporting for purposes of compliance and provide transparency. More specific reporting elements may be addressed through the Compliance Plan required by Term 55. The NGO Parties state that the size of the Project's place of use requires "transparency to avoid abuse," but do not describe the abuse that is of concern. Information about the price per acre-foot of exchanged water after the Project is in operation is not necessary for the Board to meet its obligations to administer water rights. As discussed in the Decision, considerations regarding the economic feasibility of the Project are relevant to whether there is a market for the appropriated water such that the project will be constructed and the water can and will be appropriated. (Decision, Section 4.6.) Finally, insofar as the Authority is a public agency and subject to the Public Records Act, members of the public may request this information directly from the Authority.
10-Gen	NGOs Comment, p. 69, edits to Term 51.	Term 51 should be expanded to include exchanges between the Authority and other right holders and clarify applicable legal and regulatory requirements.	Term 51 is revised to clarify that the requirement includes State Water Board decisions, orders, or water right terms and conditions, the requirement applies to other water rights in addition to SWP and CVP water rights, and to include exchanges involving either diversions to or releases from Sites Reservoir.
11-Gen	NGOs Comment, p. 71, edits to Term 55.	The Compliance Plan required by Term 55 should apply to all Permit Terms. The Compliance Plan should not affect operational criteria or requirements or be related to operations in any way. The	Term 55 is revised and clarified to reference chapters 2.7 and 2.8 of Division 3 of Title 23 of the California Code of Regulations. The Compliance Plan need only address those terms that do not otherwise require a plan to be submitted to

Comment Code	Source of Comment	Summary of Comment	Response to Comment
		Compliance Plan should also be submitted prior to commencement of construction.	the Board, and that are sufficiently complex such that there are options as to how the Authority may demonstrate compliance. Those terms are identified in Term 55. The Compliance Plan cannot modify any terms or conditions of the Permit. A plan is not necessary prior to construction as the terms of compliance are primarily related to Project operations.
12-Gen	2026-05-26 SDWA Parties' Comments on Draft Decision & Permit for Sites Project Authority Application 25517X01 (SDWA Comment), p. 18, Section H.2.	The Compliance Plan required by Term 55 should address additional Permit Terms related to export, and the Plan should include provisions for real-time reporting of diversions and rediversions.	The compliance term primarily addresses measurement or accounting methodologies to demonstrate compliance. Terms 45, 46, and 48 may be incorporated into the Compliance Plan later if the Deputy Director for the Division of Water Rights finds that those additions are needed. The timing and frequency of reporting diversions is addressed through the measurement and reporting requirements of Chapter 2.8 of Division 3, Title 23 of the California Code of Regulations, which apply to this Permit. (Permit Term 59.)
13-Gen	SDWA Comment, p. 8, Section E.	The Permit should require the Authority to develop a plan describing how the Authority intends to coordinate with the other relevant entities to operate the Colusa Basin Drain and the Knights Landing Outfall Gates.	The Permit is revised to require that the Authority enter an operating agreement with the owners and operators of the Knights Landing Outfall Gates or demonstrate some other means to allow water released from Sites Reservoir to be transported into the Sacramento River. (Permit Term 60.)
14-Gen	2026-05-22 Reclamation Comments on Sites Draft Permit (Reclamation	The Permit and Decision should be revised to clarify that the Board is not regulating Reclamation's water rights through the Project's Permit Terms.	The terms and conditions included in the Permit apply to diversions and rediversions of water under the Permit and do not apply to other water rights. Page 1 of the Permit includes the following statement, which addresses the edits proposed by Reclamation: "The

Comment Code	Source of Comment	Summary of Comment	Response to Comment
	Comment), p. 2, Section II.A; pp. 15–16, edits to Terms 23 and 24.		terms ‘diversion’ and ‘rediversion’ in this Permit refer only to diversions or rediversions of water under this Permit, unless otherwise specified.”
15-Gen	Reclamation Comment, pp. 5–6, Section II.D.	References to exchanges with Reclamation are premature and do not sufficiently consider Reclamation’s discretion.	The Final EIR states that the proposed operation of the Project includes exchanges of water with the CVP and SWP. (Exh. AHO-069, pp. 12, 78, 88–90.) Therefore, the Decision and the Permit Terms address the possibility that the Permit may be exercised as part of an exchange. Similar to response to Comment 14-Gen, the requirements of this Permit only apply to the Authority. Terms 44–46 and 48–49 do not modify Reclamation’s water rights or affect Reclamation’s discretion to adopt or decline to adopt a future exchange program that complies with Reclamation’s mission and federal duties. The Permit’s terms and conditions pertaining to exchanges condition only the diversion and release of water under the Permit.
16-Gen	Reclamation Comment, p. 6, Section II.E.	The Project will be coordinated, not integrated, with CVP operations.	See response to Comment 5-4.4.1. Term 41 is modified to clarify that the Authority will coordinate, not integrate, operation with other reservoirs.
17-Gen	Reclamation Comment, p. 6, Section III.B.	Reclamation supports Permit Terms 15, 17, 26, 28, and 50 and requests minor edits to Permit Term 51 to account for other legal obligations beyond those specifically listed.	Reclamation’s support is acknowledged. Term 51 is revised to clarify that the requirement includes State Water Board decisions, orders, or water right terms and conditions.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
18-Gen	SDWA Comment, pp. 18–19, Section H.3.	Term 50 should be amended to also include the purpose of use and place of use of exchanged water.	The place of use and purpose of use are specified for each water right in that water right's permit or license.
19-Gen	2026-05-20 CBD Comment Letter (CBD Comment), p. 1.	CBD supports and joins in the comments and redlined version of the Permit's terms submitted by the California Sportfishing Protection Alliance, Friends of the River, Golden State Salmon Association, San Francisco Baykeeper, Save California Salmon, and Water Climate Trust.	Comment acknowledged.
20-Gen	2026-05-22 SWC Comments on Sites Draft Decision and Draft Permit (SWC Comment), pp. 3–4, Section I.A.	The Decision and Permit improperly conflate the Sites Project with the SWP and CVP.	The recommendations are partially accepted. The statement that the Sites Reservoir would be operated as an extension of the CVP and SWP is removed from the Decision. The text referencing close coordination between the Authority, the CVP, and SWP, is not revised. The record is clear that delivery of water from Sites Reservoir will include coordination with the CVP and SWP. (Exh. AHO-069, pp. 78, 87, 88 ["Project operations would be coordinated with Reclamation and DWR to benefit portions of CVP and SWP operations, prevent conflicts with the CVP and SWP operations, and avoid additional obligations on the CVP or SWP to meet applicable laws, regulations, biological opinions or incidental take permits (in the case of the SWP), and court orders in place at the time of operations"]; Exh. AHO-066, p. 17 ["Operations would be coordinated with Reclamation and DWR to prevent conflicts with the CVP and SWP and exchanges of water may occur with the CVP and SWP"]; Exh. AHO-

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			072, p. 29 [“Most of the Storage Partners receive either CVP or SWP water”], p. 22 [“The Feather and American Rivers are described because they are part of the CVP and SWP and Project operations would be integrated with operations of reservoirs on these rivers”], p. 57 [“Operations of Sites Reservoir would be integrated with existing CVP water operations and regulations for Alternatives 1, 2, and 3”].) See also response to Comment 1-3.2.
21-Gen	PCFFA Comment, p. 9, Comment 15.	Terms 23, 54, 56, and 57 give broad discretion to the Executive Director and Deputy Director to waive or modify Permit terms. These provisions need better criteria for how changes will be made.	Term 57 does not grant the Executive Director or Deputy Director discretion to modify Permit terms. Term 54 requires submission and evaluation by the Deputy Director of information pertaining to changes in Storage Partners, and it does not give the Deputy Director the authority to waive or modify Permit terms. Term 56 clarifies that the Executive Director or Deputy Director may approve a submittal from the Authority in whole or in part, and they may conditionally approve a submittal. Term 56 does not grant authority to waive or modify a Permit term. See also response to Comment 11-4.3.1.
22-Gen	PCFFA Comment, p. 11, Comment 19.	The Permit should establish a Salmonid Fishery/Food Production Mitigation Fund to require the Authority to fund habitat restoration, support hatchery production, and other fishery mitigation measures to minimize impacts on fall-run Chinook.	The Permit imposes flow conditions on Project operations rather than non-flow mitigation requirements.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
23-Gen	2026-05-20 T&M King Farms LLC Comments on the Draft Opinion for State Filed Application 25517 (King Comment), pp. 4–5.	The Permit should require continuous minimum flow over Balsdon Dam to maintain desirable temperatures and help mitigate dissolved oxygen issues in the six-mile stretch of the Colusa Basin Drain between Davis Weir Bladder Dam and the Balsdon Weir. Additionally, the delivery of Sites water to the Delevan and Colusa refuges will contribute to water quality issues in the Colusa Basin Drain.	Comment acknowledged. Current operation of and flow over Balsdon Dam are not directly related to the proposed operation of Sites Reservoir. There is no clear nexus between the proposed operation of Sites Reservoir and lack of flow at Balsdon Dam.
24-Gen	NGOs Comment, p. 18, Section VII; p. 70, edits to Term 53.	The Deputy Director should not be allowed to modify the requirements of Term 53, and if allowed, should include a public review and comment process.	Term 53 ensures that the Authority's existing commitment to achieve net-zero greenhouse gas emissions, described in the Final EIR's mitigation measure GHG 1.1, utilizes an accounting methodology that reflects the Project's actual greenhouse gases emissions. (Decision, Section 4.6.) In recognition that another state agency may in the future exercise more comprehensive authority over GHG emissions that includes Sites Reservoir, and to avoid the imposition of redundant obligations on the Authority if the Project's GHG emissions are subject to the regulatory authority of another state agency, Term 53 authorizes the Deputy Director to remove or modify the requirement. (Permit Term 53.) The Deputy Director has discretion to allow for public comment, if appropriate based on the circumstances.
25-Gen	NGOs Comment, p. 19, Section VIII.	The record does not support a finding that Project participants can afford the Project costs.	As discussed in the Decision, the Authority has provided reasonable assurances that there will be adequate funding for the development of the Project. (Decision, Section 4.6.) In addition, the Permit includes a construction deadline of December 31, 2050. (Permit

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			Term 9.) If the Project has not been constructed by that date, the Permit is subject to revocation.

RESPONSES TO COMMENTS ON SECTION 3.2

Petitions for Assignment and Release from Priority

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-3.2	2026-05-22 DWR Comments on Sites Draft Decision (DWR Comment), p. 18, Section III; p. 19, Section III.B; p. 22, Section III.G.	Finding that Sites is an extension of the SWP improperly attempts to expand the scope of the Sites water rights hearing in a way that is prejudicial to DWR's interests. Applying the 1931 County of Origin Law would provide an avenue to apply the area of origin protections consistent with statutory language without finding that Sites is an extension of the SWP.	The Decision is revised to remove reference to the Sites Project as an extension of the SWP and CVP. The Decision still reflects, however, that the Sites Project will operate in close coordination with the SWP and CVP to enhance those Projects' deliveries and help meet regulatory requirements. (See response to Comment 20-Gen.) The Decision is revised to clarify the distinction between the county of origin, area of origin, and watershed of origin protections. (See Decision, Section 3.2.2.)
2-3.2	DWR Comment, p. 18, Section III.	The water supply associated with the Stone Corral Creek and Funks Creek that is denied in the Draft Decision, is a key water supply explicitly designated for Colusa County, one of the counties of origin.	The portion of the application seeking to appropriate water from Funks and Stone Corral Creeks is bifurcated to a separate proceeding rather than denied without prejudice, as was reflected in the March 2026 Draft Decision. The Authority and other parties will have the opportunity through that separate process to introduce additional evidence relevant to the hearing issue of whether water is available for appropriation from the Creeks. (See also responses to Comments 2-4.1, 3-4.1.)
3-3.2	DWR Comment, pp. 18–19, Section III.A. Sites Comment, pp. 76–78,	The Decision incorrectly conducts an area of origin analysis and incorrectly applies Water Code section 10505.	The Decision is revised to clarify that the terms and conditions in the Permit have the effect of imposing area of origin protections on the Project. Pursuant to these conditions, the Permit prohibits diversions if those diversions would directly or indirectly deprive an in-area user of water, even if the in-area user is otherwise junior to the Permit.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
	Section J.2.b; pp. 78–80, Section J.3. SWC Comment, pp. 24–25, Section V.		Because the terms in the Permit would effectively subordinate the Permit to present and future water right holders within the area of origin, there is no demonstrated benefit from assignment of State-filed Application 25517. To the extent the terms do not fully overlap with statutory area of origin protections, the public interest supports denial of the assignment to ensure that the Project is subject to statutory area of origin protections pursuant to Water Code section 1215 et seq. (Permit Term 27.) Based on the expressed intent of the Legislature to prioritize area of origin uses over exports, and to protect existing and future right holders within areas of origin, the Board concludes area of origin limitations should apply to any water right issued for the Sites Reservoir Project that authorizes exports.
4-3.2	DWR Comment, pp. 19–20, Section III. C.	The export of previously stored water from the Project would not violate the area of origin protections.	The Decision is revised to make clear that area of origin restrictions do not apply to the rediversion of previously stored water, and to revise the discussion of impacts of diversion on area of origin users. (See Decision, Section 3.2.2.) See responses to Comments 1-3.2 and 3-3.2.
5-3.2	DWR Comment, p. 21, Section III.D. Sites Comment, pp. 80–81, Section J.4.	The subordination agreements would not confuse the administration of the water rights priority system, and they should be upheld.	The Decision is revised to address DWR and Sites' differing interpretations of the subordination agreements. As discussed in the Decision, it is unclear how the Board would effectuate the subordination agreements consistent with the differing understanding of the parties as to how the agreements would function and the rule of priority. (See Decision, Section 3.2.2.)
6-3.2	DWR Comment,	Precluding assignment of the state-filed application over	The Decision denies the assignment of the state-filed application on two independent bases. First, the Decision finds the assignment

Comment Code	Source of Comment	Summary of Comment	Response to Comment
	pp. 21–22, Section III.E.	potential exceedances of water quality objectives is unnecessary and arbitrary.	would conflict with water quality objectives. The required findings in Water Code section 10504 are a statutory requirement that may not be overridden by public interest considerations. Second, the Decision finds assignment is not in the public interest. The Decision considers the public benefits of the Sites project as a whole and finds that approval of the application is in the public interest (see Decision, Section 4.6), but not the grant of a 1977 priority date that would result from assignment of the state-filed application. The Board considers relevant water quality control plans in its decision and finds that approval of the water right application complies with water quality control plans. (See Wat. Code, §§ 13247, 1258.) At the same time, the Board finds that, based on the available evidence, the Project conflicts with the methylmercury objective in the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWBE) and the Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region because the Project will contribute to exceedances of the objectives for methylmercury in waters that receive water released from Sites Reservoir. (Decision, Section 4.4.2.) These findings are not inconsistent. Water Code section 13247 requires the Board to “comply with water quality control plans”, and section 1258 requires the Board to “consider water quality control plans” and impose terms to “carry out such plans” when acting on applications to appropriate water. (See *State Water Resources Control Bd. Cases* (2006) 136 Cal.App.4th 674, 729–34 (*State Water Board Cases*).) These statutes require the Board to comply with relevant directives of water quality control plans, but do not in all cases require the Board to condition water rights to meet the water quality objectives of these plans.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			As explained in *State Water Board Cases*, the 1995 Bay-Delta Plan directed the Board to implement the Vernalis pulse flow objective in subsequent water right proceeding. (*State Water Board Cases*, *supra,* at p. 729.) The court found that the Board failed to comply with the plan when it implemented an experimental flow regime in D-1641 instead of the Vernalis pulse flow objective as required by the program of implementation in the 1995 Bay-Delta Plan. (*Id.* at pp. 733–34.) Neither Water Code sections 1258 or 13247, nor the court's decision in the *State Water Board Cases,* requires the Board to allocate responsibility for meeting water quality objectives when acting on water right applications if the basin plan does not require implementation in that manner. As explained in Decision Section 4.4.2, neither the ISWBE nor the Central Valley Basin Plan require the State Water Board to allocate responsibility for meeting methylmercury water quality objectives through water right proceedings. However, the Board may only assign a state-filed application if it finds the project is "not in conflict with … water quality *objectives*." (Wat. Code, § 10504 [emphasis added].) The evidence in the record supports the finding that the Project will contribute to exceedances of methylmercury objectives, despite mitigation measures, violating this more specific standard. The Final EIR identifies the impacts from methylmercury as significant and unavoidable even with mitigation. (Exh. AHO-073, pp. 60–62, 65.) The Decision therefore finds the assignment of the state-filed application to conflict with methylmercury objectives while finding that approval of a water right permit with terms and conditions complies with relevant water quality control plans.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
7-3.2	DWR Comment, p. 22, Section III.F.	Draft Permit Term 27 should be amended to remove the reference to the Sacramento-San Joaquin River Delta.	Term 27 does not apply to the rediversion of previously stored water; the term prohibits diversion of water to storage for subsequent export at times when there is insufficient water for in-watershed uses.
8-3.2	NGOs Comment, pp. 6–7, Section III.	It is appropriate that the Draft Decision subjects the Project to area of origin protections and sets a priority date of 2022.	Comment acknowledged.
9-3.2	Sites Comment, pp. 72–75, Section J.1.	The Draft Decision improperly considers the public interest in evaluating the petition for partial assignment and petitions for releases.	The public interest is a fundamental consideration that guides the Board in acting on applications to appropriate water and other water right permitting decisions. (*Johnson Rancho County Water Dist. v. State Water Rights Bd.* (1965) 235 Cal.App.2d 863, 874; *Bank of America v. State Water Resources Control Bd.* (1974) 42 Cal.App.3d 198, 208; Decision 1379 (1971), pp. 24–30; see also *United States v. State Water Resources Control Bd.* (1986) 182 Cal.App.3d 82, 103; Wat. Code, § 105.) The Board has the authority and obligation to consider the public interest when acting on petitions for assignment or release from priority of state-filed applications. Water Code section 10504 states: “The board may release from priority or assign any portion of any application filed under this part when the release or assignment is for the purpose of development not in conflict with such general or coordinated plan or with water quality objectives established pursuant to law.” In addition to the two requirements in section 10504, the Board has a general obligation to consider the public interest in all discretionary water rights actions. The Authority asserts that this is one of the rare instances where the word “may” should be construed as mandatory based on the reasoning in the *State Water Board Cases.* (Sites Comment, pp. 72–73.) The relevant issue in the *State Water Board Cases* was

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			whether the Board was required to impose conditions in CVP and SWP water right permits to carry out the 1995 Bay-Delta Plan. The court held that the Board was required to impose terms to carry out the water quality control plan despite the language in Water Code section 1258, which states the Board "may subject such appropriations to such terms and conditions as it finds are necessary to carry out such plans." (*State Water Board Cases*, *supra,* at pp. 729–734.) However, the authority granted by Water Code section 1258 to impose terms and conditions in a water right permit must be construed in light of the directive of Water Code section 13247, which states: "[s]tate offices, departments, and boards, in carrying out activities which may affect water quality, *shall* comply with water quality control plans approved or adopted by the state board unless otherwise directed or authorized by statute." (*Ibid.*; Wat. Code, § 13247 [emphasis added].) In the *State Water Board Cases*, the court construed Water Code section 1258 to avoid "a de facto amendment to a water quality objective in a water quality control plan." (*State Water Board Cases*, *supra,* at p. 732.) Section 13247 does not present the same mandatory obligation here because the relevant basin plans do not require implementation of the water quality objective through water right permitting proceedings. The Board's general overarching obligation to consider the public interest supports an interpretation of section 10504 to grant discretion to the Board to consider the public interest when determining whether to approve a petition for assignment or release from priority. (Wat. Code, § 10504 ["The board *may* release from priority or assignment any portion of any application filed under this part . . . "] [emphasis added].) The word "may" in Water Code section 10504, expresses the Legislature's intent that the Board retain discretion whether to deny such a petition in furtherance of the Board's obligation to administer the water rights system and conserve the state's water resources as in

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			the public interest. While the criteria described in Water Code sections 10504 and 10505 are necessary findings to grant an assignment or release from priority, they are not necessarily sufficient. For the reasons explained above, the Board properly considered the public interest in denying the assignment and releases from priority of the state-filed applications in the Decision.
10-3.2	Sites Comment, pp. 75–76, Section J.2.a.	Assigning State-filed Application 25517 to the Authority would not erode existing rights.	The discussion in the Decision regarding impact to existing rights is revised. The water availability analysis is not an appropriate mechanism, however, to determine whether an adequate supply of water is available for junior right holders to support future demands within the counties or areas of origin. Such water may only be available on an infrequent basis and in wet years.
11-3.2	Sites Comment, pp. 82–83, Section J.5; p. 85, Section K.2.	Approval of the assignment or petition for release would not conflict with water quality objectives established pursuant to law.	As explained in the Decision, absent effective mitigation, releases from the reservoir are expected to increase methylmercury in receiving waters to such an extent as to exceed relevant water quality objectives. While appropriate mitigation may lessen these impacts, the effectiveness of any single methylmercury minimization action is not known at this time. (Decision, Section 4.4.2.) The Decision, therefore, appropriately finds that approval of the assignment or petition for release would conflict with water quality objectives. See also response to Comment 6-3.2.
12-3.2	Sites Comment, pp. 84–85, Section K.1.	The AHO's purported frustration of administration of water right priorities is not a basis for denying the petition for releases.	As explained in the Decision, the public interest factors that weigh against assignment of State-filed Application 25517 do not necessarily weigh against approval of the Authority's petition for releases from priority. (Decision, Section 3.2.2.) Therefore, the denial of the Authority's petition for releases from priority is made without prejudice. The Board may reconsider that decision at a

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			future time and upon a demonstration by the Authority, based on new information or changed circumstances, that the release from priority would not conflict with water quality objectives.
13-3.2	SDWA Comment, pp. 10–17. Section G.	The Permit needs terms to protect senior and area of origin water right holders and public trust resources from the impacts the Project's operations may have on the ability of the SWP and CVP to meet its obligations for maintaining conditions in the Delta.	DWR and Reclamation are responsible for meeting existing Delta salinity objectives to protect municipal, industrial, and agricultural beneficial uses. The terms and conditions in the Permit provide that diversions to storage in Sites Reservoir may only occur when there are relatively high flows and such diversions would not have an adverse impact on SWP or CVP operations or interfere with the water rights of users within the Sacramento River or Bay-Delta watersheds. Term 15 prohibits the Project from adversely impacting SWP and CVP operations, and it defines an adverse impact as one that requires the CVP and SWP to release additional water to meet water quality standards in the Delta. Term 15 also prohibits diversions when the Delta is in balanced conditions. Similarly, Term 28 (Standard Permit Term 91) prohibits diversions when the SWP or CVP are releasing supplemental water to satisfy in-basin entitlements. Together, these terms ensure that the Authority cannot divert when the diversions would directly impact DWR or Reclamation's ability to meet water quality standards. Term 23 imposes flow-dependent diversion requirements at the points of diversion, bypass flow requirements at Wilkins Slough from December 1 through February 28, and pulse flow protections from March 1 through May 31. These terms limit diversions to times of relatively higher flows in the Sacramento River system, sufficient to meet the bypass requirements. Term 27 explicitly subjects diversions for export under the Permit to the rights of users within the Sacramento River and the Sacramento-San Joaquin River Delta systems. Term 29 prohibits

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			diversions when any of the numeric Sacramento River inflow (including Sacramento River at Rio Vista), Sacramento River salinity, Delta salinity, or Delta outflow (including salinity-based Delta outflow) objectives of the Bay-Delta Plan are not met. These terms prevent the Authority from diverting when there may be a direct impact on in-Delta users. Term 30 requires compliance with the Bay-Delta Plan. Under the regulatory pathway, the Authority is required to meet Delta outflow requirements. And Term 31 prohibits diversions on any day in which flows provided pursuant to the Sacramento River Mainstem HRL are contributing to Delta outflow. Taken together, these terms are likely to significantly limit or eliminate the circumstances in which diversions to Sites Reservoir may impact the ability of the SWP and CVP to meet water quality objectives in the Delta. In addition, at times, water stored in Sites Reservoir may be utilized through exchanges to meet water quality objectives in the Delta. As stated in the Decision, the Delta Parties did not present evidence that additional restrictions are necessary to prevent salinity impacts if diversions are conditioned on compliance with water quality objectives and limited to times of relatively high flow as required by the bypass, pulse flow, and Delta outflow conditions. (Decision, Section 4.2.1.2.) The Board also reserves jurisdiction to amend the Permit to protect vested rights based on new information demonstrating a reasonable likelihood that operations authorized by this Permit have caused or may cause injury to senior right holders. (Permit Term 57.) If future data show a correlation between diversions to Sites Reservoir and extension of the time in which Term 91 is in effect in the same water year, that information may support a change in the terms and conditions in the Permit.

Water Available for Appropriation

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.1	Sites Comment, p. 37, Section A.4.	The Authority disagrees with the Permit's maximum annual volume, season of diversion and maximum rate of diversion but does not propose that they be removed or modified.	Comment acknowledged.
2-4.1	Sites Comment, pp. 39–41, Section B.2.	The Authority's Water Availability Analysis (WAA) for the Creeks demonstrates unappropriated water is available January–April.	As discussed in the Decision, the Authority did not demonstrate water is available from Funks Creek and Stone Corral Creek (the Creeks). (Decision, Section 4.1.3.) The Decision is revised, however, to reflect the Board's bifurcation of the portion of the Authority's water right application that seeks to appropriate water from the Creeks rather than denial of this portion of the application without prejudice. Pursuant to the bifurcation, the AHO will conduct an additional hearing day or days to allow the parties to submit additional evidence relevant to water availability in the Creeks. The Final EIR and other evidence in the record support the conclusion that the Creeks flow into, and are tributary to, the Colusa Basin Drain. (Exh. AHO-072, p. 11; Exh. Sites-142, pp. 185, 474.) The Authority, by contrast, asserts that flow from the Creeks does not enter the Colusa Basin Drain "under most conditions." (Exh. AHO-039, p. 33.) Even assuming this assertion is correct, the Authority does not identify the conditions under which flows from the Creeks reach the Colusa Basin Drain, or the extent to which these circumstances may occur during the seven out of 22 years in which the Authority's WAA identified water to be available in the Creeks. (*Id.* at pp. 8, 33.) There is no evidence in

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			the record whether or to what extent water rights diverting from the Colusa Basin Drain rely on flows from the Creeks at those times when the Authority asserts water is available for appropriation. The Authority's assumption that water is available when the Delta is in an excess condition addresses the possibility that flows in the Creeks may be hydraulically connected to the Delta. (Exh. AHO-039, p. 33.) The relationship between conditions in the Delta and satisfaction of demands in the Colusa Basin Drain is not, however, described by the Authority. Therefore, an assumption based on excess conditions cannot be relied upon to demonstrate that demands along the Colusa Basin Drain are met. As described in the Decision, the Authority will have an opportunity to provide information addressing whether water in the Creeks is available for appropriation from January to April, after accounting for any claims by right holders along the Colusa Basin Drain to water entering from the Creeks. The information should assess the demands and supplies in the Colusa Basin Drain from January to April, including any sources other than the Creeks that may contribute to meeting demands along the Colusa Basin Drain, and whether all flows from the Creeks have been appropriated by water right holders along the Colusa Basin Drain. Other relevant information may include the circumstances under which the Creeks are hydraulically disconnected from the Colusa Basin Drain.
3-4.1	Sites Comment, pp. 41–43, Section B.3.	Substantial evidence in the record indicates that granting the Authority a permit to divert from the Creeks from January–April poses little risk to water users on	The evidence in the record is insufficient to find that unappropriated water is available in Stone Corral Creek and Funks Creek to supply the applicant. The Authority states that approximately 80 percent of the face value demand of water rights on the Colusa Basin Drain are

Comment Code	Source of Comment	Summary of Comment	Response to Comment
		the Colusa Basin Drain and downstream	outside of the proposed January to April diversion season. However, the Authority does not address whether the remaining 20 percent of demand is satisfied in part by flows originating from the Creeks. (Sites Comment, p. 41.) Similarly, the Authority relies on the data available in Exhibits AHO-047 and AHO-042, which includes information about water rights within the Sacramento-Stone Corral hydrologic unit, but does not identify which of those water rights rely on the Colusa Basin Drain as a source of water. (*Ibid.*) The Authority argues that the Face Value Analysis incorporated all water rights along the Colusa Basin Drain. (Sites Comment, pp. 42–43.) While water rights along the Colusa Basin Drain are included in the water right demands of the Sacramento-Stone Corral hydrologic unit as part of the Face Value Analysis, this analysis does not identify how diversions from the Creeks would affect the availability of supplies specific to the Colusa Basin Drain or whether unappropriated water remains available after considering the extent to which flows from the Creeks satisfy water right demands along the Colusa Basin Drain. (Exh. AHO-047 [WR worksheet].) Moreover, the supply of the entire Sacramento Valley floor does not address the supply available in the Colusa Basin Drain. The Authority's comment also points to average annual flows measured at a station on the Colusa Basin Drain near Highway 20 and claims that these average flows are sufficient to satisfy the face value of all rights on the Colusa Basin Drain. (Sites Comment, p. 41.) The Authority does not address, however, how these average annual measured flows relate to water rights demands in the January to April time period. By contrast, Exhibit Ornbaun-004, which depicts flow in the Colusa Basin Drain at the station on the Colusa Basin Drain near Highway 20 in 2021,

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			shows low flows, at times near zero, during the period of January to April. (Exh. Ornbaun-004, p. 1.) The Authority may submit additional information on a schedule to be identified by the AHO to demonstrate that unappropriated supplies from the Creeks are available and the conditions under which those flows are available.
4-4.1	Sites Comment, p. 42, Section B.3, fn. 17.	The Draft Decision's reliance on T&M King Farms, LLC's photo exhibits (Exhs. King-52, -54, -55) is unreasonable and misplaced, and those exhibits should be afforded no weight.	The sentence referencing Exhibits King-52, -54, and -55 has been removed from the Decision.

RESPONSES TO COMMENTS ON SECTION 4.2.1

Avoidance of Injury to Senior Right Holders – Delta Water Rights

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.2.1	Sites Comment, pp. 44–46, Section D.1. DWR Comment, pp. 2–3, Section I.A.1. Reclamation Comment, pp. 2–3, Section II.B. SWC Comment, pp. 9–10, Section II.A.; p. 13, Section II.A.2.	Conclusions related to impact of Sites Project rediversions on water levels in the Delta are incorrect and unsupported. The Draft Decision's conclusion regarding potential injury due to water levels is not supported by the evidence in the record.	Consistent with previous Board decisions, the Decision finds that the addition of the Authority's exports through the Delta may injure legal users of water by contributing to lower water levels, resulting in a cumulative impact that is material and significant. (Revised Decision 1641; see also e.g., Order WR 2001-03-DWR; Order WR 2004-0024-DWR.) It is reasonable for the Board to conclude that, if the existing level of exports through the Delta could cause injury absent appropriate conditions, the effect of additional new exports may contribute to that injury. The Authority's analysis showed that operations would reduce water levels by up to 1.2 inches, calculated as a monthly average change in minimum water levels by water year type. (Exh. Sites-110, pp. 7–8, ¶ 24; Exh. Sites-256, pp. 19–22; Decision, Section 4.2.2.1.) As discussed in the Decision, because these results were presented as a monthly average by water year type, more significant fluctuations at a sub-monthly time step, or in a single month of a particular year, would not be apparent in the model results. (Decision, Section 4.2.1.1.)
2-4.2.1	Sites Comment, pp. 49–51, Section D.4.	The Water Level Response Plan (WLRP) remains the appropriate mechanism for ensuring that rediversion of Project water does not cause injury to water users in	Term 49 is revised to require compliance with an updated WLRP. DWR's expert witness acknowledged that there are areas in the southern Delta where low water levels are a problem for irrigators. (Rebuttal Transcripts Combined (Reb. Tr. Comb.), p. 723:6–10.)

Comment Code	Source of Comment	Summary of Comment	Response to Comment
	DWR Comment, p. 3, Section I.A.1. SWC Comment, pp. 15–16, Section II.B.2. Reclamation Comment, pp. 3–4, Section II.B.	the South Delta. There is no evidence in the record that the plan is inadequate.	Although other factors may have contributed to these low water levels, the evidence supports the conclusion that export operations contribute to adverse conditions by further lowering water levels. (Decision, Section 4.2.1.1; Exh. SDWA-4, p. 1 [describing location that came close to drying up]; Exh. SDWA-91-a, p. 25, ¶ 49 [discussing water level complaints acknowledging interference with diversions], p. 26, ¶ 50 [noting that water availability in Tom Pain Slough decreased by around 30 percent due to low water levels]; Reb. Tr. Comb., pp. 712:10–15 [cross-examination of Mr. Miller acknowledging water level complaints], 1133:6-12 [redirect of Mr. Burke regarding parties that claimed water level impacts].) DWR's expert witness testified that, when implementing the WLRP, DWR only considers the magnitude by which exports will incrementally change water levels, not whether the resulting depth in the channel will be adequate to support diversions. (Reb. Tr. Comb., pp. 720:25–721:6.) The evidentiary record supports the conclusion that the WLRP must be updated to more reliably identify and prevent export operations from causing injury by reducing water levels. The Board is committed to conducting a public process to update the WLRP in coordination with DWR, Reclamation, SDWA, and other affected parties before the Project is operational. Term 49 now authorizes operation of the Project in compliance with an updated WLRP. The current WLRP states that the "parties shall work together to refine the definitions of water levels in the South Delta below which local diversions become impaired." (Exh. Sites-252, p. 7.) Term 49, as revised, is consistent with the intended adaptive nature of the WLRP. If an updated WLRP is not approved by the time the Project is operational, the Board reserves the authority to determine whether some other condition is necessary to ensure that rediversion authorized under the Permit does not contribute to lowering of water levels that injures other legal users.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
3-4.2.1	Sites Comment, pp. 46–48, Section D.2. DWR Comment, pp. 4–9, Section I.A.2. SWC Comment, pp. 10–12, Section II.A.1.	The Draft Decision's conclusions regarding DSM2 are incorrect. The AHO erred by giving too much weight to Mr. Burke's testimony critiquing DSM2 modeling. Instead, it should reconsider its criticisms of the DSM2 version Sites utilized.	The Board does not dispute that DSM2 is a useful and best available comparative tool for planning and assessment purposes. As a predictive tool, however, DSM2 must be applied with care because of the limitations of such a model for predictive purposes. The Authority's expert Steven Micko testified that comparative models "should be used with caution where absolute results are needed in instances such as determining effects based on a threshold." (Exh. Sites-108, p. 3, ¶ 7.) Here, while DSM2 was useful to estimate average impacts of the proposed Project using comparative model runs, the specific magnitude of that impact, particularly on a sub-monthly time scale and for purposes of determining injury to water users, remains uncertain. The portions of the Decision discussing Mr. Burke's testimony are revised. The Decision no longer relies on Mr. Burke's testimony addressing channel bathymetry.
4-4.2.1	DWR Comment, pp. 9–10, Section I.A.3; p. 15, Section I.F.	The Board should rely on well-established modeling analysis to determine long-term effects, not create a new, higher standard. The Board's critique of long-term modeling masking potential impacts undermines all water supply planning. DWR recommends the Board use a similar approach as described in Appendix A2 of the 2018 Bay-Delta Plan Update.	Both the long-term average and short-term acute impacts of a proposed increase in exports of Project water are relevant to assessing whether the appropriation may injure other legal users. The Board recognizes the importance of monthly aggregation for long-term planning and assessment of average impacts over time. Relying solely on long-term modeling to determine whether there will be short-term impacts on senior diverters, however, may overlook important effects. An average change in water level could encompass larger changes during a shorter period. As discussed in the Decision, these acute effects can have significant impacts on the ability to divert water for agricultural use, resulting in injury. (Decision, Section 4.2.1.2.) We also agree with commenters that "these models are not intended to predict precise daily values; rather, they represent long-term hydrologic patterns, operational behavior, and relative differences between

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			alternatives." (DWR Comment, p. 9.) Furthermore, compounding effects of even modest incremental changes may cause injury. (Decision, Section 4.2.1.2.)
5-4.2.1	DWR Comment, pp. 10–11, Section I.A.4. Sites Comment, pp. 48–49, Section D.3. Reclamation Comment, p. 3, Section II.B. SWC Comment, pp. 14–15, Section II.B.1.	The Decision is not the appropriate place to address the adequacy of the WLRP. The WLRP is a condition of DWR's rights and was not an issue in the hearing. There was no reason for any party to offer evidence attempting to support why the criteria remain appropriate to prevent injury.	Hearing Issue 3.a.ii. asked whether the proposed application would interfere with the exercise of existing rights so as to injure existing right holders. (Decision, Section 2.6.2.) The Authority proposed the inclusion of Sites Project Authority (SPA) Special Term 11 to require all Delta exports to comply with D-1641 and the WLRP to avoid injury. (2025-05-27 Sites Closing Br., pp. 108–109; Exh. Sites-395c, p. 21, ¶ 48.) The adequacy of relying on D-1641 and the WLRP to prevent injury, as applied to rediversion of Sites water through the Delta Export Facilities, was therefore directly at issue in this hearing. Although the Authority argues that the WLRP as currently implemented is an appropriate condition of rediversion, water levels have repeatedly dropped below the level needed for irrigation over the period when the WLRP has been in effect. (Decision, Section 4.2.1.1.) Evidence in the record shows that rediversion of Project water has the potential to further lower water levels in the southern Delta. (Decision, Section 4.2.1.1.) Term 49 is revised to require compliance with an updated WLRP. If an updated WLRP is not approved by the time the Project is operational, the Board reserves authority to amend the Permit to include conditions to prevent contribution toward lowering of water levels from export of Sites water that may injure other legal users. The Decision and the terms in the Permit apply to the diversion, rediversion, and use of water as authorized by the Permit, and not the rediversion of water under any other right.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
6-4.2.1	DWR Comment, pp. 12–13, Section I.A.5.	Order 2026-001 (2026 Yuba Order) characterizes Delta transfers as falling under DWR's requirements, while the Draft Decision characterizes the transfers as Sites Operations.	See revisions to the Decision in Section 4.2.1.1.
7-4.2.1	DWR Comment, pp. 13–14, Section I.B.1-3. Sites Comment, pp. 51–52, Section D.5. SWC Comment, pp. 16–17, Section II.C.	Term 49 should focus on water levels, not water depths.	Term 49 is revised to require compliance with an updated WLRP and no longer includes any reference to water depth.
8-4.2.1	Sites Comment, pp. 43–44. Section C. SWC Comment, pp. 19–20, Section III.C.	Term 46 is inconsistent with the existing regulatory framework for the Delta Export Facilities. Term 46 should be revised to conform with existing regulatory authorizations for rediversion of Non-CVP/SWP Project Water at the Export Facilities.	If regulatory requirements differ, the more stringent requirement applies. Term 46 is consistent with the Board's recent approval of the Yuba Transfer Order. (Order WR 2026-0001, p. 34.)

Comment Code	Source of Comment	Summary of Comment	Response to Comment
9-4.2.1	DWR Comment, pp. 2–3, Section I.A.1.	Describing Sites “Project operations” as having an impact in the south Delta makes it seem that the Authority will be taking actions in addition to what DWR is already authorized to do.	The reference to diversions rather than rediversions in the Decision is corrected. The Decision is revised to reflect that the proposed rediversions, rather than diversions, of Sites Project Authority’s released water may injure legal users of water absent appropriation conditions on Project operations. (Decision, Section 4.2.1.2.) The Decision is also revised to clarify that rediversion of water through the Delta Export Facilities, not the Authority’s “operations” generally, may impact southern Delta water levels and salinity.
10-4.2.1	Reclamation Comment, pp. 4–5, Section II.B. SWC Comment, pp. 18–19, Section III.B.	The Draft Decision does not accurately reflect the contents of D-1641 and improperly draws conclusions that operation of the Delta Export Facilities is causing increasing salinity.	The Decision is revised to reflect that DWR and Reclamation are *partially* responsible for salinity problems in the southern Delta, due to hydrologic changes caused by export pumping. (Revised Decision 1641, pp. 100–101; Decision, Section 4.2.1.1.) D-1641 requires DWR and Reclamation to meet salinity requirements at the interior southern Delta stations. (Revised Decision 1641, pp. 100–101.)
11-4.2.1	Reclamation Comment, pp. 5-6, Section II.D; p. 26, edits to Terms 44–49. SWC Comment, pp. 7–8, Section I.B.3.	Term 44 attempts to impose new conditions on DWR and Reclamation. Terms 44–46 and 48–49 appear to infringe on Reclamation’s discretion to adopt an exchange program.	The Decision and Permit Terms apply only to the diversion, rediversion, and use of water as authorized by the Permit. The Permit appropriately conditions releases of Sites Project water in exchange for water to be exported pursuant to some other right with the same conditions applicable to export of water under the Permit. (Permit Term 44.) Such exchanges are made possible because of the availability of water stored under the Permit, and exports may increase because of the availability of Sites Project water in exchange. Conditions on these exchanges prevent injury from water level or water quality impacts and thereby protect the public interest to best develop, conserve, and use the water sought to be appropriated. (See Decision, Section 4.2.1.)

Comment Code	Source of Comment	Summary of Comment	Response to Comment
12-4.2.1	DWR Comment, p. 27, Section V.E. SWC Comment, p. 8, Section I.B.4.	Term 51 should be deleted. Term 51 overlaps with and is redundant of a combination of Permit Terms 46 and 48. If DWR and Reclamation are not in compliance, the recourse should be against them, not the Authority.	Term 51 is based on SPA Special Term 10, proposed by the Authority. (2025-05-27 Sites Closing Br., p. 108.) The Authority did not object to Term 51 in its comments.
13-4.2.1	SDWA Comment, p. 5, Section B.	Any proposed permit term that purports to address water level impacts is based on a condition that has not been properly analyzed, will not prevent harm from occurring, and cannot be considered sufficiently protective.	Term 49 is revised to require compliance with an updated WLRP. See response to Comment 2-4.2.1 regarding the updated WLRP as a condition of rediversion.
14-4.2.1	SDWA Comment, pp. 17–18. Section H.1.	Term 46 should clarify that rediversion is subject to the water quality objectives in the Bay-Delta Plan, as it may be amended through the water quality control planning process, and not as modified by a Temporary Urgency Change Petition (TUCP).	Term 46 conditions rediversions of water on compliance with the objectives of the operative Bay-Delta Water Quality Control Plan. A Temporary Urgency Change Order obtained by DWR or Reclamation would not apply to the terms or conditions in the Permit, including Term 46. In addition, Term 22 requires compliance with the 2024 ITP Condition of Approval 9.9, which prohibits diversion to storage when the CVP and SWP are operating to conditions modified by a TUCP.
15-4.2.1	NGOs Comment, p. 16, Section VI.D; p. 67,	If rediversion of Sites water occurred within 72 hours preceding an exceedance or violation of certain Bay-Delta Plan water quality objectives, no rediversions	The recommendation is rejected. Prohibiting diversion following an exceedance would prevent rediversion of water even when water quality objectives are met.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
	edits to Term 46.	of Project water should be allowed for seven days following the end of the exceedance or violation.	
16-4.2.1	DWR Comment, p. 26, Section V.D. Reclamation Comment, p. 26, edits to Terms 45–49. SWC Comment, pp. 6–7, Section I.B.2.	Terms 45–49 should be modified to clarify they only apply to water stored in Sites Reservoir. Each term should, at the least, be amended to clarify that it is only referring to water rediverted under Sites' water right Permit.	The Permit states on page 1 that all conditions on diversions and rediversions apply only to the diversion and rediversion of water under this Permit. Therefore, it is not necessary to add "under this Permit" to any specific term. The Decision and the terms in the Permit are only binding on the diversion, rediversion, and use of water as authorized by the Permit.
17-4.2.1	SWC Comment, p. 8, Section I.B.5.	A new term should be added that clarifies that the Decision does not authorize the Project to use any of the CVP or SWP physical facilities absent independent agreements from DWR or Reclamation.	This term is included in the Permit as Term 58.
18-4.2.1	SWC Comment, p. 18, Section III.A.	The Draft Decision improperly implies that the Project will cause increases in salinity beyond what the Authority's modeling shows. The Decision's critique of the Authority's modeling is without merit.	The Decision acknowledges that the relationship between export operations and salinity conditions in the southern Delta is complex. The Decision critiques the Authority's model results because of the use of multiple layers of averaging, which may mask relevant modelled impacts. (Decision, Section 4.2.1.2.) Although SWC objects that the Authority provided daily results, citing Exhibit AHO-136 for support, Exhibit AHO-136 identifies the report format as

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			monthly exceedance charts. (SWC Comment, p. 18; Exh. AHO-136, p. 3.) The evidence in the record supports a finding that exports through the Delta Export Facilities will, at times, increase salinity. (Exh. Sites-110, p. 8, ¶ 28; Exh. SDWA-2a, p. 10, ¶ 12.) The Decision properly concludes that a condition on rediversion of Project water at the Delta Export Facilities is appropriate and imposes conditions on rediversion based on attainment of numeric water quality objectives in the Bay-Delta Plan rather than D-1641 as proposed by the Authority. (Decision, Section 4.2.1.2.)
19-4.2.1	SWC Comment, pp. 23–24, Section IV.E.	Term 45 should be deleted. Expressly referencing certain months when water may be rediverted at the Delta Export Facilities sets up the potential for inconsistencies with other environmental requirements.	Term 45 is consistent with environmental analyses for the Project and the proposed Project operations. The Final EIR analyzed July through November as the time period in which Project water may be exported at the Delta pumping facilities. (Exh. AHO-072, pp. 33–34; Exh. Sites-110, p. 7, ¶ 23.) The proposed Project operations also assume rediversion of water at the Delta facilities only from July through November. (Exh. Sites-070c, p. 4, ¶ 10, fn. 6.) The Permittee may submit a petition to change the term, with supporting environmental documentation, if the conditions on transfers through the Delta Export Facilities change in the future.

RESPONSES TO COMMENTS ON SECTION 4.2.2

Avoidance of Injury to Senior Right Holders – Federal Reserved Water Rights

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.2.2	SWC Comment, p. 30, edits to Term 26.	Term 26 should be amended to delete the statement that the Permit is junior to federal reserved rights, even if those rights are unadjudicated.	Term 26 is intended to restate applicable law. The reference to federal reserved rights acknowledges that senior water rights may include federal reserved rights and is not intended to suggest that a future-created federal reserved right with a junior priority date would be senior to the Permit. Term 26 is revised for clarity on this point. Because federal reserved rights are not lost through non-use, approval of a junior right cannot diminish the scope of an existing federally reserved right. A junior right may be required to curtail its diversions to ensure the senior right is satisfied.

Avoidance of Injury to Senior Right Holders – Groundwater Rights

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.2.3	Sites Comment, pp. 66–67, Section I.1.	Term 52 should be revised; the draft Decision relies on unreliable evidence of Project impacts on groundwater recharge to support its conclusions.	Of the available groundwater modeling scenarios, Alternative B from 2017 RDEIR/SDEIS is the most appropriate for evaluating the effects of the Project as it is currently configured. (Exh. Sites-112, p. 14, ¶ 28; Exh. Sites-153, p. 8.) In his testimony, the Authority's expert, Dr. Jeffrey Davids, focused on changes in exchange between groundwater and surface water at the two points of diversion (PODs) using the groundwater modeling scenario from Alternative B. (Exh. Sites-112, p. 114, ¶ 28.) Dr. Davids did not explain why he excluded potential changes in groundwater/surface water exchange at the Delevan Pipeline release location, nor does the Authority provide a reason why this location would generate unreliable results. Seepage occurs over the wetted area of a canal or river. For example, Dr. Davids assessed seepage contributions from the GCID Main Canal over the reaches of the GCID Main Canal that would experience an increase in wetted area due to Project operations. (Exh. Sites-112, pp. 8–9, ¶¶ 14–16.) Assessing seepage changes from the Sacramento River only near the PODs does not reflect the cumulative reduction in seepage from the Sacramento River along its length downstream of the points of diversion. (Exh. Sites-146, pp. 14, 19–20.) Appendix 8B presents the results as the change in groundwater/surface water

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			exchange for three cumulative distances downstream of each location: five miles, 10 miles, and 12 miles. (Exh. Sites-146, pp. 17–18, tbl. 10A-2, p. 20, p. 37, fig. 10A-11.) The results in Figure 10A-11 illustrate increasing seepage as changes in the groundwater/surface water exchanges accumulate downstream; the total rates are higher for 12 miles downstream as compared to five miles. (Exh. Sites-146, p. 37, fig. 10A-11.) The Delevan Pipeline location is downstream of the TCC and GCC and thus reflects a longer reach of the Sacramento River for accumulated changes in groundwater/surface water exchanges. (Exh. AHO-340, p. 27, fig. 1-5.) The operation of the Delevan Pipeline under Alternative B would have been as a point of release, not a point of diversion; this would only serve to increase flows in the Sacramento River at this location and downstream, which would increase rather than decrease seepage rates. (Exh. AHO-106, p. 3.) Consideration of results at the Delevan location are appropriate because they more fully, though not completely, reflect the cumulative change in seepage.
2-4.2.3	Sites Comment, p. 67, Section I.2.	The Decision should be revised to more thoroughly discuss and rely on the evidence presented by Dr. Davids.	See response to Comment 1-4.2.3.
3-4.2.3	Sites Comment, pp. 67–69, Section I.3.	The evidence indicates that Project diversions will not adversely affect groundwater wells on the Colusa Reservation or elsewhere throughout the basin.	As described in response to Comment 1-4.2.3, the full extent of the reductions in recharge to the Colusa Subbasin are not assessed by the method Dr. Davids relied upon. The Authority presents the potential change in recharge as minimal but does not place this change in recharge in the context of storage conditions in the Colusa Subbasin. (Sites

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			Comment, p. 68.) The 2023 Annual Report for the Colusa Subbasin reports a cumulative decrease in storage between spring 2015–2016 and spring 2023 of 553,000 acre-feet. (Exh. Sites-143, p. 11, tbl. ES-1.) Additional losses of recharge may contribute to or exacerbate this loss of groundwater storage, thereby affecting groundwater users. The Authority's comments regarding monitoring activities by the groundwater sustainability agency illustrate that implementation of Term 52 could likely rely on existing monitoring programs and that there are available thresholds that can be adapted to reflect thresholds for unreasonable impacts to the basin. (Sites Comment, p. 69.) Coordination to ascertain the extent to which diversions by the Project may contribute to conditions below those thresholds, if those conditions occur, is reasonable.
4-4.2.3	Sites Comment, pp. 69–70, Section I.4.	Cachil DeHe's decision not to submit sufficient information regarding groundwater rights and uses should not be used as a basis for imposing groundwater monitoring requirements on the Authority.	Term 52 is not specific to Cachil DeHe and is intended to ensure that diversions by the Project do not injure any groundwater users.
5-4.2.3	Sites Comment, pp. 70–71, Section I.5.	Term 52 should be revised to require coordination with the Colusa Subbasin Groundwater Sustainability Agencies (GSAs).	The Board supports the Authority's working coordination with the GSAs. This coordination does not supplant the required groundwater monitoring plan identified in Term 52.
6-4.2.3	King Comment, pp. 2–3.	Diversion of flows from Funks Creek and Stone Corral Creek	The Decision does not authorize diversions from Funks Creek or Stone Corral Creeks. (Decision, Section 4.1.) The

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		will adversely affect recharge to the Colusa Subbasin in the six-mile portion of the Colusa Basin Drain between the Davis Weir Bladder Dam and Balsdon Weir. This area and the College City area, which is reliant on groundwater, should have area of origin priority.	Decision is revised, however, to reflect the Board's bifurcation of the portion of the Authority's water right application that seeks to appropriate water from the Creeks rather than denial of this portion of the application without prejudice. (Decision, Section 4.1.) Pursuant to the bifurcation, the AHO will conduct an additional hearing day or days to allow the parties to submit additional evidence relevant to water availability in the Creeks.

Fish, Wildlife, and Other Instream Beneficial Uses — Fish and Wildlife

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.3.1	DWR Comment, pp. 22–23, Section IV.A. Sites Comment, pp. 25–27, Section 2. SWC Comment, pp. 21–22, Section IV.B.	The Draft Decision fails to balance competing public interest concerns.	The state's water resources shall be put to reasonable and beneficial use to the fullest extent of which they are capable. (Cal. Const., art. X, sec. 2; Wat. Code, §§ 1240, 1375, subd. (c); Cal. Code Regs., tit. 23, §§ 696, 698.) The Water Code directs the State Water Board to allow the appropriation of unappropriated water for beneficial purposes under such terms and conditions as in its judgment will best develop, conserve, and utilize in the public interest the water sought to be appropriated. (Wat. Code, §§ 1253, 1257.) In acting on an application to appropriate water, the Board must consider the relative benefit to be derived from all beneficial uses of the water. (Wat. Code, § 1257.) This balancing of competing uses requires consideration of consumptive uses, such as water supply for municipal, domestic, agricultural, and industrial needs, balanced against instream needs such as preservation of fish and wildlife and protection of water quality necessary to other beneficial uses (see Wat. Code, §§ 1243, 1243.5), and, whenever feasible, avoidance or minimization of harm to public trust resources as consistent with the public interest. (*National Audubon Society v. Superior Court* (1983) 33 Cal. 3d 419, 446–447.) In this proceeding, the Board has an obligation to balance, in the public interest, water supply demands for consumptive purposes with those for instream needs. The scientific information in the evidentiary record supports the selection of the diversion criteria in March 2026 Draft Term 23 (as issued on March 20, 2026, hereinafter, "March 2026 Draft Permit" or "March 2026 Draft Term") as effective measures to reduce impacts of the proposed diversions on fish species. As further discussed below,

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			however, the available scientific information contains some uncertainty regarding the relative effect of specific timing and magnitude of flows in minimizing adverse impacts on different lifestyle behaviors and runs of salmon. (See responses to Comments 6-4.3.1, 7-4.3.1.) Available studies do not comprehensively apply to all runs of Chinook salmon and are instead limited to certain sizes of salmon, timing of runs, and hydrologic events. (See, e.g., Exh. Sites-300, pp. 20–23 [CDFW discussing its approach to modeling, biological, and operational uncertainty].) In addition, the Board has a discretionary obligation to balance competing needs for beneficial uses of water. The additional evidence about impacts on Project yield submitted by the Authority with its comments on the March 2026 Draft Permit provides a quantitative analysis by which the Board may assess the impact of the March 2026 Draft Terms on competing interests in water supply for consumptive uses. (See Decision, Section 4.3.1.1.) The Authority estimated that the three components of the March 2026 Draft Term 23 had an approximately 12 to 15 percent cumulative impact on Project yield as compared to Project operations with ITP requirements. (Sites Comment, p. 26.) With only those conditions in the ITP, the Authority estimated that average annual yield of the Project would be 252 to 301 thousand acre-feet (TAF) per year. (Sites Comment, p. 14.) With the estimated impact of March Draft Term 23, the Authority's analyses estimates that the Project's average annual yield would be 214 to 264 TAF/Y. (*Id.* at pp. 98, 126.) Based on the Authority's analyses and in consideration of the impacts on the water supply that would otherwise be made available by operation of the Project, Term 23 is revised. These modifications balance the scientific information about impacts to fisheries, including the uncertainty of how particular conditions and bypass flows may affect survival, and the impacts to Project yield. For further

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			discussion of the estimated Project yield with Term 23 as revised, see the Discussion in Section 4.3.1.1 titled Project Yield and Permit Term 23. Permit Term 23 also addresses existing scientific uncertainty and the likelihood of future changed conditions by allowing the Permittee to modify the flow requirements based on new information. (Permit Term 23(d).) Permit Term 23(d) accounts for future scientific study that may demonstrate that the requirements of Term 23 are either over- or under-protective, in light of competing demands.
2-4.3.1	Reclamation Comment, p. 6, Section III.A.	Reclamation, as a federal entity, is subject only to the federal Endangered Species Act.	The Permit is revised.
3-4.3.1	DWR Comment, p. 26, Section V.B. Sites Comment, pp. 64–65, Section H. SWC Comment, p. 21, Section IV.A.	Term 22 creates the possibility that the Permit and the 2024 ITP would be in conflict and should be removed or otherwise modified.	Term 22 will not interfere with the Authority's compliance with the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA). To the extent new ITP requirements differ from the 2024 ITP requirements, the Authority is required to comply with the more stringent requirements.

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4-4.3.1	NGOs Comment, pp. 32–33, edits to Term 22.	Term 22 should not be subject to modification; the 2024 ITP requirements should continue to apply after 2024 ITP is amended.	Term 22 is only subject to modification if CDFW issues a revised ITP, and the Executive Director determines in consultation with CDFW, and after notice and opportunity for public comment and comment by Tribes, that the amended terms would be equally or more protective of fish and wildlife. Any amendment of the terms that would not be equally protective of fish and wildlife must proceed through the change petition process. To the extent new ITP requirements differ from the 2024 ITP requirements, the Authority is required to comply with the more stringent requirements.
5-4.3.1	DWR Comment, pp. 22–23, Section IV.A.1. Sites Comment, pp. 27–29, Section A.2.a.	The Decision lacks analysis that extending the bypass flow criteria will protect, maintain, or enhance fall-run. The 2024 ITP does not support that Term 23(a) will protect green sturgeon. Term 23(a) should be removed.	As discussed in the Decision, fall-run Chinook salmon are of significant commercial, recreational, and cultural value. (Decision, Section 4.3.1.1.) Over the past two decades, the wild-spawning fall-run population has declined about 96 percent. (Exh. GSSA-1, pp. 5–6, ¶¶ 12–13.) The 2024 ITP does not purport to protect fall-run, because fall-run are not listed species. Therefore, the Board has an obligation to independently consider whether additional flow criteria are appropriate to limit impacts of the proposed diversions on fall-run migration pursuant to the Board's responsibility to protect public trust resources, when feasible and in the public interest. The Authority asserts that because only a minority of fall-run Chinook salmon are present upstream of Red Bluff, additional flow criteria to limit near-field effects on this minority of the population are not warranted. The Final EIR states, however, that the "primary spawning area used by fall-run and late-fall–run Chinook salmon in the Sacramento River is the area from Keswick Dam downstream to the [Red Bluff Pumping Plant]." (Exh. AHO-161, p. 46.) From 2009–2020, a mean of 35.2 percent and a median of 36.7 percent of all adult fall-run and late-fall-run Chinook salmon were present

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			upstream of Red Bluff. In some years, more than a majority of all adult fall-run and late-fall-run Chinook salmon are present upstream of Red Bluff. For example, in 2009, 51.1 percent of all fall- and late-fall-run were present upstream of Red Bluff. (Exh. AHO-078, p. 185, tbl. 11-38.) The Final EIR additionally states that "around 30 [percent]–40 [percent] of fall/late fall-run Chinook salmon may pass the intakes." (Exh. AHO-078, p. 187.) The Authority relies on Michel et al. (2021) to assert that smolt outmigration occurs in the spring and is minimal or does not occur at all in January and February. (Sites Comment, p. 28; Exh. BK-59, p. 16.) As documented in the Final EIR, however, there is a high presence of fall-run and late-fall-run juvenile Chinook salmon at Red Bluff between January and February. (Exh. AHO-161, pp. 48–49, tbls. 11A-6,11A-7.) The Final EIR additionally notes that at the Red Bluff Diversion Dam rotary screw traps, the main portion (90 percent) of juvenile fall-run Chinook begins to pass in mid-December to the first of February and finishes passing from mid-March to the end of June. (Decision, Section 4.3.1.1; Exh. AHO-078, p. 176; Exh. AHO-162, p. 22, fig. 11A1-19.) Based on this evidence, the Board concludes that the proportion of fall-run and late-fall-run Chinook expected to migrate past the intakes at Red Bluff is significant in relation to the total population. The impact of flows at Red Bluff on the population of fall-run is not insubstantial, particularly given current population numbers that led to complete closure of the commercial salmon fishery from 2023 to 2025. Term 23(a) appropriately reduces near-field effects of the diversion on fall-run and other runs of Chinook salmon, with a relatively low impact on Project yield. The Authority estimated that the component (a) of the March Draft Term 23 had an approximately 1 to 3 percent impact on Project yield, as compared to Project operations with ITP

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			requirements. (Sites Comment, p. 27.) This is a reduction in average annual yield of approximately 3 TAF to 10 TAF. (Exh. Sites-425, p. 6; Exh. Sites-426, p. 2; Decision, Section 4.3.1.1, tbl. 6.) The Board does not disagree that future studies may provide additional information that would allow further tailoring of the flow requirements to more precisely balance Project yield impacts with effects on salmonids. For example, the minimum size for use of acoustic telemetry tags on juvenile Chinook salmon is greater than 80 millimeter fork length. (Exh. Sites-300, p. 346.) As a result, survival studies are biased toward fish that are larger and begin migration later in the season than most natural Chinook salmon. (*Ibid*.) Condition 8.7.5 of the Operations ITP is designed to fill this data gap regarding survival estimates without size and temporal biases. (*Id.* at pp. 197–199, 346; Decision, Section 4.3.1.1.) Term 23(e) requires the Authority to include fall-run and late-fall-run within the scope of this study. Term 23(d) addresses the possibility that future studies addressing uncertainties about the effects of diversions on pre-smolt salmonids, such as those required by the ITP and this Permit, may be used to amend the requirements of Term 23(a). The Decision is revised to remove the statement that Term 23(a) will minimize near-field impacts to green sturgeon, as green sturgeon are not present at the Red Bluff Diversion Dam in January and February. (Exh. AHO-078, p. 244, fig.11-24.)
6-4.3.1	DWR Comment, p. 23, Section IV.A.2.	The Decision does not properly analyze the need for the Bend Bridge Pulse Flows and improperly relies on CDFW's fish screen exposure analysis. Term 23(b) should be removed.	The evidence in the record supports the finding that fish movement is associated with precipitation-generated peaks. Pulse flow protection enhances the survival of migratory fish by limiting the potential for near-field effects when juvenile salmon migration is triggered. (Exh. AHO-069, p. 80; Exh. Sites-104, p. 4, ¶ 6.) Pulse flows also minimize far-field effects, including, for example, reductions in

Comment Code	Source of Comment	Summary of Comment	Response to Comment
	Sites Comment, pp. 29–32, Section 2.b.		frequency and duration of floodplain inundation that provides rearing habitat for juvenile salmonids. (Exh. Sites-104, p. 6, ¶ 11.) While fish screens help alleviate the impacts of near-field effects, the Final EIR relied on the combination of fish screens and pulse flow protections to limit interactions when juvenile salmonids were moving downstream of the diversion intakes. The Authority asserts in its comment that its expert, Dr. Greenwood, concluded that near-field exposure at the intakes would not increase mortality of juvenile salmon due to the use of fish screens that meet NMFS and CDFW performance criteria. (Exh. Sites-104, p. 4, ¶ 6.) Dr. Greenwood's testimony did not, however, solely rely on the presence of fish screens. Instead, he based his conclusion that there would be limited potential for near-field effects in part on pulse flow protections which "would limit the potential for near-field effects from the Project's diversions on juvenile salmonids moving downstream past the intakes during the periods of this pulse flow protection measure." (Exh. Sites-104, p. 4, ¶ 6.) The Authority also points to the ITP effects analysis, which cites Notch et al. (2020) as showing 100 percent survival of juvenile fall-run Chinook through the Hamilton City Oxbow channel. (Exh. Sites-300, p. 131.) CDFW continues its analysis, however, by stating that changes to habitat and hydrodynamics associated with the Project may lead to higher predation in the Oxbow then would otherwise exist, and out-migrating juvenile winter and spring-run Chinook are significantly smaller than the greater than 80 millimeter (>80 mm) fork length acoustically tagged fish used in the Notch study. (*Ibid*.) The Final EIR notes that that vast majority of fall-run Chinook captured at Red Bluff between 2002 and 2021 had fork lengths between 30 and 39 millimeters. (Exh. AHO-078, p. 188, fig. 11-20.) Similarly, the majority of the late-fall-run Chinook captured at Red

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			Bluff between 2002-2012 had fork lengths smaller than 80 millimeters. (Exh. AHO-078, p. 189, fig. 11-21.) Therefore, the Notch study does not demonstrate that protection of pulse flows would not reduce impacts on Chinook smaller than the greater than 80 millimeter fork length under the conditions of Project operations. The Board does not disagree that future studies may provide additional information that would allow further tailoring of the flow requirements to more precisely balance Project yield impacts with effects on salmonids. The Operations ITP requires several studies to address uncertainty about the potential for near-field effects. (Sites Comment, p. 30.) These studies may inform amendment of the Operations ITP, if warranted. (Exh. Sites-312, p. 4, ¶ 7.) These studies may also support amendments to Term 23 pursuant to Term 23(d). The Authority asks us to disregard the analysis and assumptions regarding screen exposure that CDFW relied on in the ITP effects analysis. The Authority states that CDFW did not support its assertion that fish screen exposure is proportional to the percentage of Sacramento River flow diverted. (Sites Comment, p. 31; Exh. Sites-300, pp. 89–92.) CDFW's assumption regarding the relationship between flows and screen exposure is a baseline assumption for the ITP effects analysis. (Exh. Sites-300, pp. 91, 94.) The ITP's flow-dependent diversion criteria at both points of diversion are founded on this assumption. (*Ibid.*) We do not find adequate basis in the record to disregard CDFW's conclusions, including the appropriateness of the flow-dependent diversion criteria, which are based on this foundational assumption.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			The evidence in the record supports the importance of pulse flows in spring. Michel et al. (2021) identifies spring pulse flows as improving survival by restoring functional parts of the flow regime. (Exh. BK-59, pp. 13, 17.) Pulse flows in spring months help to cue outmigration for juvenile salmon before low flows and higher thermal conditions seen in late spring. (Exh. BK-67, p. 86.) Pulse flows in spring also provided benefits to rearing and migration survival and increased food productivity. (*Id.* at pp. 228–229.) The information in the record leaves some uncertainty, however, regarding the exact timing and duration of pulse flows to support different lifestyle behaviors and runs of salmon. The Final EIR included pulse flow protection from October through May to limit impacts on fish. (Exh. AHO-069, p. 80; Exh. AHO-078, pp. 133, 145–146.) The Final EIR did not, however, consider a seasonal, elevated Wilkins Slough bypass requirement as required in Term 23(c). The elevated Wilkins Slough bypass requirement, discussed further in response to Comment 7-4.3.1, below, applies from December through February. As revised, Term 23(b) aligns pulse protection with key outmigration timing for juvenile Chinook and in-migration timing for adult Chinook in May through March. Together, these two provisions reasonably limit impacts to the fishery while balancing Project yield impacts.
7-4.3.1	DWR Comment, pp. 23–25, Section IV.A.3. Sites Comment, pp. 33–35, Section 2.c.	The Wilkins Slough Bypass Criteria does not rely on best available science. Term 23(c) should be removed.	The Permit is revised to apply the 14,125 cfs Wilkins Slough bypass flow requirement from December through February. CDFW identifies the flow-survival relationship analyzed by Michel et.al (2021) for fall-run and late-fall-run Chinook salmon with larger than 80 millimeter fork length as the best available science for predicting juvenile Chinook salmon migration survival in the Sacramento River. (Exh. Sites-300, pp. 197, 327.) Alternate runs are not, however, perfect surrogates for one another, and CDFW noted that the results of the Michel et al. study may be a poor surrogate for

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			Chinook that migrate in fall and winter with less than 80 millimeter fork length. (*Id.* at p. 199.) The Michel et al. study recognizes this data gap, noting that "other juvenile life history types, namely fry and parr (approximately <55 mm and 55–75 mm [fork length], respectively), are important contributors to California Central Valley Chinook salmon populations (Sturrock et al. 2020). While higher winter and spring flows also benefit fry and parr life histories (Sturrock et al. 2015, 2020), *the flow thresholds defined in this study are for smolt outmigration and are likely not directly compatible with fry and parr life histories*." (Exh. BK-59, p. 16 [emphasis added].) The del Rosario (2013) study analyzed impacts to a wide range of different-sized Chinook that migrate in the winter, include salmon that are smaller than 80 millimeter fork length (fry and parr), contributing important information to the data gap acknowledged by Michel et al. (2021) and CDFW. Del Rosario (2013) observed a distinct behavioral response of downstream migration to rearing habitat in winter-run fish sized 47 millimeters to 121 millimeters after flows reached 14,125 cfs at Wilkins Slough. (Exh. BK-21, pp. 9, 11.) While the del Rosario study helps fill the data gaps of Michel et al., there are two areas of relative uncertainty in applying the results of that study. First, del Rosario analyzed the relationship between flow and certain biological cues, but the study was not a flow-survival study. It is unclear whether survival is linked to initial flow levels that trigger fish movement, higher flows for a period of time to protect both the biological trigger and the resulting fish movement, or some other flow threshold and duration. Pre-smolt outmigration is an important life history strategy which was not accounted for in any flow survival studies, including the Michel et al. flow survival study. (Exh. Sites-300, pp. 198–199.) Second, del Rosario only analyzed the effect of flows on winter-run Chinook, and the applicability of del Rosario's analysis to other runs of Chinook is uncertain.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			The Final EIR identified a high abundance of fall-run at Knights Landing and the Red Bluff Diversion Dam from January through April (Exh. AHO-161, p. 48, tbl. 11A-6) with the majority caught during this time at the Red Bluff diversion dam with less than 80 millimeter fork length (fry and parr). (Exh. AHO-078, p. 188, fig. 11-20.) The Final EIR additionally states that fall-run Chinook salmon fry abundance in the Delta increases after high winter flows, characterizing an ecological behavior consistent with fish with <80mm fork length moving downstream in winter to rear in non-natal habitat. (Exh. AHO-161, p. 45.) However, the record does not address the specific timing associated with these flows, when and to what extent pre-smolt fall-run are present at Knights Landing, and what specific flows, if any, are best suited to avoid adverse impacts to these juveniles. The Authority's comment that flows of 14,125 cfs do not occur after January in the del Rosario paper is inaccurate. (Sites Comment, p. 33.) Figure 5 in the del Rosario study, referenced by the Authority, as well as Figure 4, show that flows of 14,125 cfs occurred for substantial periods of time after January in Above Normal and Wet years, and for shorter periods of time even in Below Normal and Dry years. (Exh. BK-21, p. 12.) The record further supports that early peak movements of winter-run Chinook salmon juveniles past Knights Landing typically occur from late November through February. (Exh. AHO-271, p. 151.) Furthermore, there is no evidence in the record to suggest that the migration patterns from the del Rosario study are no longer relevant. Based on the weight of available evidence, the Board concludes that high flows have survival significance both in triggering pre-smolt movement downstream to rearing habitat, but also in providing adequate flows to assist downstream travel. Should additional study more clearly identify survival flow relationships for pre-smolt outmigration, the Board may consider this new information pursuant to Term 23(d) to further tailor the Wilkins Slough flow requirement.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			Applying the Authority's yield analysis, the revisions to the March Draft Term 23(b) and 23(c) increase the estimate of average annual Project yield by 7 percent, from 264 TAF to 280 TAF. (See Decision, Section 4.3.1.1, tbl. 6.)
8-4.3.1	DWR Comment, p. 25, Section IV.A.3.	The Draft Decision fails to analyze factors other than flow, like the 2024 ITP's robust restoration program.	There is insufficient information in the evidentiary record to evaluate the extent to which the restoration program required by the 2024 ITP may offset impacts to fisheries from operation of the Project. Furthermore, it is unclear the extent to which the 2024 ITP may be modified in the future after the Project is operational. The 2024 ITP's restoration program and required studies may, however, inform amendments to Term 23. Should the habitat restoration described in the 2024 ITP demonstrate that Term 23(c) may be modified without an unreasonable impact on fisheries, the Authority may submit that new information and seek modification of the requirement under Term 23(d).
9-4.3.1	Sites Comment, p. 34, Section 2.c.	The Winter-Run Chinook Salmon Life Cycle Model captures the effects of the 14,125 cfs threshold and therefore is part of the modeling considered by CDFW.	Although CDFW considered the Winter-Run Chinook Life Cycle Model in their analysis, CDFW found the model to be insufficient in capturing the full potential Project impacts on winter-run Chinook. (Exh. Sites-300, pp. 236–237.) The Winter-Run Chinook Salmon Life Cycle Modeling referred to by the Authority modeled the flow-survival relationship developed in Michel et al. (2021) to calculate the monthly estimates of survival. (Exh. Sites-132, p. 37.) While CDFW included the Authority's referenced model, as well as other life cycle models, in their analysis, they found, "[w]hile these life cycle models may be highly complex and flexible, none of them were designed for the primary purpose of assessing the impacts of Project diversions on [winter-run Chinook]." (Exh. Sites-300, p. 237.) With regard to their utility for analyzing migration survival, CDFW states that "[t]he life cycle models as

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			implemented in the provided analyses are generally not set up well to account for variance in migration survival as a function of river flow, despite flow being widely recognized as highly relevant to migration survival (Michel et al. 2015; Michel et al. 2021; Notch et al. 2020a)." (*Ibid.*) Because the modeling is ill-equipped to identify survival as a function of flow, we are not persuaded by the Authority's assertion. Term 23(d) authorizes the Executive Director to amend Term 23 at the request of Permittee based on new information. Should additional study support modification of Term 23(c), the Authority may submit that new information to the Executive Director under Term 23(d).
10-4.3.1	NGOs Comment, p. 13, Section VI.A.1. PCFFA Comment, p. 5, Comment 4.	The Wilkins Slough bypass of 14,125 cfs is supported by the evidence and should remain within the Permit. The protections in Term 23(a) and (b) should also be maintained.	Comment acknowledged. The Decision is revised to reflect application of a 14,125 cfs Wilkins Slough bypass flow requirement from December through February, and pulse flow protection at Bend Bridge from March through May to align with key outmigration timing for juvenile Chinook and in-migration timing for adult Chinook. See responses to Comments 6-4.3.1 and 7-4.3.1 for further discussion of these revisions.
11-4.3.1	NGOs Comment, pp. 10–11, Section V.B.	Term 23(d) provides too much deference to the Authority and would be unlawful.	The Water Code grants the Board broad discretion to "allow the appropriation for beneficial purposes of unappropriated water under such terms and conditions as in its judgment will best develop, conserve, and utilize in the public interest the water sought to be appropriated." (Wat. Code, § 1253.) Term 23(d) exercises that authority to reserve to the Executive Director the authority to amend the term if, based on new information and after notice and opportunity for public comment and comment by Tribes, and in consultation with CDFW, the Executive Director determines that the

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			amended term will prevent unreasonable effects on fish and wildlife. The Authority has the burden of demonstrating that this standard is met. The Executive Director has general delegated authority to act on behalf of the State Water Board pursuant to Resolution 2023-0036, and this delegation of authority to the Executive Director is consistent with that delegation. As part of the notice and comment process, interested parties may request a hearing or some other procedure prior to any action on the Authority's request by the Executive Director. Furthermore, and as noted by the NGO Parties, an interested person may petition for reconsideration by the Board of any decision by the Executive Director to amend a term or condition of the Permit.
12-4.3.1	NGOs Comment, p. 8, section IV.	Condition 9.4 from the ITP (986 TAF/Y limit) should be a Permit Term.	Permit Term 5 limits the maximum annual diversion to 986,000 acre-feet per year by storage to be collected from November 1 of each year to June 14 of the succeeding year.
13-4.3.1	NGOs Comment, pp. 9–11, Sections V–V.B.	Administrative modifications to Permit Terms should not be allowed through the Executive Director or Deputy Director; these types of changes do not qualify as minor changes under Water Code section 1700.6.	The Decision does not purport to rely on Water Code section 1700.6 or characterize the authority delegated to the Executive Director or Deputy Director as a minor change. The Board has the authority to delegate amendments to permit terms to the Executive Director or the Deputy Director for Water Rights and has done so under Resolution No. 2023-0036 and No. 2012-0029, section 4.2.9. The Board may reserve authority to modify permit terms and conditions based on new information, including changed conditions, pursuant to its discretion to impose terms and conditions in furtherance of the public interest under Water Code section 1253.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			Such new information or circumstances may affect the appropriateness of the term in achieving the objective as originally intended. By reserving the authority to modify terms of operation based on new information, the Board may adaptively respond to these circumstances rather than imposing terms and conditions as an initial matter that attempt to address all possible circumstances. The process for modification of Term 22 and similar reservations of authority in the Permit provide for notice and an opportunity to be heard regarding the proposed changes prior to any decision. As part of the notice and comment process, interested parties may request a hearing or some other procedure prior to any action by the Executive Director or Deputy Director. Furthermore, an interested person may petition the Board to reconsider any decision made by delegation to amend a term or condition of the Permit.
14-4.3.1	NGOs Comment, pp. 13–14, Section VI.A.2.	A 35,300 cfs bypass requirement at Freeport is necessary for Delta inflow to avoid harm to migratory salmon. The Wilkins Slough bypass is not an appropriate proxy.	As reflected in the Decision, due to the system-wide nature of flows into Freeport, including flows from significant tributaries like the Feather and American rivers, the Bay-Delta Plan is the most appropriate method to regulate these inflows at Freeport. (Decision, Section 4.3.1.1.)
15-4.3.1	PCFFA Comment, Comment 4, p. 5.	PCFFA accepts the Board's reasoning on why a bypass at Freeport was not included.	Comment acknowledged.
16-4.3.1	NGOs Comment, p. 14, Section VI.A.3.	A specific outflow criterion should be included in the Permit of a Net Delta Outflow Index (NDOI) of 42,800 cfs.	The Bay-Delta Plan is the most appropriate mechanism to impose and implement Delta outflow requirements. The Permit is subject to the requirements of the Bay-Delta Plan and any implementing orders or regulations. Implementation is intended

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			to include a regulatory mechanism for curtailment at Sites' priority of right to achieve the required percent of unimpaired Delta inflow and outflow and other Plan requirements. The Permit Term conditioning Project operations on the implementation of the requirements of the 2026 Bay-Delta Plan are sufficient to avoid unreasonable impacts from the Project on longfin smelt. (Exh. AHO-271, p. 294, fig. 5.3-2; Permit Term 30.)
17-4.3.1	NGOs Comment, p. 31, edits to Term 21.	Fish screens should be required to meet criteria developed by USFWS and NMFS to protect non-listed species.	Comment acknowledged. According to testimony and the ITP, the fish screens at the PODs were designed and tested to ensure that they met both NMFS and CDFW performance criteria. (Exh. Sites-104, pp. 3–4, ¶ 6; Exh. Sites-298, pp. 39–43 [operations of fish screens].)

Fish, Wildlife, and Other Instream Beneficial Uses – Bay-Delta Plan Update and Delta Outflows

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.3.2	DWR Comment, pp. 15–17, Section II. Sites Comment, pp. 15–20, Section A.1. Reclamation Comment, Section II.C, p. 5. SWC Comment, pp. 22–23, Section IV.C.	Interim unimpaired outflow requirements are unnecessary, premature, unfairly single out the Project, and have a large impact on average annual diversions. Unimpaired outflow requirements should focus on Sacramento River Inflow and Inflow-based outflow, not full Delta-based outflow. Flow-shaping provision would be impossible to implement, there is no analysis how it would impact other right holders; the provision should be deleted, or is better addressed in a future proceeding.	Term 30 is revised to remove the interim unimpaired flow requirements and flow-shaping provisions. Instead, Term 30 requires Project diversions to comply with the requirements of the updated 2026 Bay-Delta Plan and associated implementing regulatory actions, and prohibits diversions until the 2026 Bay-Delta Plan is implemented. The program of implementation in the 2026 Bay-Delta Plan requires that flows in the Sacramento River, and other Delta tributary inflows, be maintained at 55 percent of unimpaired flow as a seven-day running average to meet the narrative inflow objective, within an adaptive range of 45 to 65 percent. (Exh. AHO-346, pp. 57, 61.) The 2026 Bay-Delta Plan also includes narrative Delta outflow and numeric inflow-based Delta outflow objectives. (*Id.* at p. 29.) Under the regulatory pathway, these objectives are implemented by requiring the prescribed inflows from Sacramento/Delta tributaries and San Joaquin River tributaries to also be met as outflows, with adjustments for downstream natural depletions and accretions. (*Id.* at pp. 29, 67–68.) The Authority has maintained that "sufficient water is available for appropriation even under a 55 [percent] unimpaired flow requirement," and that because "Project operations and the proposed flow requirements under the Bay-Delta Plan are compatible, concern regarding the Project's ability to comply with proposed Bay-Delta Plan Updates is unwarranted." (2025-05-27 Sites Closing Br., p. 43.)

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			The update to the 2026 Bay-Delta Plan is expected to be considered by the State Water Board for adoption this year, with implementation to follow.
2-4.3.2	DWR Comment, Section II.A.1, p. 16.	The Decision does not adequately explain why Term 30 is needed if Term 23 and other conditions are sufficient on their own to protect fish and wildlife.	Term 23 and Term 30 serve two distinct purposes. Term 23 addresses local effects of Project diversions in the mainstem Sacramento River. Term 30, by contrast, addresses system-wide effects of Project diversions on the Bay-Delta ecosystem, consistent with the Bay-Delta Plan. The watershed-wide and local conditions on diversion work congruently to minimize impacts to fish and wildlife.
3-4.3.2	DWR Comment, p. 17, Section II.A.2. Sites Comment, pp. 20–24, Section A.1.b. Reclamation Comment, p. 19, edits to Term 31. SWC Comment, p. 23, Section IV.D.	Term 31 is overbroad because it protects both regulated and unregulated baseflows. There is no evidence in the record to support the assumption that diverting these flows would impact the environment or other legal water users. By imposing terms that essentially protect from diversion all "otherwise unregulated and uncaptured flow present in the Bay-Delta system" the Draft Decision is in effect declaring the Sacramento River fully appropriated, and doing so without adhering to the statutory notice and hearing requirements under Water Code section 1205 et seq.	The Decision and Permit are aligned with the 2026 Bay-Delta Plan. As defined in the 2026 Bay-Delta Plan, Appendix B.1, base flows or base conditions include regulatory requirements, water diversions, flood control operations, and other conditions such that HRL flows are provided in addition to regulatory requirements and other flows that are in the system incidentally that have been analyzed as part of the base conditions for the VA pathway supporting the current update to the Bay-Delta Plan. (Exh. AHO-346, pp. 177–178.) Term 31 is revised to prohibit diversions on any day in which flows provided pursuant to the Sacramento River Mainstem HRL are contributing to Delta outflow. The revised term also includes a requirement for the Permittee to coordinate diversions with the State Water Board and HRL participants to allow the Authority to maximize Project yield while protecting HRL commitments. The Authority's estimated yield impact analyses assumed that Term 31 would fully prohibit diversions from March through May based on an assumption that HRL commitments from the HRL Parties on the Sacramento River and its tributaries would be provided over the full default schedule time period allowed in the

Comment Code	Source of Comment	Summary of Comment	Response to Comment
		Term 31 should allow diversions to be based on flow conditions absent Sacramento River HRL participants' flow commitments.	Bay-Delta Plan. (Exh. Sites-425, pp. 15–16; Exh. Sites-426, pp. 12–13.) As revised, Term 31 prohibits diversion when flow commitments provided by Sacramento River Mainstem HRL Parties are contributing to Delta outflow. This clarification removes March from the default schedule for HRL flows, reducing the impacts of this term on Project yield even utilizing the Authority's assumption that flow commitments will contribute to Delta outflow on every day over the default schedule. (Exh. AHO-346, pp. 86–91.) Moreover, coordination between the Authority and Sacramento River Mainstem HRL Parties could largely offset impacts to Project yield if HRL flows are provided in a manner that does not overlap with periods of potential Project diversions. For example, Sacramento River Mainstem HRL Parties may provide flow commitments as a pulse flow action, delivered as one or two seven-day pulses, rather than a continuous commitment over the entire default schedule time period. Such coordination is consistent with the Authority's assertion that "potential Project diversions and VA flow assets have limited interaction." (Sites Comment, p. 22.)
4-4.3.2	DWR Comment, pp. 16–17, Section II.	The Decision should be revised to clarify that the VA pathway is available to the Project.	The 2026 Bay-Delta Plan allows new water supply projects to be considered for inclusion in the VA pathway. (Exh. AHO-346, p. 75.) Accordingly, Section 4.3.2.5 of the Decision is revised to reflect that pursuant to the 2026 Bay-Delta Plan, the Board may consider a proposal to include the Permit in the VA pathway. (Decision, Section 4.3.2.5.) Term 31 also is revised to clarify that the Term does not apply if the Board approves addition of this Permit to the VA pathway and the approved proposal includes a coordination agreement that ensures the Project does not diminish the intended benefits of HRL flow commitments.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
5-4.3.2	DWR Comment, p. 26, Section V.C. Sites Comment, pp. 24–25, Section A.1.c. Reclamation Comment, p. 17, edits to Term 29. SWC Comment, pp. 5–6, Section I.B.1.	Term 29 should be revised to allow the Project to divert when it is implementing its responsibilities, consistent with the Bay-Delta Plan, better define the water quality objectives that are covered by the term, and should specify that diversions are limited to “under this permit”, as opposed to in-Delta rediversions.	The Permit states on page 1 that all conditions only apply to diversion and rediversions under this Permit. See also response to Comment 16-4.2.1. The conditions in Term 29 are consistent with the environmental analyses and the water right application. The Final EIR analyzed diversions from the Sacramento River when "[f]lows are available for diversion above flows needed to meet all applicable laws, regulations, biological opinions and incidental take permits, and court orders in place at the time that diversion occurs. (Exh. AHO-069, p. 78.) The water right application also describes the Project as intended to divert flows from the Sacramento River after regulatory requirements are met, including water quality. (Exh. AHO-001, Section 5, pp. 12–13.) The prohibition on diversions when objectives are not met prevents further degradation of conditions, regardless of whether circumstances that initially led to the objectives not being met are outside of the Permittee’s control. In such circumstances, there is insufficient water available for diversion at the Permittee’s priority of right.
6-4.3.2	NGOs Comment, p. 8, Section IV. NGOs Comment, p. 15, Section VI.B. 15.	Term 30 should include a permanent unimpaired flow requirement that is higher than 55 percent.	The appropriateness of the Bay-Delta Plan requirements as Delta outflow criteria are addressed in Section 4.3.2.5 of the Decision.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
7-4.3.2	NGOs Comment, pp. 11–12, Section V.C; pp. 49–50, edits to Term 30.	Permit Terms 30(c) and 30(d) allow for elimination or avoidance of unimpaired flow requirements in the future.	Term 30 is revised. Subsections 30(c) and 30(d) are removed.
8-4.3.2	NGOs Comment, pp. 15–16, Section VI.C.	Term 31(b) should specify percentage of unimpaired flow to ensure that any added VA flow is not diverted, offset, or subsumed by the Project.	Term 31 is revised to remove subsection 31(b). Implementation of the Bay-Delta Plan will include a methodology for curtailment that will accomplish the intended purpose of Draft Term 31(b).
9-4.3.2	NGOs Comment, p. 16, Section VI.D.	Term 29 should be amended to include specific limits, and to change the diversion restriction so they are not only contemporaneous with the exceedance.	Term 29 includes those water quality objectives most directly affected by diversions from the Sacramento River. See response to Comment 15-4.2.1.

Water Quality – Temperature

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.4.1	NGOs Comment, pp. 16–17, Section VI.E.	Terms 41 and 42 would eliminate 68° F as an effective constraint on releases from Sites Reservoir to the Sacramento River.	Terms 41 and 42 are consistent with the Sacramento River temperature objective in the Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region. (Decision, p. 118.) The objective is not 68°F, but a prohibition on increasing temperatures above 68°F "during periods when temperature increases will be detrimental to the fishery." (*Ibid.*; Exh. SCS-40, p. 50.) Term 42 allows the Project to make releases into the Sacramento River that are greater than 68°F when those releases are cooler than the Sacramento River. (Permit Term 42.) If the released water is cooler than the Sacramento River, those releases will not cause temperature increases in the Sacramento River that are detrimental to the fishery and may decrease river temperatures. Similarly, while Term 41 allows releases to cause or contribute to Sacramento River temperatures above 68°F, the Authority must adequately demonstrate, with supporting documentation, why those releases will not be detrimental to the fishery. (Permit Term 41(d).)
2-4.4.1	NGOs Comment, p. 63, edits to Term 40.	Temperature monitoring at the release points from Sites Reservoir should not be optional or subject to removal.	Temperature monitoring is required by Term 40 and is not optional. Term 40 authorizes the Executive Director to remove or modify some of the temperature monitoring points based on updates to the Water Quality Portfolio (WQP). (Permit Term 40.) If the Authority chooses to incorporate a Sacramento River Temperature Strategy into the WQP, it must include monitoring that will develop and validate modeling to accurately quantify and forecast how Project operations will affect temperature in the Colusa Basin Drain

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			and Sacramento River. (Term 41(a).) The monitoring points identified in Term 40 may not be altered except in compliance with the Sacramento River Temperature Strategy. To change the monitoring requirements at the release points identified in Term 40 (1)-(3), the Authority must demonstrate that required monitoring will be sufficient to demonstrate compliance with any approved Temperature Strategy.
3-4.4.1	Sites Comment, pp. 52–54, Section E.	Terms 41(d) and 42 should include averaging periods and accommodate Project release temperatures that do not cause the Sacramento River to exceed 68°F.	Terms 41(d) and 42 are revised to include a seven-day average daily maximum standard.
4-4.4.1	Sites Comment, p. 54, Section E.4	The Controllable Factors Policy does not support Term 42 because it prevents releases that do not cause temperature in the Sacramento River to exceed 68°F.	Determining whether releases from Sites Reservoir would cause temperatures in the Sacramento River to exceed 68°F, as suggested by the Authority, would require accurate modeling to quantify and forecast how releases will affect temperatures in the Colusa Basin Drain and the Sacramento River. As discussed in the Decision, there is a high level of uncertainty regarding the Authority's ability to accurately predict the Project's impacts on downstream temperatures based on the temperature model relied upon by the Authority. (Decision, Section 4.4.1.) The Authority's proposed term would rely on modeling that the Board found to be insufficiently reliable. As drafted, Term 42 avoids the need to rely on modeling. Term 41, by contrast, applies a standard that is consistent with the Authority's proposed change, but requires the Authority to first conduct monitoring to develop and validate an accurate temperature model.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
5-4.4.1	Reclamation Comment, p. 25, edits to Term 41.	Term 41(b) should be revised to clarify that any exchanges are at the “sole discretion of Reclamation” and the operation of Sites Reservoir should be coordinated, not integrated, with other reservoir operations affecting temperature in the Sacramento River.	The proposed revision is accepted, in part. Term 41(b) requires the Authority to evaluate how specific actions, such as exchanges between Sites Reservoir and Shasta Reservoir could increase the cold-water pool in Shasta Reservoir for temperature management. It is unnecessary to clarify that exchanges would be at the “sole discretion” of Reclamation, as this term merely requires the Authority to consider actions that may help manage temperature impacts in the Sacramento River. The term is revised to state that the Authority must coordinate rather than integrate operations with other reservoirs, and should evaluate coordination, including exchanges.
6-4.4.1	PCFFA Comment, pp. 7–8, Comments 9, 10.	Permit Term 41 should make the Sacramento River Temperature Strategy an annual mandatory requirement, require it to be coordinated with the Annual Temperature Management Plan for Shasta Dam, and include a public hearing and comment process. Permit Term 42 would be clearer and more enforceable if it required all the needed elements and monitoring programs in a mandatory Temperature Strategy.	The proposed revisions are rejected. PCFFA correctly describes Term 42 as a backstop if the Authority chooses to not develop a Sacramento River Temperature Strategy pursuant to Term 41. In addition, Term 40 requires temperature monitoring regardless of whether the Authority chooses to develop the Term 41 Temperature Strategy. Including these monitoring requirements in Term 42, which is only applicable if the Authority does not develop a Temperature Strategy, would make conditional the Permit’s temperature monitoring requirements. In addition, Term 41(b) requires the Authority to address how the operation of Sites Reservoir could be coordinated with other reservoir operations affecting temperature in the Sacramento River downstream of Shasta Dam. Finally, if the Authority chooses to develop a Temperature Strategy, it will be integrated into the WQP. (Permit Term 34.) The WQP

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			process requires an opportunity for public comments and for the Authority to provide written responses to those comments. (Permit Term 34.)
7-4.4.1	PCFFA Comment, p. 10, Comment 18.	The Permit should not lock in an obsolete temperature standard of 56° F.	The Permit does not include any requirements related to a 56°F standard. See response to Comment 8-4.4.1.
8-4.4.1	2026-05-22 CVRWQCB Response_AHO Sites Reservoir (Central Valley Regional Board Comment), p. 2.	The Draft Decision should clarify the connection between flow requirements governing diversions to the reservoir and attainment of the 56° F temperature objective protecting the Sacramento River fishery above Hamilton City and/or incorporating references to both Sacramento River temperature objectives in Term 42.	The 56°F temperature objective extends from Keswick Dam to Hamilton City. (Exh. SCS-40, p. 50.) Because Project diversions will only impact temperature downstream of its points of diversion, only diversions at the Red Bluff diversion dam will have an impact on temperature in this reach, and only downstream of the Red Bluff POD. Diversions are unlikely to occur at times when the diversions may cause Sacramento River temperatures to exceed the temperature objectives because the authorized season of diversion does not include the month of September, and the 2024 ITP and Term 23 will limit diversions to relatively high flow conditions. (Exh. SCS-11, pp. 10–11, ¶ 13; Permit Term 23.) In addition, Order WR 92-02 finds that temperatures above 56°F upstream of Hamilton City would be detrimental to the fishery "when any of the four runs of Chinook salmon are spawning or incubating eggs in the upper Sacramento River." (Order WR 92-02, p. 9.) Evidence in the Final EIR shows that winter-, spring-, fall-, and late-fall-run salmon spawn and incubate upstream of the Red Bluff Diversion Dam. (Exh. AHO-161, pp. 29–31 [winter-run], 37, fig. 11A-11 [spring-run], 46 [fall- and late-fall-run].) Accordingly, Project operations will not cause detrimental temperature impacts to the spawning and incubating occurring upstream of the Red Bluff diversion dam.

RESPONSES TO COMMENTS ON SECTION 4.4.2

Water Quality – Mercury

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.4.2	NGOs Comment, p. 18, Section VI.G; p. 54, edits to Term 33.	The Draft Permit should require the Authority to remove all mercury-laden soil from the reservoir prior to inundation.	The NGO Parties' support for Terms 32, 33, and 38 is acknowledged. Term 38 requires the Authority to develop a Methylmercury Mitigation Plan in consultation with the Central Valley Regional Water Quality Control Board (Central Valley Board), Office of Environmental Health Hazard Assessment (OEHHA), and the State Water Board. (Permit Term 38.) That Plan requires the Authority to take actions to reduce methylation of mercury "to the maximum extent feasible," including as an option, "in-reservoir soil removal or encapsulation." (Permit Term 38 (c).) Accordingly, Term 38 requires consideration of removal of soils, among other possible actions, in consultation with the Central Valley Regional Water Quality Control Board, Office of Environmental Health Hazard Assessment, and State Water Board.
2-4.4.2	NGOs Comment, p. 18, Section VI.G.	Numerical methylmercury limits should correlate with the reference dosages that have been established to be protective of human, animal, and aquatic health and the associated concentrations in fish tissues, water, and soil levels, and should be coordinated with the California Department of Public Health (CDPH), OEHHA, and the State Water Board.	Term 38 requires consultation with OEHHA, the Central Valley Board, and the State Water Board to develop an implementation target for methylmercury in the reservoir and its releases. Term 38 already requires the implementation target to be consistent with applicable methylmercury water quality objectives. The NGO Parties do not explain why consultation with CDPH is necessary in the development of these implementation targets, in addition to consultation with OEHHA, the Central Valley Board, and the State Water Board.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
3-4.4.2	NGOs Comment, p. 18, Section VI.G.	Draft Permit Terms 38 and 39 allow for “alternative compliance” where releases cannot meet the protective standards. The Permit should not allow for violations of water quality standards and cannot lawfully do so.	The Authority is required to manage and mitigate the impacts of methylmercury contributed to receiving waters from releases from Sites Reservoir. (Permit Term 38 (g), Term 39.) The option for alternative compliance actions, if reservoir releases cannot meet the identified methylmercury implementation target through mitigation measures and operational changes, allows the Authority to mitigate methylmercury impacts in receiving waters from other contributors to offset impacts from Sites Reservoir releases. The Water Code requires the Board to consider water quality control plans when acting upon water right applications. (Decision, Section 4.4; Wat. Code §§ 1257–1259.) As discussed in the Decision, neither the ISWBE nor the Central Valley Basin Plan require the State Water Board to allocate responsibility for meeting methylmercury water quality objectives through water right proceedings. (Decision, Section 4.4.2.) Section 4.3.1.8 of the Central Valley Basin Plan recommends that the State Water Board consider methylmercury impacts when acting on new water right applications including consideration of permit terms related to (1) methylmercury controls for new water management activities, (2) evaluation and implementation of feasible management practices to reduce or prevent the project from increasing methylmercury, and (3) funding studies to develop and evaluate practices that will reduce methylmercury production. (Exh. SCS-40, p. 112; Decision, Section 4.4.2.) By contrast, other provisions of the Central Valley Basin Plan, such as section 4.5.4.2.6 preclude construction of a new reservoir that would increase methylmercury concentrations in specified receiving waters. (Exh. SCS-40, p. 146.) No similar requirements apply to the Project area. Term 38 is consistent with the Central Valley Basin Plan, in accordance with Water Code section 13247.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			See also response to Comment 6-3.2.
4-4.4.2	NGOs Comment, p. 52, edits to Term 32.	Draft Term 32 should be revised for clarity. Draft Term 32's feasibility assessment related to HABs and methylmercury should additionally involve consultation with OEHHA, CDPH, any California Native American Tribe, and any NGO requesting to participate. The assessment should address reference doses for human health and safety. Any actions identified by the assessment must be implemented and the Authority must submit regular reports on implementation of the identified actions.	This recommendation is partially accepted. Term 32 is revised for clarity. Term 38 is revised to incorporate a requirement that the Methylmercury Mitigation Plan address the results of the feasibility assessment for methylmercury mitigation. The feasibility assessment is intended to develop information about actions that may be incorporated into a HABs Strategy or Methylmercury Mitigation Plan. The feasibility assessment in Term 32 does not modify the Authority's obligations to meet the requirements of Terms 35–39. The feasibility assessments must be developed in consultation with the State Water Board and Central Valley Board but reserves additional consultation for development of a HABs Strategy or Methylmercury Mitigation Plan as incorporated into the Water Quality Portfolio. These plans would identify actions the Authority will take to mitigate impacts from HABs and methylmercury in reservoir releases.
5-4.4.2	Sites Comment, pp. 59–60, Section G.1.	The Authority requests confirmation that the Permit terms do not rely on the Tribal Subsistence Fishing Water Quality Objective.	The Permit Terms do not rely on the Tribal Subsistence Fishing Objective, absent amendment of the ISWBE to require implementation of the objective through water right permits. Term 38 requires the Authority, after consultation with the Central Valley Board, OEHHA, and the State Water Board, to establish an implementation target for methylmercury discharges that is consistent with the Delta Mercury Control Program and the ISWBE sport fishing objective. (Permit Term 38.)
6-4.4.2	Sites Comment,	The Authority requests that the Draft Decision is edited to clarify that short-term increases in	The Decision is revised.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
	p. 60, Section G.2.a.	methylmercury in newly constructed reservoirs are not a certainty.	
7-4.4.2	Sites Comment, pp. 60–61, Section G.2.b.	In Term 33, the word “sediment” should be replaced with “soil.”	Term 33 is revised.
8-4.4.2	Sites Comment, p. 61, Section G.2.c.	The evidence does not support the suggestion that salmon consumption for subsistence or cultural practice will be adversely affected by releases of mercury.	The Final EIR concludes that “[s]urface water concentrations of methylmercury in the north Delta may increase due to the project alternatives, relative to the No Project Alternative, in dry and critical water years during periods of peak releases. Such increases may result in measurable increases in the body burdens of methylmercury in fish *which could potentially increase risks of adverse effects to humans and wildlife that consume Delta fish during these periods.*” (Exh. AHO-144, p. 35 [emphasis added].) Moreover, there is a high abundance of fall-run Chinook in the Delta during the export period of July through November. (Exh. AHO-161, p. 48, tbl. 11A-6.) Accordingly, the evidence supports the Decision’s conclusion that, if not appropriately mitigated, salmon consumption for subsistence or cultural practices will be adversely affected by the Project’s releases of mercury.
9-4.4.2	Sites Comment, pp. 62–63, Section G.3.a–c.	Draft Decision discussions of anticipated methylmercury concentrations should acknowledge the results reflect *potential* conditions absent mitigation.	The Decision is revised.
10-4.4.2	Sites Comment,	The Draft Decision should clarify the Project’s potential position with	The discussion of the Delta Methylmercury Control Program is relevant background, though its terms do not directly apply to

Comment Code	Source of Comment	Summary of Comment	Response to Comment
	p. 64, Section G.4.	respect to participation in the Delta Methylmercury Control Program.	releases from Sites Reservoir. (Decision, Section 4.4.2.) Term 38 requires the Authority to establish an implementation target for methylmercury discharges that is consistent with the Delta Mercury Control Program and the ISWBE sport fishing objective. (Permit Term 38.)

RESPONSES TO COMMENTS ON SECTION 4.4.3

Water Quality – Harmful Algal Blooms

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.4.3	NGOs Comment, p. 17, Section VI.F.	The HABs Strategy described in Terms 36 and 37 should be mandatory. The permit sets a water quality standard for HABs appropriately at the Caution Level and this should not be reduced by the HABs Strategy.	Term 37 is revised to include a definition of California's Cyanobacteria and Harmful Algal Bloom Network Caution Level. As noted in the Decision, prevention and mitigation of toxic cyanobacteria within the reservoir and reservoir releases, while minimizing impacts on Project yield, will require operational flexibility given the multiple water quality and other factors that the Authority must balance in making releases. (Decision, Section 4.4.3.) Term 36 provides the Authority with the option to develop a flexible HABs Strategy, whereas Draft Term 37 imposes a definitive backstop if the Authority does not develop a HABs Strategy. A mandatory HABs Strategy in addition to Term 37 would create redundancy by requiring the Authority to implement the actions in the Strategy even if the Authority operated the reservoir to comply with Term 37. The Decision and Permit do not set water quality standards for HABs. The terms and conditions of the Permit apply only to the diversion and use of water authorized by the Permit. Water quality standards are set pursuant to the Porter-Cologne Water Quality Control Act (Wat. Code, § 1300 et seq) through water quality control plans in accordance with the provisions of Water Code sections 13240 through 13244. (Wat. Code, § 13170.)
2-4.4.3	Sites Comment, pp. 55–57, Section F.2.	Term 35 should be revised to only require cyanobacteria monitoring and management practices related to releases.	Term 35 is revised to clarify that, in addition to its monitoring network, the Authority may rely on data from existing monitoring networks to make determinations related to Term 35(d). Additionally, Term 35 is revised to clarify that the timing of the cyanobacteria and cyanotoxin monitoring will be developed as part

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			of Term 35's monitoring plan. Term 35(d) is revised to require analysis of whether Project diversions and releases have affected HABs during the bloom season. To understand how project diversions and releases impact HABs, monitoring under Term 35 should include the HABs season (generally May-October) as well as a period prior to the bloom season. (Exh. AHO-094, p. 19.) The exact timing and frequency of this monitoring will be developed in coordination with the State Water Board to be consistent with, and appropriately supplement, existing HABs monitoring. Similarly, while the monitoring requirement applies to an extensive geographic area, the HABs monitoring plan as part of the WQP must be developed in consultation with the State Water Board to maximize efficiency and coordination with existing monitoring programs. This coordination will refine the geographic and temporal extent of the monitoring required to be conducted by the Authority.
3-4.4.3	Sites Comment, pp. 57–58, Section F.3.	The Board's discretion to approve the HABs Strategy should be limited by existing evidence indicating the Project is unlikely to contribute cyanobacteria inoculum to the Delta that will make a meaningful difference in cyanobacteria prevalence.	As discussed in the Decision, the effects of dilution and the pre-existing presence of cyanobacteria seedstock within the Delta will not necessarily neutralize impacts of reservoir releases. (Decision, Section 4.4.3.)
4-4.4.3	Sites Comment, pp. 58–59, Section F.4.	The Caution Level is unsupported and improperly relies on testimony that the Caution level provides useful protective thresholds for recreation in the reservoir and downstream waterways. Term 37	The Decision is revised to state that the Caution level limitation on reservoir releases is intended to limit downstream transportation of new sources of cyanobacteria into the Colusa Basin Drain, Yolo Bypass, Sacramento River, and the Delta, not to protect recreation in the Tehama Colusa Canal. (Decision, Section 4.4.3.) See response to Comment 3-4.4.3.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
		should set the cyanobacteria/cyanotoxin release prohibition at the “Warning” level.	The Caution level limitation in Term 37 applies only if the Authority does not develop a HABs Strategy pursuant to Term 36. The Authority has the option to develop a HABs Strategy that incorporates mitigation measures and other information available at the time of development of the Strategy to limit the risk that reservoir releases will contribute to HABs in receiving water bodies. The HABs Strategy, unlike the requirement in Term 37, is not required to prohibit all releases that exceed the “Caution” level threshold. Upon approval through the Water Quality Portfolio, the Term 36 HABs Strategy would replace the requirements of Term 37.
5-4.4.3	Sites Comment, p. 59, Section F.4.	The evidence does not support automatic inclusion of a future “applicable” water quality objective in Term 37.	Term 37 is revised.
6-4.4.3	SDWA Comment, p. 9, Section F.	Permit Term 35’s requirement to monitor cyanobacteria and cyanotoxins in the Delta is too general; a specific contribution to an existing program and a specific number of monitoring locations should be required.	See discussion in response to Comment 4-4.4.3. The HABs monitoring plan, as part of the WQP, must be developed in consultation with the State Water Board to maximize coordination with existing monitoring programs. (Permit Term 34.)
7-4.4.3	SDWA Comment, p. 9, Section F.	The strategy in Permit Term 36 is too general and lacks a performance standard to ensure effectiveness. The term leaves water release decisions up to the Authority, and there is no requirement for the HABs Strategy to be reviewed or approved by the	Term 34 requires the Authority to consult with the State Water Board when developing the WQP, including the HABs Strategy. The Board must approve the WQP, after notice and opportunity for comment, before any diversions occur. (Permit Term 34.) The WQP will include performance standards to assess compliance. (Decision, Section 4.4.4.) See also response to Comment 1-4.4.3.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
		Board, apart from inclusion in the Water Quality Portfolio.	
8-4.4.3	SDWA Comment, p. 9, Section F.	The effect on HABs of the Temperature Strategy allowing increased release temperatures was not integrated in the Decision.	Term 35 requires the Authority to include in the WQP five-year update analysis of HABs occurrences in relation to HABs drivers, such as temperature. (Permit Term 35.) In addition, Terms 41 and 42 address Project operations and water temperatures. (Permit Terms 41, 42.) SDWA has not identified any evidence in the record demonstrating that these provisions are insufficient to prevent increased HABs downstream arising from changes in temperature caused by reservoir releases.

RESPONSES TO COMMENTS ON SECTION 4.4.4

Water Quality – Water Quality Portfolio

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.4.4	NGOs Comment, p. 12, Section V.D.	The Water Quality Portfolio should require more inclusive processes for Tribal participation and more time for public review and comment. Executive Director discretion for changing protective conditions should be eliminated.	See responses to Comments 11-4.3.1, 3-4.5, and 4-4.5. (discussing delegated authority to Executive Director and consultation requirements for Water Quality Portfolio).
2-4.4.4	Sites Comment, p. 55, Section F.1.	Term 34 should be revised to limit Reservoir Management Plan (RMP) inclusion to only HABs and methylmercury.	Term 34 is revised. The revisions to Term 34 clarify that only the HABs and methylmercury sections of the RMP must be included in the WQP. The Authority may, but is not required to, include additional provisions of the RMP in the WQP.
3-4.4.4	Sites Comment, p. 55, Section F.1.	Term 34 should limit Tribal consultation requirements.	Term 34's Tribal consultation requirement is commensurate with potential Project effects, which not only follow the flow path of downstream waterbodies but the upstream migratory path of Chinook salmon and other migratory fish species. Limiting Term 34's consultation requirements as suggested would potentially exclude from consultation Tribes that may be affected by Project impacts on migrating salmon.

Tribal Interests

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.5	NGOs Comment, pp. 22–23, Section XI.	The Board's Racial Equity Resolution requires it to deny the application or adopt Tribal recommendations. The NGO Parties support the proposed permit language included in Tribal Interest Parties' comments.	The Racial Equity Resolution expresses the Board's commitment to making racial equity, diversity, inclusion, and environmental justice central to the Board's work in implementing its mission. (Resolution No. 2021-0050, p. 7, ¶ 2.) The Resolution does not dictate specific outcomes in adjudicative proceedings as the Board's decisions in adjudicative proceedings must be based on the evidentiary record developed through the hearing process. As described further in the responses to comments submitted by the Tribal Interest Parties, the Permit includes terms and conditions that are intended to limit impacts of the authorized diversions and project operations on salmon and other aquatic species, water quality, and Tribal water rights. The Permit requires consultation by the Permittee with Tribes respecting those terms that address avoidance and mitigation of water quality impacts, and other discretionary decisions require prior notice and the opportunity for comments by Tribes. (Permit Terms 20, 22, 23, 34, 52.) In the Decision, the Board recognizes Traditional Ecological Knowledge (TEK) as a valuable, scientific knowledge system. The Board values the application of TEK in the development of plans required by the Decision and to inform the Board's consideration of approval of these plans and any future amendments to the Permit pursuant to the Board's reservations of authority. (Decision, Section 4.5.2.) See responses to Comments 2-4.5 and 3-4.5.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
2-4.5	2026-06-08 Tribal Comments on Draft Sites Decision (Tribal Comment), p. 3, Section II.	The Permit does not consistently require government-to-government Tribal consultation before discretionary approvals by the Executive Director or Deputy Director.	The terms and conditions of a water right permit generally impose obligations and requirements on the Permittee, not the State Water Board. The Board will comply with its Tribal Consultation Policy when considering discretionary approvals under the Permit and may conduct consultation as deemed to be appropriate through discussion with requesting Tribes. (See Exh. FOR-337, p. 5.) Consultations may range and vary between subject matters discussed, agency resources, and the Tribes involved. (*Id.* at p. 10.) Because of the prohibition on ex parte communications, the Board cannot, however, consult confidentially with Tribes regarding those decisions that are subject to an evidentiary hearing. Tribes may participate by presenting evidence and argument through the hearing process. The Permit requires the Permittee to consult with Tribes to address how the Authority may operate the reservoir to avoid and mitigate water quality impacts arising from methylmercury, HABs, and temperature. (Permit Term 34.) Tribal Interest Parties explicitly identified potential water quality impacts arising from methylmercury, HABs, and temperature in their closing brief as of particular concern and directly implicate the avoidance or mitigation of these potential impacts to Tribal lands, water rights, or beneficial uses of water. (2025-05-27 Tribal Parties Closing Br. (Revised).) The Permit requires the Permittee to consult with any California Native American Tribe that requests consultation before submitting the initial Water Quality Portfolio required by Terms 34 through 43, or any update to the Portfolio, to the Board for its consideration. (Permit Term 34.) Other discretionary decisions under the Permit require notice and the opportunity for comment prior to any approval. These

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			requirements have been revised to explicitly provide for comments by Tribes, as distinguished from general public comment, in recognition of the Tribes' sovereign status. Those requirements and explicit invitation for Tribal comment apply to consideration for approval of the following: Creeks Technical Studies Plan and Operations Plan submitted by the Permittee (Permit Term 20), modified requirements that are equally or more protective of fish and wildlife consistent with a new or modified ITP (Permit Term 22), and modified bypass requirements that prevent unreasonable effects on fish and wildlife. (Permit Term 23(d).) Finally, some amendments to the Permit may only be imposed after notice to interested parties and an opportunity for hearing. The Permit requires notice to those Tribal representatives on the list compiled by the Authority pursuant to Term 34 of the opportunity to participate in any such hearing. (Permit Term 57.) The Permit requires the Permittee consult with other relevant state agencies in developing plans and proposals for construction and operation of the project, or in seeking modification of terms and conditions: Central Valley Regional Water Quality Control Board (feasibility assessment for controlling cyanobacteria and cyanotoxins, and methylmercury, Water Quality Portfolio, Methylmercury Mitigation Plan [Terms 32, 34, 38], CDFW (Creeks Technical Studies Plan and Operation Plan, amendments to ITP requirements, amendments to bypass requirements, Water Quality Portfolio, Temperature Strategy) [Terms 20, 22, 23, 34, 41], and Office of Environmental Health Hazard Assessment (Methylmercury Mitigation Plan) [Term 38].

Comment Code	Source of Comment	Summary of Comment	Response to Comment
3-4.5	Tribal Comment, p. 4, Section II, A.	Draft Term 34, the Water Quality Portfolio, does not define what consultation must consist of. The consultation process should be described in detail.	The Board's 2019 Tribal Consultation Policy, defines and describes "consultation" as follows: > 'Consultation' means the meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties' cultural values and, where feasible, seeking agreement. Consultation between government agencies and Native American tribes shall be conducted in a way that is mutually respectful of each party's sovereignty. Consultation shall also recognize the tribes' potential needs for confidentiality with respect to places that have traditional tribal cultural significance. > (Exh. FOR-337, p. 16; see also Gov. Code, § 65352.4.) The Permit has been amended to state that consultation required by Term 34 shall be consistent with the guidelines and principles in *State Water Resources Control Board Tribal Consultation Policy* (2019) and *CalEPA Tribal Consultation Protocol* (2020), and any amendments thereto. (See Exh. FOR-337, pp. 11–12 [guiding principles]; 2020 CalEPA Tribal Consultation Protocol.)
4-4.5	Tribal Comment, pp. 4–5, Section II, A.	Term 34 should require the Authority to request new contact information from the Native American Heritage Commission (NAHC) yearly because the NAHC Contact list is not fixed and is periodically updated. The Term 34 contact list should include Tribes in source and receiving waters of	Term 34 requires the Permittee to develop a notification list of representatives of California Native American Tribes by submitting requests to the NAHC for a search of the Sacred Lands Inventory and the NAHC Contact List for Tribal Consultation, to identify Tribes with current or ancestral lands in any county that overlies either the Delta, as defined in Water Code section 12220, or the Sacramento River watershed. The Sacramento River watershed and the Delta include the source and receiving waters of the proposed

Comment Code	Source of Comment	Summary of Comment	Response to Comment
		the reservoir because of impacts downstream on water quality and the movement of anadromous fish upstream.	reservoir. The notification list must also include all Tribes that request, in writing, notification of the opportunity to consult, and all Tribes that participated as parties in the hearing in this proceeding. Term 34 requires the Permittee to update its notification list before use.
5-4.5	Tribal Comment, p. 5, Section II. B.	The Permit should include a term that addresses the concern that the probable degradation of Sacramento River water will affect existing Tribal beneficial uses.	The Permit includes terms to maintain flows for fish and wildlife purposes and to maintain water quality for existing Tribal beneficial uses. The Authority must develop a Water Quality Portfolio in consultation with Tribes to address harmful algal blooms, methylmercury, and temperature. The Water Quality Portfolio shall contain plans for monitoring and mitigation of water quality impacts in receiving waters such as the Sacramento River and the Delta. (Permit Term 34.) The Water Quality Portfolio and associated consultation requires the Authority to take the following actions: • Conduct a feasibility assessment of actions and technologies, prior to construction, that may be incorporated into the Project to reduce HABs and prevent or mitigate elevated levels of methylmercury within the reservoir and its releases. (Permit Term 32.) • Conduct a pre-construction survey to identify areas that may have higher concentrations of mercury within the inundation area, and identify actions the Authority will take to address these areas of higher concentration. (Permit Term 33.) • Monitor for cyanobacteria and cyanotoxins, and conduct associated analysis to determine whether

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			operations are impacting the timing and frequency of HABs in receiving waters. (Permit Term 35.) • Absent a HABs Strategy, cease releases from the reservoir if specified limits on levels of cyanobacteria or cyanotoxins are exceeded. (Permit Term 37.) • Monitor for temperature and take associated actions to ensure that water released from the reservoir to the Sacramento River avoids temperature-related detrimental effects on fisheries. (Permit Terms 40–42.) • Identify limits on levels of methylmercury in reservoir releases, and actions the Authority must take to reduce methylation of mercury within the reservoir to the maximum feasible extent. (Permit Terms 38, 39.) Other terms of the Permit are intended to prevent impacts to fisheries: • The Authority is required to develop operating criteria that will prevent the release of harmful algal blooms into Stone Corral Creek and Funks Creek and ensure sufficient water is allowed to pass into the Creeks to keep in good condition any fish that may be planted or exist below the dams. (Permit Terms 19, 20.) • Diversions from the Sacramento River are prohibited unless the pumping plants install fish screens in accordance with CDFW screening criteria. (Permit Term 21.) • The Authority must operate in compliance with its Incidental Take Permit and the Mitigation Monitoring

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			and Reporting Program in the Final EIR. (Permit Terms 22, 25.) In addition to the requirements of the ITP, the following conditions apply to diversions under the Permit: • Additional bypass flows are required at the Red Bluff POD from January 1 to February 28, specifically for fall-run Chinook salmon; • Between March and May, diversions are prohibited during the first seven days of pulse flows meeting certain criteria; and • Between December and February, heightened Wilkins Slough bypass criteria apply. (Permit Term 23.) The Decision acknowledges that mercury in fish tissue has the greatest impact on those who consume large quantities of affected fish, which may occur through consumption for subsistence or as a matter of cultural practice. (Decision, Section 4.4.2.) The Final EIR estimates that releases of water from Sites Reservoir will increase aqueous methylmercury concentrations in the immediate receiving waterbodies. (Exh. AHO-073, pp. 65, 68.) These impacts will lessen over time as methylmercury concentrations within the reservoir diminish, but absent effective mitigation measures, the Project may cause exceedances of the Tribal subsistence methylmercury objective in the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWBE) of 0.04 mg/kg wet weight of a mixture of 70 percent trophic level 3 fish and 30 percent trophic level 4 fish. (*Ibid.*) Although the ISWBE does not require the State Water Board to allocate responsibility for meeting methylmercury water quality objectives through water right proceedings, the Permit

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			requires the Authority to avoid or reduce to the extent feasible elevated mercury concentrations that may occur from the initial fill and operation of Sites Reservoir. (Permit Terms 38, 39.) To develop additional information about possible control mechanisms, Term 38 of the Permit requires the Authority to conduct a feasibility assessment of actions and technologies that may be utilized for this purpose before constructing the reservoir, including hypolimnetic oxygenation. The results of this assessment must be considered and incorporated into a Methylmercury Mitigation Plan to be submitted by the Authority. The plan shall identify methylmercury controls and management measures and require water quality monitoring and data gathering to identify the effectiveness of the measures employed. The Methylmercury Mitigation Plan shall be developed in consultation with the Central Valley Regional Water Quality Control Board, Office of Environmental Health Hazard Assessment, and the State Water Board, and must be consistent with applicable methylmercury water quality objectives in the ISWBE and the Central Valley Basin Plan. Term 57 reserves the authority of the State Water Board to amend the Permit when relevant water quality control plans are updated to include water quality objectives and associated implementation plans to protect Tribal beneficial uses and to amend the Permit upon receipt of new information demonstrating a reasonable likelihood that operations authorized by this Permit have caused or may cause unreasonable harm to fish, wildlife, or other instream beneficial uses, *including Tribal beneficial uses*, regardless of whether those uses are designated under a relevant water quality control plan.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
6-4.5	Tribal Comment, p. 5, Section II. B.	The Permit should state that any potential adverse impacts to fish and aquatic species as subsistence and cultural resources are subject to the terms of consultation described in Section II of the Tribal Comment.	See response to Comment 2-4.5. Several Permit conditions authorize the Board to approve changes to the Permit Terms that are intended to limit impacts to fish and aquatic species. Such Terms either require consultation by the Permittee with California Native American Tribes (Term 34 [Water Quality Portfolio]), require notice to Tribes and a hearing in which Tribes may participate (Term 57 [Reservation of Authority]; Standard Term N; Standard Term O), or explicitly invite comment from Tribes (Term 20 [Technical Studies Plan and Creeks Operation Plan], Term 22 [updated ITP], Term 23(d) [amendment of Term 23]), prior to any decision by the Board, Executive Director, or Deputy Director.
7-4.5	Tribal Comment, pp. 5–6, Section II.C.	Tribal consultation should be required whenever a delegated decision may affect: • Tribal beneficial uses; • Culturally significant fisheries for Tribes; • Culturally significant species or resources; • Water quality affecting Tribal uses, such as for cultural practices; • Reserved rights; • Public trust resources linked to Tribal uses; and	See response to Comment 2-4.5. The Permit requires the Permittee to consult with Tribes regarding those terms that address avoidance and mitigation of water quality impacts arising from methylmercury, HABs, and temperature. (Permit Term 34.) Other discretionary decisions under the Permit require notice and the opportunity for public comment prior to any approval. These requirements have been revised to explicitly provide for comments by Tribes, as distinguished from general public comment, in recognition of the Tribes' sovereign status. Those requirements and explicit invitation for Tribal comment apply to consideration for approval of the following: Creeks Technical Studies Plan and Operations Plan submitted by the Permittee (Permit Term 20), modified requirements that are equally or more protective of fish and wildlife consistent with a new or modified ITP (Permit Term 22), and modified bypass requirements that prevent unreasonable effects on fish and wildlife (Permit Term 23(d).) Finally, some amendments to the

Comment Code	Source of Comment	Summary of Comment	Response to Comment
		• Cultural resources, as defined by Tribes.	Permit may only be imposed after notice to interested parties and an opportunity for hearing. The Board shall require notice to those Tribal representatives on the list compiled by the Authority pursuant to Term 34 of the opportunity to participate in any such hearing. (Permit Term 57; Standard Term N; Standard Term O.) The Board will comply with its Tribal Consultation Policy when considering discretionary approvals under the Permit and may conduct consultation as deemed to be appropriate through discussion with requesting Tribe(s). (See Exh. FOR-337, p. 5.) Consultations may range and vary between subject matters discussed, agency resources, and the Tribes involved. (*Id.* at p. 10.)
8-4.5	Tribal Comment, p. 6, Section II.C.	Mandatory terms for Tribal Consultation should be outlined in the Permit. Consultation should be based on Advisory Council on Historic Preservation (ACHP) established policies and protocols such as the: • Consultation with Indian Tribes in the Section 106 Process: The Handbook (2021), • ACHP Policy Statement on Burial Sites, Human Remains, and Funerary Objects (2023), and • ACHP Policy Statement on Indigenous Knowledge and Historic Preservation (2024).	The ACHP policies and guidebooks referenced in the comment apply to consultation between the federal government, including federal agencies, and federally recognized tribes. These policies and guidelines are not directly applicable to state or local agencies, including the Permittee and the State Water Board. However, the Board recognizes that many of the principles articulated in these policies and guidebooks may provide appropriate and helpful guidance to the Permittee for undertaking consultation to achieve meaningful and timely discussion and consideration of the views of the Tribes, in a manner that is cognizant of all parties' cultural values and, where feasible, seeking agreement.

Comment Code	Source of Comment	Summary of Comment	Response to Comment
9-4.5	Tribal Comment, pp. 6–9, Section II.C.	The Permit should include the specified requirements for consultation, listed on pages 6–9 of the Comment, or require the Authority to develop consultation procedures consistent with these requirements.	The Permit is revised to require the Permittee to develop written procedures for Tribal consultation that are consistent with the guidelines and principles identified in the *State Water Resources Control Board Tribal Consultation Policy* (2019) and *CalEPA Tribal Consultation Protocol* (2020). (Permit Term 34; see Exh. FOR-337, pp. 11–12 [guiding principles]; 2020 CalEPA Tribal Consultation Protocol.)
10-4.5	Tribal Comment, p. 9, Section III.	The Permit should operationalize the understanding that TEK is scientifically valuable and consistent with best available scientific information, admissible, and appropriate for future permit implementation decisions, and include the provisions outlined in the Comment.	As stated in the Decision, TEK is an "evolving knowledge acquired by Indigenous Peoples through direct contact and experience with the environment over millennia." (Decision, Section 4.5.2; see Exh. FOR-330, p. 1.) This Board recognizes TEK as a valuable, scientific knowledge system. (State Water Board Resolution Nos. 2021-0050, p. 8; 2023-0028, p. 4; 2023-0044, p. 2.) Testimony based on TEK may be admitted as relevant evidence and relied upon in adjudicative proceedings before the State Water Board and the Administrative Hearings Office. The State Water Board has also passed resolutions recognizing TEK to be consistent with best available scientific information and directing agency staff to incorporate TEK where feasible. (State Water Board Resolution Nos. 2023-0028, p. 4; 2024-0036, p. 9.) Similarly, the Board supports the application of TEK in the development of plans required by this Decision and to inform the Board's consideration of approval of these plans and any future amendments to the Permit pursuant to the Board's reservations of authority. (Decision, Section 4.5.2.) The Decision requires the Authority to meaningfully consult with Tribes about potential water quality impacts from Project operations, and to incorporate TEK and other input that may be offered through the consultation process in the development of strategies to mitigate or avoid these impacts. (Decision, Section 4.5.2.)

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			Because of legal obligations that require the Board to avoid ex parte communications and disclose records maintained by the agency, the State Water Board may be unable in some contexts to maintain the confidentiality of TEK submitted by Tribes outside of the context of formal AB 52 consultation. For example, in hearings before the AHO or the State Water Board, ex parte prohibitions require all substantive communications to occur on the record and to be made available to all parties to the proceeding.
11-4.5	Tribal Comment, p. 10, Section IV.A.	The State Water Board must take action to rectify the loss of irreplaceable resources for the Tribes. The Permit should include appropriate mitigation and/or reparations for Tribes that will have Tribal cultural resources, cultural sites, or burial sites disturbed or destroyed by the Project.	The Permit adopts and incorporates the mitigation measures in the Permittee's Mitigation Monitoring and Reporting Program (MMRP) of the Final EIR for construction and operation of the Sites Reservoir Project dated November 2023, as listed in Permit Attachment 3. (Permit Term 25; see also Exh. Sites-075.) Pursuant to the MMRP, the Permittees must permit tribal monitors to observe all ground-disturbing activities. (Permit Attachment 3, TCR-1.2.) The Permittee must identify, avoid, and feasibly protect archaeological resources eligible for inclusion on the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR). (*Id.* at CUL-2.1, CUL-2.2, CUL-2.3.) The Permittee must develop and implement resource-specific treatment plans in consultation with Tribes who are associated with or identify with the resource. (*Id.* at CUL-2.4.) If NRHP/CRHR-eligible sites or cultural items, other than human remains, are discovered on non-federal land, the Authority must work with the consulting Tribes to determine affiliation and develop appropriate treatment. (*Id.* at TCR-1.3.)

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			The Native American portion of the Burial Treatment Plan, applicable to the treatment of human remains or grave goods encountered during archeological investigations, will be developed in consultation with Tribes. (*Id.* at CUL-3.2; see also TCR-1.3.) If human remains or associated grave goods are discovered during or after environmental review, the Authority will, among other actions: • Allow designated Tribal member(s) to inspect the site of the discovery and determine how the human remains and grave goods should be treated with appropriate dignity and respect. • Remit to Tribes for appropriate treatment all cultural items, including ceremonial items and archaeological items, discovered during Project construction and operation. • Work of Tribal monitors and treatment of human remains will proceed in accordance with treatment plans developed in consultation with the most likely descendant of the culturally affiliated Tribe as identified by the NAHC. (*Id.* at TCR-1.3.) Even with these mitigation measures, however, the Final EIR concludes that Project construction and inundation of the lands within the reservoir will permanently impact certain Tribal cultural resources. (Exh. AHO-090, pp. 4, 6, 21 [impacts under Alternative 3].) The Tribal Interest Parties did not submit into this proceeding's evidentiary record information about additional measures that might further mitigate these impacts, the nature of reparations that would be commensurate with the losses that may be sustained, or the appropriate

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			recipients of any such reparations. Absent this type of information, the Board does not have an evidentiary basis to consider or impose mitigation as suggested by the Tribal Interest Parties.
12-4.5	Tribal Comment, p. 10, Section IV.A.	The Draft Permit fails to account for the Project's health impacts to Tribes and should acknowledge and offer mitigation strategies for these potential impacts.	The Permit imposes terms and conditions on diversions and other operations of the Project to reduce or avoid impacts that may affect the health of members of Tribes. The Authority must develop a Water Quality Portfolio in consultation with Tribes to address harmful algal blooms, methylmercury, and temperature. The Water Quality Portfolio shall contain plans for monitoring and mitigation of water quality impacts in receiving waters such as the Sacramento River and the Delta. (Permit Term 34.) The Water Quality Portfolio and associated consultation requires the Authority to take the following actions: • Conduct a feasibility assessment of actions and technologies, prior to construction, that may be incorporated into the Project to reduce HABs and prevent or mitigate elevated levels of methylmercury within the reservoir and its releases. (Permit Term 32.) • Conduct a pre-construction survey to identify areas that may have higher concentrations of mercury within the inundation area, and identify actions the Authority will take to address these areas of higher concentration. (Permit Term 33.) • Monitor for cyanobacteria and cyanotoxins, and conduct associated analysis to determine whether operations are impacting the timing and frequency of HABs in receiving waters. (Permit Term 35.)

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			• Absent a HABs Strategy, cease releases from the reservoir if specified limits on levels of cyanobacteria or cyanotoxins are exceeded. (Permit Term 37.) • Monitor for temperature and take associated actions to ensure that water released from the reservoir to the Sacramento River avoids temperature-related detrimental effects on fisheries. (Permit Terms 40, 41, 42.) • Identify limits on levels of methylmercury in reservoir releases, and actions the Authority must take to reduce methylation of mercury within the reservoir to the maximum feasible extent. (Permit Terms 38, 39.) Term 57 reserves the authority of the State Water Board to amend the Permit when relevant water quality control plans are updated to include water quality objectives and associated implementation plans to protect Tribal beneficial uses and to amend the Permit upon receipt of new information demonstrating a reasonable likelihood that operations authorized by this Permit have caused or may cause unreasonable harm to fish, wildlife, or other instream beneficial uses, *including Tribal beneficial uses*, regardless of whether those uses are designated under a relevant water quality control plan. (Permit Term 57.) The Decision explicitly acknowledges that mercury in fish tissue has the greatest impact on those who consume large quantities of affected fish, which may occur through consumption for subsistence or as a matter of cultural practice. (Decision, Section 4.4.2.) The required Methylmercury Mitigation Plan in consultation with the Central

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			Valley Regional Water Quality Control Board, Office of Environmental Health Hazard Assessment, and the State Water Board that is consistent with applicable methylmercury water quality objectives in the ISWBE and the Central Valley Basin Plan. (Permit Term 38.) This Plan is part of the Water Quality Portfolio, and the Permittee is required to consult with Tribes prior to submitting the initial Plan to the Board or proposing amendments to the Plan. (*Ibid.*; Permit Term 34.) Mitigation strategies should be addressed through this consultation and approval process based on information developed through pre-construction screening and the feasibility assessment to consider the feasibility of innovative techniques or technologies to prevent or mitigate methylmercury concentrations in the reservoir.
13-4.5	Tribal Comment, pp. 10–11, Section IV.B.	Tribal Interest Parties are concerned with the level of, or lack of attention to the NHPA Section 106 process and mitigation, and mitigation procedures within the Draft Permit. The Environmental Mitigation Management and Assessment should be revised in accordance with the recommendations outlined in the Comment.	Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their proposed actions and decisions on historic properties. (54 U.S.C § 306108.) The NHPA directly applies only to actions by federal agencies. The comment's reference to an Environmental Mitigation Management and Assessment may refer to the Mitigation, Monitoring, and Reporting Plan of the Final EIR. The Final EIR and associated MMRP were finalized and certified by the lead agency. The adequacy of the Final EIR for purposes of CEQA compliance was not a hearing issue in this proceeding. (See Cal. Code of Regs., tit. 14, § 15096, subd. (e); see also 2024-03-01 Notice of Public Hearing, pp. 13–15.) As a responsible agency, the State Water Board must conclusively presume that a certified EIR is adequate, with certain limited exceptions not applicable here. (Cal. Code Regs. tit. 14, § 15231 [CEQA guidelines].) The Board encourages the

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			Authority to consider, however, application of the measures proposed by the Tribal Interest Parties.
14-4.5	Tribal Comment, p. 11, Section V.	Permit Term 52 fails to adequately address several issues. Term 52 should address governmental sovereignty, knowledge sovereignty, and data/information sovereignty.	Term 52 is revised to require consultation with California Native American Tribes holding rights to groundwater that may be impacted by the Project. Such consultation shall, at the request of the Tribe, address the following topics: ownership of monitoring wells, access to trust lands and reservations, custody of monitoring data generated on Tribal lands, the development of sampling protocols, and confidentiality of Tribal data and information.
15-4.5	Tribal Comment, p. 11, Section V.	The development of the groundwater monitoring program should be subject to Tribal consultation and include integration of TEK analysis and expertise.	See response to Comment 14-4.5. The Decision supports integration of TEK in development of the required plans, which includes the groundwater monitoring program. (Decision, Section 4.5.2.)
16-4.5	Tribal Comment, p. 12, Section V.	SGMA does not grant GSAs jurisdiction over Tribal lands, and therefore, there are no SGMA monitoring stations on Tribal lands. Any monitoring on Tribal lands must be done through sovereign-to-sovereign agreements with the Authority, as outlined in the Comment.	See response to Comment 14-4.5.
17-4.5	Tribal Comment, p. 12, Section V.	The Permit should not defer monitoring thresholds or future decisions to the Deputy Director and instead should require Tribal consultation and should define specific groundwater monitoring thresholds at specific locations.	There is insufficient information in the evidentiary record to develop specific groundwater monitoring thresholds at specific locations for inclusion in the Permit. See also response to Comment 14-4.5. The Authority is required to develop a groundwater monitoring program after consultation with any California Native American Tribe holding rights to groundwater that may be impacted by the Project. The groundwater monitoring program must include identification of monitoring locations, sampling frequencies, and water

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			elevation thresholds at which the Permittee shall conduct further analyses to determine whether diversions under the Permit are contributing to groundwater level declines or other adverse effects to groundwater conditions that may injure groundwater right holders, and is subject to approval by the Deputy Director.
18-4.5	Tribal Comment, pp. 12–13, Section V.	The Authority should provide financial compensation for the potential impacts to cultural resources that are impossible to mitigate and additional costs related to monitoring implementation and study reviews.	Permittee is required to bear the cost of installing any necessary monitoring wells and conducting monitoring as described in the groundwater monitoring program, subject to any agreement with relevant Tribes developed through consultation, regarding ownership of monitoring wells, access to trust lands and reservations, custody of monitoring data generated on Tribal lands, the development of sampling protocols, and confidentiality of Tribal data and information. See also response to Comment 11-4.5.

Beneficial Uses and Purposes of Use

Comment Code	Source of Comment	Summary of Comment	Response to Comment
1-4.7	Sites Comment, pp. 35–37, Section 3.	Terms 3 and 4 should be amended to include the Authority's entire Project place of use as depicted and described in the Authority's May 11, 2022, Application, including the specifically identified "instream" reaches, and include "water quality" and "fish and wildlife preservation and enhancement" as Project purposes of use.	Term 3 is revised to include water quality as a purpose of use. Reference to the Yolo Bypass is removed from Term 4, in accordance with the Authority's April 10, 2026, letter to the AHO regarding the Project's Water Storage Investment Program Benefits (WSIP). (2026-04-10 Sites Authority Ltr to AHO Reg Yolo Bypass.) To accommodate the Authority and CDFW's ongoing coordination, Term 4 is revised to include all areas receiving water for an ecosystem benefit approved by CDFW as part of WSIP. Finally, Term 4 is revised to authorize the Delta as a place of use for water quality and fish and wildlife preservation and enhancement so that Project contributions to Delta outflow can be considered a beneficial use of water diverted under the Permit. (Decision, Section 4.7.) Term 4 is not revised to include all purposes of use that are in the CVP water right permits and licenses. Such a blanket approval of fish and wildlife beneficial uses throughout the entire place of use would be overbroad—the Authority has not demonstrated a specific intent to use water under the Permit throughout the entire place of use for fish and wildlife purposes. (See, e.g., *Central Delta Water Agency v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 245, 264, as modified on denial of reh'g (Dec. 16, 2004)

Comment Code	Source of Comment	Summary of Comment	Response to Comment
			[Board may not approve permit based on generalized statement of intended uses].) If a storage partner identifies an additional place of use in the future for water quality or fish and wildlife preservation and enhancement, the Authority may submit a minor change request pursuant to Water Code section 1700.6 or a petition pursuant to Water Code section 1701.1 et seq. As stated in the Decision, incidental water quality and fish and wildlife preservation and enhancement that occur during the downstream delivery of water do not require authorization under the water right Permit, and these incidental uses should not be included in the Permit. (Decision, Section 4.7.)
2-4.7	NGOs Comment, p. 20, Section IX.	The Permit's place of use is overly broad and not justified by the evidence. The place of use should be restricted to include just the places of use of storage partners, the parts of the SWP and CVP that are supported by the evidentiary record, and the CVP federal refuges.	The record supports approval of the place of use requested by the Authority. (See Exh. AHO-005; Exh. AHO-028.) The requirements of Terms 55, F, and G will ensure appropriate monitoring and accounting of beneficial uses. (See response to Comment 1-4.7 [addressing scope of fish and wildlife preservation and enhancement purposes of use].) Term 54 will ensure consideration of the final list of storage partners and any subsequent modifications to places of use and beneficial uses.
3-4.7	NGOs Comment, pp. 23–25, Section XII.	The place of use for the project should match the proposed benefits under the WSIP program. The Yolo Bypass should be removed from the place of use, and the place of use restriction for	The Yolo Bypass is removed as an authorized place of use for fish and wildlife preservation and enhancement, in accordance with the Authority's April 10, 2026, letter to the AHO regarding the Project's Water Storage

Comment Code	Source of Comment	Summary of Comment	Response to Comment
		fish and wildlife uses should be the Refuge Water Supply Program north of the Delta.	Investment Program Benefits. (2026-04-10 Sites Authority Ltr to AHO Reg Yolo Bypass.) The place of use is revised to include delivery of water to refuges receiving water as part of Reclamation's Refuge Water Supply Program or other locations specifically approved by CDFW for provision of ecosystem benefits under WSIP. (See response to Comment 1-4.7; see Permit Term 4; see Decision, Section 4.7.) The Board declines to limit deliveries to north of Delta refuges. The Authority has expressed a clear intent to deliver water to refuges south of the Delta; whether these deliveries occur will be assessed during the licensing process for the Permit.