

Defining Existing Conditions, No Project Alternative, and Cumulative Impact Conditions

3C.1 Introduction

The purpose of this appendix is to provide detailed definitions of the existing conditions, No Project Alternative, and cumulative impact conditions that are used in Chapters 7–32 for the purposes of the CEQA impact analysis. This information is provided in an appendix to streamline chapters and organize information in a way that is most helpful to reviewers.

Section 15125 of the California Environmental Quality Act (CEQA) Guidelines states “An EIR must include a description of the physical environmental conditions in the vicinity of the project. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.” The existing conditions will reflect the:

... physical environmental conditions as they exist at the time the notice of preparation is published... Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project’s impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence. In addition, a lead agency may also use baselines consisting of both existing conditions and projected future conditions that are supported by reliable projections based on substantial evidence in the record.

An environmental impact report (EIR) is required to evaluate a no project alternative. CEQA Guidelines Section 15126.6(e) states that:

...The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project....The “no project” analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

In addition, CEQA Guidelines Section 15130 directs the lead agency to evaluate cumulative impacts of a project when the project’s incremental effect is cumulatively considerable. According to the guidelines, “a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.” The evaluation includes consideration of “past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency” (CEQA Guidelines § 15130(b)).

CEQA Guidelines Section 15126.6(e) states that “the no project alternative analysis is not the baseline for determining whether the proposed project’s environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (see Section 15125).” However, because the U.S. Army Corps of Engineers will utilize a No Action baseline in the Delta Conveyance Project Environmental Impact Statement (EIS) for purposes of

1 complying with National Environmental Policy Act (NEPA), this baseline is also presented for
2 informational purposes only in this Final EIR as part of the technical information in several
3 appendices. This Final EIR compares the Delta Conveyance Project and alternatives to the existing
4 conditions, No Project Alternative at 2020, No Project Alternative at 2040, and conditions under the
5 cumulative impact analysis. This appendix presents the definitions and assumptions of these
6 conditions.

7 **3C.2 Definitions**

8 Definitions were developed for the existing conditions, the No Project Alternative, and cumulative
9 impact analysis conditions based upon the CEQA Guidelines and case law.

10 **3C.2.1 Existing Conditions**

11 As stated above, the CEQA baseline for assessing significance of impacts of any proposed project is
12 the environmental setting, or existing conditions, at the time a Notice of Preparation (NOP) is issued
13 (CEQA Guidelines § 15125(a)). This directive was recently interpreted and applied by the California
14 Supreme Court in *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57
15 Cal.4th 439 (*Neighbors for Smart Rail*). There, the court reiterated that “[t]he CEQA Guidelines
16 establish the default of an existing conditions baseline even for projects expected to be in operation
17 for many years or decades.” (Id. at 455.) According to the Court, for such a project, “existing
18 conditions constitute the norm from which a departure must be justified—not only because the
19 CEQA Guidelines so state, but because using existing conditions serves CEQA’s goals in important
20 ways.” (*Ibid.*) For example, “[e]ven when a project is intended and expected to improve conditions in
21 the long term—20 or 30 years after an EIR is prepared—decision makers and members of the public
22 are entitled under CEQA to know the short- and medium-term environmental costs of achieving that
23 desirable improvement.” (*Ibid.*) Further, “[a]n EIR stating that in 20 or 30 years the project will
24 improve the environment, but neglecting, without justification, to provide any evaluation of the
25 project’s impacts in the meantime does not ‘giv[e] due consideration to both the short-term and
26 long-term effects’ of the project ... and does not serve CEQA’s informational purpose well.” (*Ibid.*,
27 quoting CEQA Guidelines § 15126.2, subd. (a).) Although the Supreme Court did not adopt a strict
28 prohibition against the exclusive use of a future baseline consisting of anticipated conditions at the
29 commencement or mid-point of project implementation, any sole reliance on such a future baseline
30 is only permissible where a CEQA lead agency can show, based on substantial evidence, that an
31 existing conditions analysis would be “misleading or without informational value.” (*Neighbors for*
32 *Smart Rail, supra*, 57 Cal.App.4th at 457.)

33 The CEQA baseline employed in this Final EIR is consistent with the principles outlined above.
34 Following CEQA Guidelines Section 15125(a), the CEQA baseline has been developed to assess the
35 significance of impacts of the alternatives in relation to the existing conditions at the time of the
36 NOP. The existing conditions assumptions for the Final EIR include facilities and ongoing programs
37 that existed as of January 15, 2020 (publication date of the NOP), that could affect or could be
38 affected by the project alternatives (refer to Appendix 1A, *July 2020 Delta Conveyance Project*
39 *Scoping Summary Report and Addenda*, for a copy of the NOP).

40 Consistent with these considerations of the CEQA baseline, existing conditions for the Final EIR
41 include continuation of operations of the State Water Project (SWP) and Central Valley Project (CVP)

by California Department of Water Resources (DWR) and the Bureau of Reclamation (Reclamation), respectively. Assumptions for the existing conditions related to operations of the SWP and CVP include actions required by the October 2019 National Marine Fisheries Service (NMFS) biological opinion (BiOp) and the October 2019 U.S. Fish and Wildlife Service (USFWS) BiOp as well as the March 2020 Incidental Take Permit (ITP) for the long-term operation of the SWP issued by the California Department of Fish and Wildlife (CDFW). Detailed assumptions for the SWP and CVP operations are represented in hydrological and water quality analytical models, as described in Appendix 5A, *Modeling Technical Appendix*.

3C.2.2 No Project Alternative

The No Project Alternative allows DWR and other decision makers to use the Final EIR to compare the impacts of approving the Delta Conveyance Project with the future conditions of not approving the project in the year 2040, which is when the Delta Conveyance Project is anticipated to be fully constructed and operational. As stated above, under CEQA generally, the No Project Alternative may not be used as the sole baseline for assessing the significance of impacts unless the No Project Alternative is identical to existing conditions (CEQA Guidelines § 15126.6(e)(1)). CEQA Guidelines Section 15126.6, Subdivision (e)(2), indicates that No Project conditions include some reasonably foreseeable changes in existing conditions and changes that would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. The key limiting language here is the phrase “based on current plans and consistent with available infrastructure and community services.” This qualifying language limits the number of assumptions a CEQA lead agency can make about potential future actions. However, because the effects of climate change and sea level rise are reasonably foreseeable, they are included within the No Project Alternative. Additionally, as discussed in Chapter 3, *Description of the Proposed Project and Alternatives*, the No Project Alternative analysis includes actions required by the 2019 USFWS BiOp, 2019 NMFS BiOp, and CDFW ITP for the long-term operation of the SWP, issued on March 31, 2020.

In the absence of the Delta Conveyance Project, the No Project Alternative for the Final EIR entails programs, projects, and policies included in existing conditions assumptions as well as projects that would occur in lieu of the project. These assumptions were based on a review of each participating agency’s urban water management plan (UWMP), if relevant, and other published information. Although the UWMP may serve as a foundation to developing the No Project Alternative, it is recognized that each participating water agency may adjust actions identified in their UWMPs and explore and implement other actions to address future water supply needs and reliability issues. The UWMPs reviewed are listed in Section 3C.4, *References Cited*. The purpose of the No Project Alternative is to identify some of the potential future environmental impacts that may occur without the Delta Conveyance Project and is not meant to direct or predict actions that public water agencies may or may not need to take in the future. The assumptions also encompass programs, projects, and policies with clearly defined management and/or operational plans, as well as facilities under construction as of January 15, 2020, because such actions and facilities are consistent with the continuation of existing management direction or level of management for plans, policies, and operations.

The No Project Alternative assumptions also include facilities and programs that received approvals and permits in 2020 because those programs were consistent with existing management direction as of the NOP.

3C.2.3 Cumulative Impact Analysis

Under CEQA, cumulative impacts are defined as two or more individual effects on environmental resources, that when considered together, are considerable or compound or increase other environmental impacts (CEQA Guidelines § 15355). Cumulative impacts consist of impacts that are created as a result of the combination of the proposed project with other projects that would cause related impacts (CEQA Guidelines § 15130 (a)(1)). The focus of the cumulative impacts analysis under CEQA is on whether the proposed project's incremental contribution to any cumulative impact is considerable enough to produce a significant cumulative impact (CEQA Guidelines § 15065(a)(3)). The related past, present, and reasonably foreseeable probable future projects and programs to be considered in the cumulative impacts analysis generally (though not always) are not components of, or outgrowths from, the individual identified projects or programs. Rather, the identified projects and programs are usually separate and distinct, often with different lead entities that may cause impacts similar or related to those of the proposed project or alternatives.

3C.3 Descriptions for the Final EIR

Descriptions were developed for the Final EIR related to the existing conditions, No Project Alternative, and cumulative impact analysis conditions based upon definitions summarized in Section 3C.2, *Definitions*, and information for related and potentially related projects, as summarized in Table 3C-2 at the end of this appendix.

3C.3.1 Existing Conditions

The existing conditions assumptions includes the basic description of existing conditions, assumptions related to the SWP and CVP, ongoing programs and policies by governmental and nonprofit entities, and assumptions related to annual actions that vary every year.

3C.3.1.1 Basic Description of Existing Conditions for the Final EIR

The existing conditions assumptions for this Final EIR will include existing facilities and ongoing programs that existed as of January 15, 2020 (publication date of the NOP) that could affect or could be affected by the alternatives.

As described above, CEQA Lead Agencies have the discretion to update the baseline conditions beyond the date of the issuance of the NOP to include a program that is implemented during preparation of the EIR. For the purposes of the Final EIR, the existing conditions includes the CDFW ITP, issued on March 31, 2020. Although the ITP was issued following the NOP, most of the provisions had been discussed and were anticipated prior to the release of the NOP. Therefore, the CDFW 2020 ITP is included in the existing conditions.

3C.3.1.2 Existing Conditions Assumptions for State Water Project and Central Valley Project

Existing conditions for this Final EIR includes continuation of operations and maintenance of the SWP and CVP by DWR and Reclamation, respectively. Assumptions for the existing conditions

related to operations of the SWP and CVP are described in the 2019 NMFS BiOp, the 2019 USFWS BiOp, and 2020 CDFW ITP.

Detailed assumptions for the SWP and CVP operations are represented in hydrological and water quality analytical models, as described in Appendix 5A and summarized in Table 3C-1.

The operational assumptions include the following conditions: (1) continued delivery of water to SWP and CVP contractors up to the adopted water contract amounts based upon water availability and operational constraints, and continued operations under the Coordinated Operations Agreement; (2) adherence to State Water Resources Control Board (State Water Board) Decision 1641 (D-1641); (3) use of Joint Points of Diversion to allow Reclamation to use SWP diversion capacity capability in accordance with D-1641; (4) adherence to State Water Board Water Quality Control Plan adopted in 2006; and (5) implementation of Central Valley Project Improvement Act including environmental water actions in accordance with Section 3406(b)(2).

Table 3C-1. Summary of State Water Project and Central Valley Project Operations Included in Existing Conditions and No Project Alternative for the Final EIR

SWP and CVP Operations	Existing Conditions	No Project Alternative (2040)
Inflow Supplies	Historical.	Historical with Climate Change
Level of Development	2020 Level.	Projected 2040 Level
SWP Water Demands – FRSA	Land-use based, limited by contract amounts.	Same
SWP Water Demands – Long-term contractors	• Full Table A, with monthly demand pattern based on 2014-2019 contractor requests. • Article 56 based on 2014-2019 contractor requests. • Article 21: Metropolitan Water District demand up to 286.17 TAF/year (January-May) subject to conveyance capacity, Kern County Water Agency demand up to 543.69 TAF/year, and other contractor demands up to maximum of 301.20 TAF/year, subject to conveyance capacity. • North Bay Aqueduct: 77 TAF/year demand under SWP contracts. Up to 2.635 TAF/month of excess flow under Fairfield, Vacaville, and Benicia Settlement Agreement. North of Delta Allocation Settlement Agreement terms for Napa and Solano.	Same
CVP Water Demands – North of Delta	Land-use based, limited by contract amounts.	Land-use based, limited by contract amounts and demand effects of SGMA actions
CVP Water Demands – Westside San Joaquin	Land-use based, limited by contract amounts.	Same
Federal and State Refuges with Level 2 Water Supplies	Land-use based, limited by Level 2 contract amounts. Level 4 deliveries not simulated.	Same

SWP and CVP Operations	Existing Conditions	No Project Alternative (2040)
Facilities	Fremont Weir Adult Fish Passage Facilities	Same
Operations of SWP Facilities	- Existing Facilities with 2019 NMFS BiOp and USFWS BiOp conditions and 2020 CDFW ITP (Appendix 5A). 2006 Settlement Agreement for Licensing of Oroville Facilities. These facilities are also referred to as FERC Project No. 2100, or P-2100.	Same
Operations of CVP Facilities	- Existing Facilities with 2019 NMFS BiOp and USFWS BiOp. conditions (Appendix 5A). - Full implementation for San Joaquin River Restoration Plan.	Same
Coordinated Operations	- State Water Board D-1641 Regulations (Appendix 5A). 2018 Amendment to Coordinated Operations Agreement.	Same
Wheeling and Transfers	- Cross Valley Canal wheeling (CVP). - Joint Point of Diversion (CVP). - Lower Yuba River Accord (SWP).	Same

CVP = Central Valley Project; D-1641 = Water Rights Decision 1641; FERC = Federal Energy Regulatory Commission; FRSA = Feather River Service Area; SWP = State Water Project; State Water Board = State Water Resources Control Board; TAF = thousand acre-feet; 2019 NMFS BiOp = National Marine Fisheries Biological Opinion; 2019 USFWS BiOp = U.S. Fish and Wildlife Service Biological Opinion; 2020 CDFW ITP = California Department of Fish and Wildlife Incidental Take Permit.

3C.3.1.3 Existing Conditions Assumptions for Ongoing Programs and Policies

The existing conditions assumes continued operations, maintenance, enforcement, and protection programs by federal, state, and local agencies and nonprofit groups that affect or could be affected by the Delta Conveyance Project and alternatives. A comprehensive table of programs, projects, and policies considered for existing conditions analysis is included at the end of this appendix (Table 3C-2).

Many of the ongoing programs include continued operations, maintenance, or enforcement activities also include development of future projects that would require separate environmental documentation. The NMFS (2019) BiOp and USFWS (2019) BiOp are included in the existing conditions assumptions. The 2019 BiOps identify facilities or changes in operations that would require further study and subsequent implementation, including actions that are projected for completion prior to the completion of the Final EIR. The 2019 USFWS BiOp and 2019 NMFS BiOp under the federal Endangered Species Act (ESA) determined that coordinated operations of the SWP and CVP are not likely to jeopardize the continued existence of delta smelt, Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, California Central Valley steelhead, Southern Resident killer whale, or the Southern Distinct Population Segment of green sturgeon, or destroy or adversely modify critical habitat for these species. The existing conditions includes numerous operational components required under the 2019 USFWS BiOp and 2019 NMFS BiOp including, e.g., Shasta seasonal operations, Old and Middle River flow management, a delta smelt summer-fall habitat action, and Delta Cross Channel operations, as well as other components such as completion of 8,000 acres of Delta habitat restoration, reintroduction efforts for delta smelt, and upstream habitat restoration. The BiOps authorize SWP and CVP operations through 2030. It is noted that *Executive Order on Projecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, signed by President Biden on January 20, 2020, directed federal agencies to

review a wide range of actions taken by the previous administration including the NMFS and USFWS 2019 BiOps and possibly take action to reinitiate consultation. On October 1, 2021, Reclamation initiated consultation on the long-term operation of the CVP and SWP.¹ For purposes of this Final EIR, however, because the consultation is just getting underway and a final BiOp is not expected to be issued for several years, DWR is assuming that the current NMFS and USFWS 2019 BiOps remain in place.

The existing conditions also include the 2020 CDFW ITP. The ITP, which expires on March 31, 2030, authorizes incidental take for SWP Delta operations under the California Endangered Species Act (CESA), including conditions of approval related to factors such as legal compliance with all federal, state, and local laws. Actions required by the ITP include: minimization measures (including, for example, management of operations in response to risk assessments conducted by collaborative real-time operations monitoring teams including CDFW, DWR, and others); Old and Middle River flow management including criteria for longfin smelt, delta smelt, and listed salmon; construction and operation of a salmonid migratory barrier at Georgiana Slough; export curtailments for spring Delta outflow; potential redeployment of up to 150 thousand acre-feet (TAF) for Delta outflow in the following year; an additional 100 TAF of Delta outflow in spring, summer, and fall); and compensatory mitigation (completion of 8,000 acres of tidal wetland habitat restoration for delta smelt and 800 acres for longfin smelt, as well as an additional 396.3 acres; a Delta Smelt Summer–Fall Habitat Action; one salmon restoration project per year up to \$20 million total over the ITP duration; and implementation of the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project).

Additionally, under existing conditions, projects that are part of EcoRestore² would continue to be implemented. For purposes of existing conditions, only those EcoRestore projects that are already constructed or that are in the process of being constructed would be included.

3C.3.1.4 Existing Conditions Assumptions for Annual Actions

The existing conditions assumptions used in the Final EIR’s quantitative analyses focus on long-term operations. It is recognized that many actions are implemented on an annual basis, such as 1-year water transfers. The annual operations vary substantially each year; therefore, inclusion of these activities in quantitative analyses may be misleading or provide an inaccurate baseline. Historical annual actions are described for each resource in the Final EIR in a qualitative manner with available specific numerical information.

3C.3.2 No Project Alternative Conditions

The No Project Alternative assumptions include the basic description of No Project Alternative (Section 3C.2.2, *No Project Alternative*), assumptions related to the SWP and CVP, ongoing programs and policies by governmental and nonprofit entities, projections related to climate change, and assumptions related to annual actions that vary every year.

¹ As stated in Reclamation’s October 1 letter requesting consultation: “[u]ntil new Biological Opinions are issued, and National Environmental Policy Act requirements are completed, the CVP will continue to operate pursuant to the existing consultation and Record of Decision as modified by interim measures, if any, as required by ongoing drought conditions or as ordered in conjunction with any ongoing litigation.”

² EcoRestore is a multi-agency initiative started in 2015 to improve or create at least 30,000 acres of critical habitat for native fish and wildlife species in California’s Central Valley.

As described in Chapter 3, the No Project Alternative is considered at two timeframes, 2020 and 2040. The 2020 No Project Alternative is identical to existing conditions, and therefore, while it is described, it is not analyzed for any impacts. The 2040 No Project Alternative is described below. Unless stated specifically, the phrase No Project Alternative refers to No Project at the 2040 timeframe.

The approach for how the No Project Alternative is analyzed in this Final EIR is described in Chapter 4, *Framework for the Environmental Analysis*.

3C.3.2.1 Basic Description of No Project Alternative for the Final EIR

The No Project Alternative analyzed in the Final EIR resource chapters includes descriptions of conditions at approximately 2040, which is when the project is expected to be operational.³ The No Project Alternative allows decision-makers to use the Final EIR to compare the impacts of approving the project against the consequences of not approving the project. CEQA Guidelines Section 15126.6, Subdivision (e)(2) indicates that No Project conditions may include some reasonably foreseeable changes in existing conditions and changes that would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. For purposes of this analysis, the No Project is considered at two timeframes. The first timeframe considered for the No Project Alternative is at 2020, which is the same timeframe as the project alternatives (in light of comparison to the 2020 environmental setting, which is the baseline for determining impacts under CEQA). Generally, the No Project Alternative at 2020 is identical to existing conditions found within the study areas; therefore, it is not separately discussed in the resource chapters.

The Final EIR analysis also considers a No Project Alternative under future conditions when the Delta Conveyance Project is anticipated to be fully constructed and operational. This condition is represented by the year 2040 for resources that consider modeling to help characterize the alternatives. Under the No Project Alternative, DWR would continue to operate the existing SWP facilities to divert, store, and convey SWP water consistent with applicable laws, regulations, and permit conditions, and SWP contractual obligations for water deliveries. A description of the environmental conditions that may change under the No Project Alternative under future conditions is included in each resource assessment that is fully or partially dependent on the 2040 modeled condition. However, under the No Project Alternative, DWR would not make any changes to the SWP facilities in the Delta to address water supply reliability and related objectives identified in Chapter 2, *Purpose and Project Objectives*. The No Project Alternative includes programs, projects, and policies included in existing conditions assumptions and those with clearly defined management and/or operational plans, including facilities under construction as of January 15, 2020. The No Project Alternative assumptions also includes facilities and programs that have completed environmental review, received approvals and permits, or foreseeably will be approved and permitted by 2040.

Because the effects of climate change and sea level rise will foreseeably have a sizeable effect on the Delta environment by 2040, those effects will be represented in the No Project Alternative analysis.

³ For disclosure purposes, an additional No Project Alternative comparison is described and analyzed in Appendix 3D, *Alternatives at 2070*, to reflect anticipated conditions approximately 30 years following initial operations. Though not required under CEQA, this additional comparison is provided for disclosure purposes because the life of the proposed project would extend beyond the next 50 years.

A comprehensive table of programs, projects, and policies considered for the No Project Alternative analysis is included at the end of this appendix (Table 3C-2).

3C.3.2.2 No Project Alternative Assumptions for State Water Project and Central Valley Project

The No Project Alternative for this Final EIR includes continuation of operations of the SWP and CVP as governed by D-1641, the 2019 NMFS BiOp, 2019 USFWS BiOp, and 2020 CDFW ITP.

Detailed assumptions for the CVP and SWP operations are represented in hydrological and water quality analytical models, as described in Appendix 5A.

3C.3.2.3 No Project Alternative Assumptions for Ongoing Programs and Policies

The No Project Alternative assumes continued operations, maintenance, enforcement, and protection programs by federal, state, and local agencies that affect or could be affected by the Delta Conveyance Project and project alternatives. As described above for the existing conditions assumptions, many of the ongoing programs include development of future projects that would require separate environmental documentation. The following sections describe the criteria used to determine the actions falling under and considered as part of the No Project Alternative assessment.

While projects already constructed or in construction that are part of EcoRestore are part of existing conditions, for purposes of No Project Alternative, planned EcoRestore projects still in development are also included.

In addition to the ongoing programs, the No Project Alternative considers water rights, flood management, and compliance with the endangered species acts.

No Project Alternative Assumptions for Water Rights

The No Project Alternative assumes there would be no changes to senior water rights in the Sacramento and San Joaquin River watersheds by 2025 through use of facilities currently available or under construction.

No Project Alternative Assumptions for Flood Management

The No Project Alternative assumes continued operations of flood management facilities by the federal, state, and local agencies. In addition, the No Project Alternative assumes that levee failures due to flooding, erosion, subsidence, wave action, seismic events, burrowing animals, physical encroachment (such as barge collisions), increased hydraulic pressure from sea level rise, or other causes would be repaired and augmented to meet comparable flood management objectives under ongoing programs in the future. The No Project Alternative assumes that these repairs also would occur on privately-owned levees that are integral to the main waterways in the Delta, such as repairs that occurred to privately-owned levees following the floods in 1996 and 1997.

No Project Alternative Assumptions for Compliance with Endangered Species Acts

The No Project Alternative assumptions include continued compliance by nonfederal agencies with the CESA and ESA on a case-by-case basis for future programs and projects that have a potential to

take listed species under each act. The No Project Alternative does not include additional comprehensive strategies to avoid, minimize, or mitigate effects of programs or projects that are not currently implemented under existing conditions. Under ESA, federal agencies have the responsibility to utilize their authorities to carry out programs for the conservation of endangered species and threatened species. However, many of these programs are too conceptual at this time to analyze in an informative manner, therefore they are not included in the No Project Alternative assumptions.

3C.3.2.4 No Project Alternative Assumptions Related to Climate Change

The No Project Alternative also includes assumptions for climate change related to sea level rise and changes in precipitation patterns, including changes in ratios between snow and rainfall. While no current guidance exists for use of specific climate scenarios under CEQA, per the California Ocean Protection Council, the H++ scenario, or extreme risk aversion scenario, is recommended and relevant for high-stakes, long-term decisions and for projects with a lifespan beyond 2050 that have a low risk tolerance (Chapter 30, *Climate Change*). Based on this scenario, an extreme assumption for sea level rise of 1.8 feet was modeled for the No Project Alternative 2040 operations. Detailed assumptions for climate change as it relates to SWP and CVP operations are represented in hydrological and water quality analytical models, as described in Appendix 5A, Section F, *Climate Change Modeling*. No Project Alternative Assumptions for Annual Actions

The No Project Alternative assumptions focus on longer-term operations and do not include specific annual operations, such as 1-year water transfers. It is recognized that annual operational water transfers will continue to occur, although specific information cannot be reasonably forecasted.

3C.3.2.5 No Project Alternative Assumptions for Water Agency Actions

As stated above, the No Project Alternative takes into account projects, plans, and programs that would “be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.” The Delta Conveyance Project is a water reliability project, and therefore, it can be assumed that in the absence of the proposed project, participating water agencies would seek to bolster water reliability through other projects. These projects would likely be in the same vein of other water reliability projects that are already being developed by the participating water agencies. These types of actions have not been considered as a project alternative on their own because, among other reasons, they fail to meet the fundamental project objective to restore and protect reliable SWP supplies from the Delta, as explained further in Appendix 3A, *Identification of Water Conveyance Alternatives*. CEQA Guidelines 15126.6 (e), described in Section 3C.2, provides guidance regarding the types and scope of projects considered in the No Project Alternative.

These actions would include:

- Water conservation programs by public agencies aimed at water use reduction/efficiency targeting landscaping, and the commercial and multi-family housing sectors, as well as changing individual habits. This could include programs like rebates or other incentives for water saving devices, water use restrictions, and outreach campaigns.
- Water recycling projects involving further treatment of treated wastewater that is currently discharged to the ocean, bays, streams, or lands, and using it for non-potable uses such as

landscape and agricultural irrigation, commercial, and industrial purposes. There is potential that in the future, recycled water could eventually be used as a supply of potable water.

- Groundwater recovery projects involve treatment of high salinity or contaminated groundwater for potable uses.
- Groundwater management consists of use of existing groundwater supplies, but also conjunctive use of water—which refers to the coordinated management of surface water and groundwater supplies such as use and storage of surface water supplies in groundwater basins and reservoirs during periods of abundance. This stored water is available for use during periods of low surface water supplies as a way of augmenting seasonal and multiyear shortages.
- Water transfers and exchanges or water purchases on the open market.

Projects pursued would be dependent primarily on the geographic location of the water agency. For purposes of this analysis, water agencies that have signed on to the Agreement in Principle as of the date of the release of this Final EIR have been divided into four geographic areas: northern coastal, northern inland, southern coastal, southern inland. Projects most likely pursued by the various geographies are as follows:

- **Northern coastal** (Alameda County Water District; Santa Clara Valley Water District)
 - Desalination
 - Recycling
 - Water conservation/water use efficiency
 - Groundwater recovery
 - Groundwater management
- **Northern inland** (Alameda County Flood Control and Water Conservation District, Zone 7)
 - Desalination
 - Recycling
- **Southern coastal** (Metropolitan Water District; San Luis Obispo County Flood Control and Water Conservation District; Ventura County Water Protection District; Santa Clarita Valley Water Agency)
 - Desalination
 - Recycling
 - Water conservation/water use efficiency
 - Groundwater recovery
 - Groundwater management
- **Southern inland** (Antelope Valley–East Kern Water Agency; Coachella Valley Water District; Crestline–Lake Arrowhead Water Agency; Desert Water Agency; Dudley Ridge Water District; Kern County Water Agency; Mojave Water Agency; Palmdale Water District; San Bernardino Valley Municipal Water District; San Gabriel Valley Municipal Water District; San Geronimo Pass Water Agency)
 - Groundwater recovery

- Recycling
- Groundwater management
- Water conservation/water use efficiency

Projects currently in development or in exploratory phases are outlined in the most current Urban or Agricultural Water Management Plan for each of these water agencies. But because it is not possible to know precisely what projects or blends of projects water suppliers would take, the impact analyses are necessarily general in nature and do not contain detailed project-specific analysis.

3C.3.3 Cumulative Impact Assumptions

For the most part, cumulative impact assumptions for the Final EIR include programs, projects, and policies included in existing conditions and No Project Alternative assumptions and reasonably foreseeable probable future programs and projects. For the Final EIR, programs with specific plans identified in draft environmental and engineering documents without subsequent approvals were included in the cumulative impact assumptions as reasonably foreseeable. A comprehensive table of programs, projects, and policies considered for cumulative impact analysis is included at the end of this appendix (Table 3C-2).

Most of the programs, projects, and policies included in the cumulative impact assumptions are defined in adequate detail to estimate potential adverse and beneficial impacts, including projects with draft environmental documentation but without selection of a proposed project. The cumulative impact analysis considers the preliminary determinations of beneficial and adverse impacts for these actions in conjunction with the Delta Conveyance Project and alternatives.

1 **Table 3C-2. Descriptions of Programs, Projects, and Policies Considered for Existing Conditions, No Project Alternative, and Cumulative Impact Analysis**

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
East Alameda County Conservation Strategy (EACCS)	Alameda County	EACCS is intending to preserve endangered species with a plan for long term habitat protection. The EACCS will assess the conservation value of East Alameda County to establish biological principles for conservation in that area. The EACCS will provide a framework for regional conservation of biological species, streamline the environmental permitting process, provide guidance to project proponents, and facilitate ongoing conservation programs. The EACCS will identify land suitable for voluntary mitigation or conservation, mitigation ratios, standards for habitat restorations, best management and maintenance practices for conservation sites, monitoring standards, and guidelines for adaptive management.	No	No	Yes	East Alameda County website. Site accessed October 28, 2020. URL = http://www.eastalco-conservation.org/about.html .
Alameda East County General Plan	Alameda County	The Alameda County Eden Area General Plan provides “a comprehensive guide for making decisions about land use, community character, economic development, circulation, open space, the environment, and public health and safety” as well as coordination for future development and conservation in the Eden Area through 2025. Developed by County staff with input from the public starting in 2002, the plan was finalized in 2010.	Yes	Yes	Yes	Alameda County, Community Development Agency, General Plan, Specific Plans & Ordinances website. Accessed February 24, 2022. URL = https://www.acgov.org/cda/planning/generalplans/index.htm .
CALFED Levee System Integrity Program	California Department of Water Resources (DWR), California Department of Fish and Wildlife (CDFW), U.S. Army Corps of Engineers (USACE)	The CALFED Record of Decision requires that the Levee System Integrity Program be managed to provide for long-term protection for Sacramento–San Joaquin River Delta (Delta) resources through maintenance and improvement of the Delta levee system. Goals are to protect life, infrastructure, and properties and reduce the risk to land use and associated economic activities, water supply, infrastructure, and ecosystem from catastrophic breaching of Delta levees. The primary focus is on the legal Delta as defined in Section 12220 of the California Water Code. Protection and maintenance of 1,300 miles of project and nonproject levees have taken place since the inception of the CALFED Levee System Integrity Program in 2000.	Yes	Yes	Yes	CALFED Bay-Delta Program. 2000. <i>Levee System Integrity Program Plan</i> . Available: http://s3-us-west-2.amazonaws.com/ucldc-nuxeo-ref-media/677f7439-2b07-4494-a627-4a96260226fa . Site accessed October 12, 2020.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		Other major undertakings include restoration of native vegetation and reuse of dredge material to bolster levee stability. Major activities include levee maintenance, levee improvement, environmental mitigation, emergency response functions, and other components carried out using local funds, with additional funds provided by the state and federal governments. However, uncertainty in program funding has required that some goals be revised and schedules be extended. Proposition 50 provided \$70 million for Delta levees.				
Lower Cache Creek/Woodland Flood Risk Management Project	City of Woodland, USACE, DWR, Central Valley Flood Protection Board (CVFPB)	The Final Environmental Impact Report (EIR) and Final Environmental Impact Statement (EIS) evaluate impacts associated with a proposed flood risk reduction project on Lower Cache Creek. As part of the overall effort, USACE is also preparing a project feasibility study. Similarly, the City of Woodland is partnering with DWR through its Urban Flood Risk Reduction Program to identify and implement the flood risk reduction project to meet the State's urban level of protection requirements in a cost-effective manner that would be compatible with and supportive of elements of the Integrated Watershed Monitoring Program. Project components include secondary earthen levees and a diversion channel to redirect overland flood flows into the Yolo Bypass, modification of the Cache Creek Settling Basin to allow conveyance of flood flows into the Yolo Bypass, and various bridge and/or culvert improvements to facilitate conveyance of flood flows in the diversion channel.	No	Yes	Yes	City of Woodland. 2021a. <i>Lower Cache Creek Feasibility Study (LCCFS)</i> . Available: https://www.cityofwoodland.org/1196/Lower-Cache-Creek-Feasibility-Study-LCCF . Site accessed April 2, 2021.
Alameda Watershed Habitat Conservation Plan (HCP)	San Francisco Public Utilities Commission (SFPUC), U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS)	Activities covered by the HCP include those in the Alameda Watershed Management Plan adopted in 2000 to maintain and improve source water quality and supply while preserving and enhancing the watershed's ecological resources. The SFPUC-owned Alameda Watershed consists of 36,000 acres of rolling grasslands, native woodlands, scrub, and freshwater marshes within the Southern Alameda Creek Watershed. The conservation measures are expected to consist of a combination of avoidance and minimization measures, water and land management, river and stream restoration, barrier modification, and threat abatement.	Yes	Yes	Yes	Alameda Creek Alliance. 2021. <i>San Francisco's Habitat Conservation Plan</i> . Site accessed May 5, 2021. URL= http://www.alamedacreek.org/take-action/sf-habitat-conservation-plan.php .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Phase 1: Greenhouse Gas Emissions Reduction Plan	DWR	In 2012, DWR developed the Greenhouse Gas Emissions Reduction Plan as the first phase of its Climate Action Plan to guide decision-making related to energy use and GHG emissions. As it committed to in 2012, DWR has developed this Greenhouse Gas Emissions Reduction Plan Update 2020 to review its greenhouse gas (GHG) reductions since the 2012 Plan and to update strategies for further reduction consistent with legislative changes, including the GHG emissions reduction targets established in Senate Bill (SB) 32 (2016), SB 100 (2018), Executive Order (EO) B-18-12 (2012), EO B-30-15 (2015), and EO B-55-18 (2018). DWR will monitor the GHG-reduction measures and commits to another update of the Greenhouse Gas Emissions Reduction Plan in 2030.	Yes	Yes	Yes	DWR. 2020. <i>Climate Action Plan Phase 1: Greenhouse Gas Emissions Reduction Plan</i> . July. Available: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan/Files/CAP-I-GGERP-Update-2020.pdf?la=en&hash=0BA702D428A58FCA286EBA4A6C0BF1D2CA532F52 .
South Fork Feather Project	Federal Energy Regulation Commission (FERC), South Feather Water and Power Agency	The South Fork Feather Project (FERC Project No. 2088) is a water supply/power project composed of four hydroelectric developments: Sly Creek, Woodleaf, Forbestown, and Kelly Ridge. Final Water Quality Certification was issued on November 30, 2018.	Yes	Yes	Yes	State Water Resources Control Board. 2021. <i>South Feather Power Project</i> . Federal Energy Regulatory Commission (FERC) Project No. 2088. Site accessed March 22, 2021. URL= https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/southfeather_ferc2088.html .
Bucks Creek Hydroelectric Project	FERC, Pacific Gas and Electric Company, Inc. (PG&E), and the City of Santa Clara	The Bucks Creek Hydroelectric Project (FERC Project No. 619) is an 84.8-MW project located in Plumas County, California. The Project consists of the Bucks Creek Powerhouse, Grizzly Powerhouse, Bucks Lake, Lower Bucks Lake, Grizzly Forebay, and Three Lakes along with associated conveyances and other facilities. Final Water Quality Certification was issued on October 22, 2010.	Yes	Yes	Yes	State Water Resources Control Board. 2021. <i>Bucks Creek Hydroelectric Project</i> . Federal Energy Regulatory Commission (FERC) Project No. 619. Site accessed March 22, 2021. URL=

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
						https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/buckscreek/ .
Yuba River Watershed Hydroelectric Projects	FERC, Nevada Irrigation District, PG&E	The Nevada Irrigation District is applying for a new license for the Yuba-Bear Project (FERC Project No. 2266), and PG&E is applying for the Drum-Spaulding Project (FERC Project No. 2310). The Yuba-Bear Project is on the Middle and South Yuba Rivers, Bear River, and Jackson and Canyon creeks. Concurrently, PG&E is applying for a license renewal for the Drum-Spaulding Project on the Bear and Yuba Rivers. PG&E closely coordinates the operations of the Drum-Spaulding Project with Nevada Irrigation District's Yuba-Bear Hydroelectric Project. Final Water Quality Certification was issued on February 3, 2021.	Yes	Yes	Yes	California Department of Water Resources. 2020. <i>Final Environmental Impact Report for Long-Term Operation of the California State Water Project</i> . State Clearinghouse No. 2019049121. March.
Yuba River Development Project Relicensing	FERC, Yuba County Water Agency	The Yuba County Water Agency is seeking to renew its 50-year FERC license for the Yuba River Development Project (FERC Project No. 2246). The Yuba River Development Project is on the Yuba River, the Middle Yuba River, and Oregon Creek in Yuba County, and consists of one reservoir (New Bullards Bar on the North Yuba River), two diversion dams (Our House Diversion Dam on the Middle Yuba River and Log Cabin Diversion Dam on Oregon Creek), three powerhouses (New Colgate, Fish Release, and Narrows No. 2), and various recreational facilities and appurtenant facilities. FERC issued the Final EIS in January 2019.	Yes	Yes	Yes	California Department of Water Resources. 2020. <i>Final Environmental Impact Report for Long-Term Operation of the California State Water Project</i> . State Clearinghouse No. 2019049121. March.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Upper North Fork Feather River Hydroelectric Project	FERC, PG&E	The Upper North Fork Feather River Hydroelectric Project (FERC Project No. 2105) is located on the North Fork Feather River in Plumas County. It consists of three reservoirs with dams: Lake Almanor, Butt Valley reservoir and Belden forebay; five powerhouses; tunnels and penstocks connecting the reservoirs to the powerhouses; and transmission, operation and maintenance, and access facilities. The five powerhouses include eight hydroelectric generating units with a total nameplate capacity of 362.3 MW.	Yes	Yes	Yes	State Water Resources Control Board. 2021. <i>Upper North Fork Feather River Hydroelectric Project</i> . Federal Energy Regulatory Commission (FERC) Project No. 2105. Site accessed March 22, 2021. URL= https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/unffr_ferc2105.html .
DeSabra-Centerville Hydroelectric Project	FERC, PG&E	The DeSabra-Centerville Hydroelectric Project (FERC Project No. 803) is located on Butte Creek and the West Branch Feather River. The Project consists of three developments (Toadtown, DeSabra, and Centerville), which collectively include three reservoirs, three powerhouses, 14 diversion and feeder dams, five canals, and associated equipment and transmission facilities. Final Water Quality Certification was issued on April 8, 2015.	Yes	Yes	Yes	State Water Resources Control Board. 2021. <i>DeSabra-Centerville Hydroelectric Project</i> . Federal Energy Regulatory Commission (FERC) Project No. 803. Site accessed March 22, 2021. URL= https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/desabla_ferc803.html .
Don Pedro Hydroelectric Project	Turlock Irrigation District, Modesto Irrigation District, FERC	Turlock Irrigation District and Modesto Irrigation District are the co-licensees of the 168-MW Don Pedro Hydroelectric Project (FERC Project No. 2299) located on the Tuolumne River in western Tuolumne County. The Tuolumne River is tributary to the San Joaquin River, which eventually flows into the Delta, and then the San Francisco Bay. Final Water Quality Certification was issued on January 15, 2021.	Yes	Yes	Yes	State Water Resources Control Board. 2021. <i>Don Pedro Hydroelectric Project</i> . Site accessed March 22, 2021. URL = https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
						cert/donpedro.ferc2299.html
Del Puerto Canyon Reservoir	San Joaquin River Exchange Contractors Water Authority, Del Puerto Water District	Del Puerto Water District and the Exchange Contractors are partnering to construct and operate the Del Puerto Canyon Reservoir, an 800-acre reservoir that would store up to 82,000 acre-feet of water. The project will deliver water from the Delta-Mendota Canal into the new reservoir, where it will be stored and released on a carefully managed basis. The reservoir would allow water to be delivered into storage during wetter periods until it is needed in drier periods for irrigation, groundwater recharge, or wildlife beneficial uses (up to 60,000 acre-feet per year [AFY]).	No	No	Yes	Del Puerto Canyon Reservoir website. Site accessed January 7, 2021. URL = https://delpuertocanyonreservoir.com/ .
Bay Area Water Quality and Supply Reliability Program	Bay Area Integrated Regional Water Management Plan (IRWMP) participants representing Bay Area agencies	The Bay Area IRWMP will be adopted by the involved agencies and organizations that have taken the lead in funding and preparing the Bay Area IRWMP. The partners envision it to be an evolving plan, recognizing that as projects, information and understanding progress, so too should the Bay Area IRWMP. State agencies such as the State Water Control Board and DWR are also being apprised of the planning process as it proceeds and will receive the plan. The plan will be used to prioritize projects and provide information for projects to be funded by state and federal agencies, such as the Proposition 50 projects.	Yes	Yes	Yes	Bay Area IRWMP website. Site accessed October 28, 2020. URL = http://bayareairwmp.org/ .
Bay Area Stormwater Management Programs	Bay Area Stormwater Management Association Member Agencies (BASMAA)	BASMAA was started in response to the National Pollutant Discharge Elimination System (NPDES) permitting program for storm water in an effort to promote regional consistency and to facilitate efficient use of public resources to implement stormwater regulations. The seven member programs of BASMAA have all agreed to the terms of a memorandum of understanding. The focus of the association is implementing stormwater regulations in a way that cuts across typical departmental boundaries, programs, and lines of communication. To do so, these programs have used essentially a watershed approach involving as many interested parties as possible and building consensus. Stormwater management programs within the Bay Area include:	Yes	Yes	Yes	Bay Area Stormwater Management Association's website. Site accessed October 28, 2020. URL = http://www.basmaa.org/AboutBASMAA/tabid/55/Default.aspx .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		- Alameda Countywide Clean Water Program. - Contra Costa Clean Water Program. - Fairfield-Suisun Urban Runoff Management Program. - Marin County Stormwater Pollution Prevention Program - Napa Countywide Stormwater Pollution Prevention Program. - San Mateo Countywide Water Pollution Prevention Program. - Santa Clara Valley Urban Runoff Pollution Prevention Program. - Programs implemented by Sonoma County Water Agency and Vallejo Sanitation and Flood Control District.				
Submersed Aquatic Vegetation Control Program	California State Parks Division of Boating and Waterways	Previously known as the <i>Egeria densa</i> Control Program, the Submersed Aquatic Vegetation Control Program is part of the California State Parks Division of Boating and Waterways Aquatic Invasive Plant Control Program. From 2001 through 2015, the division operated the original <i>Egeria densa</i> Control Program in the Delta and its tributaries. With the addition of curlyleaf pondweed (<i>Potamogeton crispus</i> L.) in 2016, the program was renamed as the Submersed Aquatic Vegetation Control Program. The program includes treatment with herbicides and annual environmental monitoring, pursuant to the Aquatic Invasive Plant Control Program biological opinions (BiOps) issued by USFWS and NMFSs and State Water Resources Control Board (State Water Board) Statewide General NPDES permit.	Yes	Yes	Yes	CSP Division of Boating and Waterways website. Submersed Aquatic Vegetation. Site accessed October 28, 2020. URL = https://dbw.parks.ca.gov/?page_id=28994 .
Floating Aquatic Vegetation Control Program	California State Parks Division of Boating and Waterways	The Floating Aquatic Vegetation Control Program is part of the California State Parks Division of Boating and Waterways Aquatic Invasive Plant Control Program. It was created in 2015 when the division combined the Water Hyacinth (and Spongeplant) Control Program with the Water Primrose (<i>Ludwigia hexapetala</i>) Control Program. The program includes treatment with herbicides, mechanical harvesting, biological control (in partnership with U.S. Department of Agriculture), hand picking, and annual environmental monitoring, pursuant to the Aquatic Invasive Plant Control Program BiOps issued by USFWS and NMFS and the State Water Board Statewide General NPDES permit.	Yes	Yes	Yes	CSP Division of Boating and Waterways website. Floating Aquatic Vegetation. Site accessed October 28, 2020. URL = https://dbw.parks.ca.gov/?page_id=28995 .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Private Lands Incentive Programs	CDFW	CDFW manages the California Waterfowl Habitat Program (Presley Program), a multi-faceted wetland incentive program designed to improve habitat for waterfowl on private lands. Consistent with its primary waterfowl habitat objectives, the program also endeavors to enhance habitat for shorebirds, wading birds, and other wetland- dependent species. The program pays private landowners \$30/acre (\$60/acre in the Tulare Basin) annually for a 10-year duration to implement habitat practices in accordance with a detailed management plan. In cooperation with Wildlife Conservation Board's Inland Wetland Conservation Program, CDFW also administers the Permanent Wetland Easement Program that pays willing landowners approximately 50–70% of their property's fair market value to purchase the farming and development rights in perpetuity. Landowner retains many rights including: trespass rights, the right to hunt and/or operate a hunting club, and the ability to pursue other types of undeveloped recreation (fishing, hiking, etc.). Easement landowners are required to follow a cooperatively developed wetland management plan. CDFW also administers the California Winter Rice Habitat Incentive Program to annual incentive payments of \$15/acre to landowners for winter-flooding of harvested rice fields for a minimum of 70 continuous days.	Yes	Yes	Yes	CDFW website. Site accessed October 29, 2020. URL= https://wildlife.ca.gov/Lands/CWHP/Private-Lands-Programs .
Invasive Species Program	CDFW	The Invasive Species Program participates on efforts to reduce the effects of non-native invasive species in California, detect and respond to introductions when they occur, and prevent the spread of non-native invasive species that have become established. Program activities include the proposed California Aquatic Invasive Species Management Plan (CAISMP), the Marine Invasive Species Monitoring Program, and informational and education activities for quagga/zebra mussels, New Zealand mudsnails, mute swans, and nutria.	Yes	Yes	Yes	CDFW website. Invasive Species Program. Site accessed October 29, 2020. Invasive Species Program, homepage: URL = https://wildlife.ca.gov/Conservation/Invasives .
California Aquatic Invasive Species Management Plan	CDFW	The CAISMP was released in January 2008. The plan's overall goal is to identify the steps that need to be taken to minimize the harmful ecological, economic, and human health impacts of aquatic invasive species in California. This plan provides the state's first comprehensive, coordinated effort to prevent new invasions, minimize impacts from established	Yes	Yes	Yes	CDFG. <i>California Aquatic Invasive Species Management Plan</i> . January 2008. Site accessed October 29, 2020. URL =

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		aquatic invasive species and establish priorities for action statewide. In addition, it proposes a process for annual plan evaluation and improvement so that aquatic invasive species can continue to be managed in the most efficient manner in the future. Eight major objectives and 163 actions were identified in the CAISMP.				https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=3868&inline=1 .
Aquatic Invasive Species Draft California Rapid Response Plan	CDFW	The CAISMP (described above) proposes an Aquatic Invasive Species Rapid Response Plan for the State of California. The Rapid Response Plan establishes a draft general procedure for rapid response following detection of new aquatic invasive species infestation. It provides a framework for developing and implementing a rapid response plan. It is preliminary in that it describes types of information, resources, and decisions necessary to finalize the plan. In order to finalize, fund, and implement the draft Rapid Response Plan, CDFW expects that cooperating agencies will assign staff to participate. CDFW Invasive Species Program staff will provide coordination for the interagency activities called for in the agreement(s).	No	Yes	Yes	CDFG. 2007. <i>Draft Aquatic Invasive Species Rapid Response Plan</i> . CAISMP Appendix A. August.
Quagga and Zebra Mussel Management Program	CDFW	On February 10, 2016, the California Office of Administrative Law issued a Notice of Approval of Regulatory Action for CDFW's proposed dreissenid mussel regulations. These new regulations, Title 14, sections 672, 672.1, and 672.2, developed under the authority of Fish and Game Code sections 702, 2301, and 2302, became effective April 1, 2016. To facilitate compliance with the applicable laws and regulations, CDFW has developed guidance for the development and documentation of dreissenid mussel prevention programs, including suggestions for assessing reservoir vulnerability, conducting effective monitoring activities, and preparing the written program document and annual reports.	Yes	Yes	Yes	CDFW website. Invasive Species Program. Site accessed October 21, 2021. URL = https://wildlife.ca.gov/Conservation/Invasives CDFW website. Quagga and Zebra Mussel Management. Site accessed October 21, 2021. URL = https://wildlife.ca.gov/Conservation/Invasives/Quagga-Mussels .
Bethany Dams Improvement Project	DWR	To ensure the long-term safety and operations of the State Water Project (SWP), DWR is conducting additional vegetation removal in the drainage ditches at Dams 1 and 2, removing accumulated sediment blocking the	No	Yes	Yes	DWR website. Bethany Dams Improvement Project. Site accessed October 20, 2021.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		culvert in the drainage ditch at Dam 3, repairing existing rodent burrow damage on the dam faces, establishing a long-term, sustainable program of effective rodent control to reduce or eliminate further burrowing within the dam embankments, and performing annual maintenance to repair new rodent burrow damage at the four Bethany Reservoir Dams. Work for this project began in April of 2021 and is ongoing as of 2023.				URL = https://water.ca.gov/About/Facilities/Bethany-Dams-Improvement-Project . CEQAnet website. Site accessed October 20, 2021. URL = https://ceqanet.opr.ca.gov/2014042030/4 . CEQAnet website. Site accessed October 20, 2021. URL = https://ceqanet.opr.ca.gov/2014042030/9 .
Fremont Landing Conservation Bank	CDFW	Approved in October 2006 by NMFS for the restoration, enhancement, and preservation of 100 acres of habitat for the federally and state listed Chinook salmon and Central Valley steelhead. Sponsored by Wildlands Inc. to preserve and enhance 40 acres of existing riparian and wetland habitat and restore/create 60 acres of riparian woodland and wetland sloughs within the floodplain of the Sacramento River, near its confluence with the Feather River. Three borrow pits connected to the Sacramento River reduce or eliminate fish stranding. The project also includes preservation and restoration of shaded riverine aquatic habitat and placement of large woody debris along the Sacramento River.	Yes	Yes	Yes	Wildlands Inc. website. Site accessed October 31, 2020. URL = https://www.wildlandsinc.com/banks/fremont-landing-conservation-bank-salm/ .
Fish Screen Project at Sherman and Twitchell Islands	DWR	This project installed four fish screens on currently unscreened agricultural intakes used to irrigate state-owned lands on Sherman and Twitchell Islands in the Delta. These screens are in addition to more than 10 other self-cleaning screened intakes on Sherman and Twitchell Islands. The screens contribute to the protection of delta smelt and other sensitive aquatic species and the restoration of habitat in the Delta.	Yes	Yes	Yes	CEQAnet website. Site accessed October 25, 2021. URL = https://ceqanet.opr.ca.gov/Project/2016032007http://www.water.ca.gov/deltainit/action.cfm .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Lower Sherman Island Wildlife Area Land Management Plan	CDFW	The Lower Sherman Island Wildlife Area occupies roughly 3,900 acres, primarily marsh and open water, at the confluence of the Sacramento and San Joaquin Rivers in the western Sacramento–San Joaquin River Delta (Delta). This extensive tract of natural vegetation and Delta waters provides diverse and valuable wildlife habitats and related recreational opportunities and is integral to the functioning and human use of the Delta. The mission of CDFW is to manage California’s diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. The land management plan (LMP) is consistent with that mission. The purpose of the LMP is to: (1) guide management of habitats, species, and programs described in the LMP to achieve the CDFW’s mission to protect and enhance wildlife values; (2) serve as a guide for appropriate public uses of the Lower Sherman Island Wildlife Area; (3) serve as descriptive inventory of fish, wildlife, and native plant habitats that occur on or use the Lower Sherman Island Wildlife Area; (4) provide an overview of the property’s operation and maintenance and of the personnel requirements associated with implementing management goals (this LMP also serves as a budget planning aid for annual regional budget preparation); and (5) present the environmental documentation necessary for compliance with state and federal statutes and regulations, provide a description of potential and actual environmental impacts that may occur during plan management, and identify mitigation measures to avoid or lessen these impacts.	Yes	Yes	Yes	CDFG. 2007. <i>Lower Sherman Island Wildlife Area Land Management Plan</i> . California Department of Fish and Game, Rancho Cordova, CA.
Yolo Bypass Wildlife Area Land Management Plan	CDFW	The Yolo Bypass Wildlife Area comprises approximately 16,770 acres of managed wildlife habitat and agricultural land within the Yolo Bypass. The bypass conveys seasonal high flows from the Sacramento River to help control river stage and protect the cities of Sacramento, West Sacramento, and Davis and other local communities, farms, and lands from flooding. Substantial environmental, social, and economic benefits are provided by the Yolo Bypass, benefiting the people of the State of California.	Yes	Yes	Yes	CDFG. 2008. <i>Yolo Bypass Wildlife Area Land Management Plan</i> . California Department of Fish and Game, Rancho Cordova, CA.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		The stated purposes of the Yolo Bypass Wildlife Area Land Management Plan are to (1) guide the management of habitats, species, appropriate public use, and programs to achieve CDFW's mission; (2) direct an ecosystem approach to managing the Yolo Bypass Wildlife Area in coordination with the objectives of the CALFED Ecosystem Restoration Program; (3) identify and guide appropriate, compatible public-use opportunities within the Yolo Bypass Wildlife Area; (4) direct the management of the Yolo Bypass Wildlife Area in a manner that promotes cooperative relationships with adjoining private-property owners; (5) establish a descriptive inventory of the sites and the wildlife and plant resources that occur in the Yolo Bypass Wildlife Area; (6) provide an overview of the Yolo Bypass Wildlife Area's operation, maintenance, and personnel requirements to implement management goals, and serve as a planning aid for preparation of the annual budget for the Bay-Delta Region (Region 3); and (7) present the environmental documentation necessary for compliance with state and federal statutes and regulations, provide a description of potential and actual environmental impacts that may occur during plan management, and identify mitigation measures to avoid or lessen these impacts.				
Staten Island Wildlife-Friendly Farming Demonstration	CDFW	Acquisition and restoration of Staten Island (9,269 acres) by The Nature Conservancy to protect critical agricultural wetlands used by waterfowl and Sandhill cranes. Phase II of this project improved wildlife-friendly agriculture to foster recovery of at-risk species and to investigate effects of agriculture on water quality. This demonstration project for wildlife friendly agriculture practices increased habitat availability by flooding 2,500–5,000 acres of corn for a longer duration than previously possible. The demonstration project also determined the effect of winter flooding strategies on target bird species, namely greater sandhill crane and northern pintail in the Delta Ecological Management Zone.	Yes	Yes	Yes	Staten Island Wildlife-Friendly Farming Demonstration www.nrm.dfg.ca.gov/FileHandler.ashx?DocumentVersionID=10220 . The Nature Conservancy website. Staten Island. Site accessed: October 31, 2020. URL= https://www.nature.org/en-us/get-involved/how-to-help/places-we-protect/staten-island/ .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Restoring Ecosystem Integrity in the Northwest Delta	CDFW	Completed in 2015, this project acquired conservation easements within the Cache Slough complex, along the Barker, Lindsey and Calhoun Sloughs, north Delta tidal channels located west of the Yolo Bypass. Acquisition of conservation easements are on 978 acres of existing riparian, wetland and/or agricultural lands.	Yes	Yes	Yes	Restoring Ecosystem Integrity in the Northwest Delta www.nrm.dfg.ca.gov/FileHandler.ashx?DocumentVersionID=10429 . EcoAtlas website. Site accessed November 16, 2021. URL = https://www.ecoatlas.org/regions/adminregion/delta/projects/5876 .
Incidental Take Permit for Long-Term Operation of the State Water Project in the Sacramento-San Joaquin Delta 2020	CDFW	CDFW issued an Incidental Take Permit (ITP) in 2020 to DWR for long-term operations of the SWP). The permit covers four species protected under the California Endangered Species Act: Delta smelt, longfin smelt, winter-run Chinook salmon and spring-run Chinook salmon.	Yes	Yes	Yes	CDFW website. Site accessed January 7, 2021. URL = https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Files/ITP-for-Long-Term-SWP-Operations.pdf?la=en&hash=AE5FF28E0CB9FA5DC67EF1D6367C66C5FF1B8B55 .
Fish Production and Aquatic Pathology	CDFW	CDFW operates a statewide system of fish hatchery facilities that rear and subsequently release millions of trout, salmon, and steelhead of various age and size classes into state waters. These fish are reared and released for recreational and commercial fishing, for conservation and restoration of fish species that are native to California waters, for mitigation of habitat losses caused by construction of dams on the state's major rivers, and for mitigation of fish lost at state-operated pumping facilities in the Delta. CDFW's Hatchery Program includes: • Operation of 14 trout hatchery facilities owned by CDFW and the related stocking of fish	Yes	Yes	Yes	CDFW website. Site accessed November 4, 2020. URL = https://nrm.dfg.ca.gov/FishPlants/ .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		• Operation of eight salmon and steelhead hatchery facilities owned by others and the related stocking of fish • Operation of two salmon and steelhead hatchery facilities owned by CDFW and the related stocking of fish • Providing education staff and fish for stocking under the Fishing in the City program • Issuing authorizations and providing fish eggs for the Classroom Aquarium Education Project • Issuing permits for stocking public and private waters with fish reared at private aquaculture facilities • Implementing the fish production and native trout conservation requirements contained in California Fish and Game Code Section 13007 The fundamental objectives of CDFW's Hatchery Program are to continue the rearing and stocking of fish from its existing hatchery facilities for the recreational use of anglers, for mitigation of habitat loss due to dam construction and blocked access to upstream spawning areas, for mitigation of fish losses caused by operation of the state-operated Delta pumps, and for conservation and species restoration.				
Hatchery and Stocking Program Proposed Changes	CDFW (previously CDFG) and USFWS	CDFW has been rearing and stocking fish in the inland waters of California since the late 1800s. CDFW currently stocks trout in high mountain lakes, low elevation reservoirs, and various streams and creeks throughout California. Salmon have been planted mostly in rivers and direct tributaries to the Pacific Ocean, except for inland kokanee, Coho, and Chinook salmon populations that have been planted in reservoirs for recreational fishing. In 2006, a lawsuit was filed against CDFG claiming that CDFG's fish stocking operation did not comply with the California Environmental Quality Act (CEQA). In July 2007, CDFG was ordered by the Sacramento Superior Court to comply with CEQA regarding its fish stocking operations. In 2010, CDFG and USFWS released the final joint EIR/EIS to comply with the court order.	Yes	Yes	Yes	CDFG and USFWS. September 2010. <i>Final Hatchery and Stocking Program Environmental Impact Report/Environmental Impact Statement</i> .

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Watercraft Inspection Programs	CDFW, California Department of Food and Agriculture, California State Parks	Several local boat and watercraft inspection programs have been initiated to prevent the spread of invasive species such as quagga mussels. Since early 2007, watercrafts have been inspected at the California Department of Food and Agriculture (CDFA) Border Protection Stations for pests. After quagga mussels were detected in 2007 in the Colorado River, funding was granted to enable CDFA to inspect watercraft at six border stations along the Nevada and Arizona borders: Truckee, Needles, Winterhaven, Blythe, Yermo and Vidal. When exotic mussels are detected by CDFA inspectors, the watercraft are cleaned, and the owners issued a quarantine notice prohibiting the craft from entering California waters until a final inspection is conducted by CDFW. CDFW conducts boat inspection training and activities around the state and has initiated inspections at several water bodies.	Yes	Yes	Yes	California Department of Food and Agriculture. California Border Protection Stations website. Site accessed November 4, 2020. URL = https://www.cdfa.ca.gov/plant/pe/ExteriorExclusion/borders.html. California Department of Food and Agriculture. Public Affairs. <i>News Release #08-055. "CDFA Border Protection Stations to Continue Fight Against."</i> August 26, 2008. Site accessed November 4, 2020. URL = http://www.cdfa.ca.gov/egov/Press_Releases/Press_Release.asp?PRnum=08-055.
Suisun Marsh Habitat Management, Preservation, and Restoration Plan	CDFW, USFWS, Reclamation (Reclamation), and Suisun Marsh Charter Group	The Suisun Marsh Charter Group, a collaboration of federal, state, and local agencies with primary responsibility in Suisun Marsh, prepared the Suisun Marsh Habitat Management, Preservation, and Restoration Plan. The plan balances the CALFED Program, the Suisun Marsh Preservation Agreement, and other management and restoration programs within the Suisun Marsh in a manner that is based upon voluntary participation by private landowners and that responds to the concerns of interested parties. Charter agencies include Reclamation, DWR, USFWS, Delta Stewardship Council (DSC), Suisun Resource Conservation District, and NMFS. The Charter Group is charged with developing a regional plan that would outline the actions needed in Suisun Marsh to preserve and enhance managed seasonal wetlands, restore tidal marsh habitat, implement a	Yes	Yes	Yes	Suisun Marsh Charter Group Principal Agencies. 2004. <i>Scoping Report for the Management, Preservation, and Restoration Plan for the Suisun Marsh Programmatic EIS/EIR</i>. May. U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, and California Department of Fish and Game. 2011. <i>Suisun Marsh Habitat Management, Preservation, and Restoration</i>

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		comprehensive levee protection/improvement program, and protect ecosystem and drinking water quality. The plan would be consistent with the goals and objectives of the Bay-Delta Program and would balance those goals and objectives with the Suisun Marsh Preservation Agreement and federal and state endangered species programs within the Suisun Marsh. The Suisun Marsh Habitat Management, Preservation, and Restoration Plan also provides for simultaneous protections and enhancement of: (1) existing wildlife values in managed wetlands, (2) endangered species, (3) tidal marshes and other ecosystems, and (4) water quality, including, but not limited to, the maintenance and improvement of levees. Restoration projects that are expected to partially fulfill requirements of the Suisun Marsh Habitat Management, Preservation, and Restoration Plan include the Chipps Tidal Habitat Restoration Project, Arnold Slough Restoration Project, Bradmoor Island Restoration Project, Tule Red Tidal Restoration Project, and Wings Landing Tidal Habitat Restoration Project.				<i>Plan. Final EIR/EIS.</i> November. U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, and California Department of Fish and Game. 2013. <i>Suisun Marsh Habitat Management, Preservation, and Restoration Plan.</i> May.
Central Valley Vision	California State Parks	In 2003, California State Parks began work on a long-term Central Valley Vision to develop a strategic plan for State Parks expansion in the Central Valley. The plan will provide a 20-year road map for State Park actions to focus on increasing service to Valley residents and visitors. Within the Great Central Valley (San Joaquin Valley, Sacramento Valley, and the Delta region), California State Parks operates and maintains 32 state park units representing 7% of the total state park system acreage. Plans include Delta Meadows River Park, Brannan Island SRA, Franks Tract SRA, Locke Boarding House, and San Joaquin and Sacramento Rivers. In 2008, California State Parks published a Draft Central Valley Vision Implementation Plan that focuses on meeting the public's recreation needs in the Central Valley 20 years into the future. It outlines planning options to develop new and improved recreation opportunities, acquire new park lands, and build economic and volunteer partnerships.	Yes	Yes	Yes	California State Parks. 2009. <i>Central Valley Vision Implementation Plan.</i> California State Parks. 2007. <i>Central Valley Vision Summary Report, Findings and Recommendations.</i> January 1.
California Water Plan Update 2018	DWR	The California Water Plan is the state's strategic plan for sustainable management of water resources in the present and for future generations. It provides a framework for water managers, legislators, and the public to	Yes	Yes	Yes	DWR. <i>California Water Plan Update 2018: Managing Water Resources for</i>

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		consider options and make decisions regarding California's water future. The California Water Plan, which is updated every 5 years, presents basic data and information on California's water resources (including water supply evaluations and assessments of agricultural, urban, and environmental water uses) to quantify the gap between water supplies and uses. The California Water Plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the state's water needs.				<i>Sustainability</i> . July 2019. Site accessed November 4, 2020. URL = https://water.ca.gov/Programs/California-Water-Plan/Update-2018 .
Central Valley Flood Protection Plan	DWR	Central Valley Flood Protection Plan is a sustainable, integrated flood management plan that reflects a system-wide approach for protecting areas of the Central Valley currently receiving protection from flooding by existing facilities of the State Plan of Flood Control. The plan incorporates the State Plan Flood Control and Flood Control System Status Update. The first plan was adopted in 2012 and is updated every 5 years. The CVFPP recommends actions to reduce the probability and consequences of flooding. Produced in partnership with federal, Tribal, local, and regional partners and other interested parties, the CVFPP also identifies the mutual goals, objectives, and constraints important in the planning process; distinguish plan elements that address mutual flood risks; and, finally, recommend improvements to the state-federal flood protection system.	Yes	Yes	Yes	DWR website. <i>Central Valley Flood Protection Plan</i> . Site accessed November 4, 2020. URL = https://water.ca.gov/Programs/Flood-Management/Flood-Planning-and-Studies/Central-Valley-Flood-Protection-Plan .
Delta Flood Protection Fund	DWR	DWR administers the Delta Flood Protection Fund as authorized by the California Water Code, Sections 12300 through 12307, 12310 through 12318, and 12980 through 12995. This is a grants program that works to maintain and improve the flood control system and provide protection to public and private investments in the Delta including water supply, habitat, and wildlife. The program funds two major programs: the Delta Levees Maintenance Subventions Program and Delta Levees Special Flood Control Projects. The Delta Levees Maintenance Subventions Program provides financial assistance to local levee maintaining agencies for the maintenance and rehabilitation of non-project levees in the Delta. It has been in effect since passage of the Way Bill in 1973, which has been modified periodically by	Yes	Yes	Yes	DWR website. <i>Delta Levees Maintenance Subventions</i> . Site accessed November 4, 2020. URL = https://water.ca.gov/Work-With-Us/Grants-And-Loans/Delta-Levees-Maintenance-Subventions . DWR website. <i>Special Flood Control Projects</i> . Site accessed July 27, 2021. URL = https://water.ca.gov/Work-

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		legislation. The program is under the authority of CVFPB and is managed by DWR. Water Code Section 12987 calls on DWR to prioritize the islands for receipt of grant funds through the program and recommend the prioritization to the CVFPB. The CVFPB reviews and approves the Department's recommendation and enters into an agreement with reclamation districts to reimburse eligible costs. Since the passage of Propositions 1E and 84, the state has funded roughly \$200 million for flood control and habitat projects as administered by local agencies. The Delta Levees Special Flood Control Projects provides financial assistance to local levee maintaining agencies for rehabilitation of levees in the Delta. The program was established by the California Legislature under SB 34 (1998), SB 1065 (1991), and AB 360 (1996). Since the inception of the program, more than \$300 million have been provided to local agencies in the Delta for flood control and related habitat projects. The program originally focused on flood control projects and related habitat projects for eight western Delta Islands (Bethel, Bradford, Holland, Hotchkiss, Jersey, Sherman, Twitchell and Webb Islands) and for the towns of Thornton, New Hope, and Walnut Grove. It has since expanded to include the entire Delta, as well as portions of Suisun Marsh as outlined in Section 12311 of Water Code.				<u>With-Us/Grants-And-Loans/Delta-Levees-Special-Flood-Control-Projects.</u>
Delta Flood Emergency Preparedness, Response, and Recovery Program	DWR	Pursuant to the Disaster Preparedness and Flood Prevention Bond Act of 2006, DWR developed the Delta Flood Emergency Preparedness, Response, and Recovery Program to prepare for, respond to, and recover from large-scale catastrophic flooding emergencies in the Delta region. The objectives of this program include: (1) protect the lives, property, and infrastructure critical to the functioning of both the Delta and California; (2) protect water quality and restore water supply for both Delta and export water users; (3) reduce the recovery time of California's water supply to less than 6 months; and (4) minimize impacts on environmental resources. Under this program, DWR finalized the Delta Flood Emergency Management Plan in 2018 to help manage risk of levee failures in the Delta and guide DWR Delta flood emergency management.	Yes	Yes	Yes	California Natural Resources Agency website. Bond Accountability: Flood Emergency Response Program. Site accessed November 8, 2021. URL = http://bondaccountability.resources.ca.gov/Program.aspx?ProgramPK=100&Program=Flood%20Emergency%20Response%20Program&PropositionPK=5#:~:text=The%20Delta%20Flood%20Preparedness%2C%20Response%2C

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
						%20and%20Recovery%20project.Agency%2C%20and%20the%20U.S.%20Army%20Corps%20of%20Engineers.
Levee Repairs Program	DWR	On February 24, 2006, Governor Arnold Schwarzenegger declared a State of Emergency for California's levee system, commissioning up to \$500 million of state funds to repair and evaluate state/federal project levees. Following the emergency declaration, the Governor directed DWR to secure the necessary means to fast-track repairs of critical erosion sites. Hundreds of levee sites were identified for immediate repair throughout the Central Valley. These repairs were necessary to maintain the functionality of flood control systems that have deteriorated over time and/or do not meet current design standards. While many of the most urgent repairs have been completed or are near completion, other sites of lower priority are still in progress, and still more are in the process of being identified, planned, and prioritized. In general, repairs to state/federal project levees are being conducted under three main programs: The Flood System Repair Project, the Sacramento River Bank Protection Project, and the Public Law 84-99 (PL84-99) Rehabilitation Program. DWR has completed geotechnical exploration, testing, and analysis of state and federal levees that protect several highly populated urban areas of greater Sacramento, Stockton/Lathrop, and Marysville/Yuba City. This program is being implemented simultaneously with the various urgent levee repairs.	Yes	Yes	Yes	DWR website. <i>Levee Repairs</i>. Site accessed November 4, 2020. URL = https://water.ca.gov/Programs/Flood-Management/Maintenance/Levee-Repairs DWR website. <i>Levee Evaluation Program</i>. Site accessed July 27, 2021. URL = http://bondaccountability.resources.ca.gov/Program.aspx?ProgramPK=86&Program=Levee%20Evaluations%20Program&PropositionPK=5 DWR website. <i>Proposition 1E fact sheet</i>. Site accessed November 23, 2021. URL = http://bondaccountability.resources.ca.gov/PDF/Prop1E/PROPOSITION_1E_fact.pdf
Old Banks Landfill Cap Project	DWR	DWR constructed the Old Banks Landfill Cap Project to cap the Old Banks Landfill (also known as the Harvey O. Banks Pumping Plant Landfill) to address concerns related to landfill debris exposure raised by the Contra Costa County Health Department. This project is located approximately 9 miles northwest of the city of Tracy and 12 miles northeast of the city of Livermore in Contra Costa County.	No	Yes	Yes	Department of Water Resources Addendum to the IS/MND for Soil Investigations for Data Collection in the Delta Site accessed October 21, 2021. URL = https://water.ca.gov/-

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		Landfill debris concerns were addressed by DWR by confining the landfill materials and preventing the landfill contents from being exposed by rodent activities, as well as improving surface drainage and minimizing future maintenance. Project activities included clearing existing vegetation, removing the upper 2 to 4 inches of topsoil of the landfill crown, grading the existing landfill crown by adding fill soil materials in localized areas to bring the site to grade, placing a commercially available rodent control barrier material, placing a 1-foot-thick surface layer on top of the rodent control fill fabric to protect it, and returning the project site to near pre-project conditions by hydroseeding. A Notice of Completion for an Initial Study/Mitigated Negative Declaration was filed on October 25, 2019. This project was completed December 10, 2021.				/media/DWR-Website/Web-Pages/Programs/Delta-Conveyance/Environmental-Planning/Soil ISMND Addendum FINAL with Attachments signed 508.pdf CEQAnet website. Site accessed on October 21, 2021. URL = https://files.ceqanet.opr.ca.gov/256628-2/attachment/Qp9goXmM18AjbMjON5KIFTq1xLX-r72fEtce62lmLsNFkefIK-pcJXk57k-Wkld05yMF46t2EfgaSQ0.
Lower Yolo Ranch Restoration Project	State and Federal Contractors Water Agency, DWR and MOA Partners	The project is located in the lower Yolo Bypass and is a tidal and seasonal salmon habitat project restoring tidal flux to about 1,670 acres of existing pastureland. The project site includes the Yolo Ranch, also known as McCormack Ranch, which was purchased in 2007 by the Westlands Water District. The goal of this project is to provide important new sources of food and shelter for a variety of native fish species at the appropriate scale in strategic locations in addition to ensuring continued or enhanced flood protection. The Lower Yolo wetlands restoration project is part of an adaptive management approach in the Delta to learn the relative benefits of different fish habitats, quantify the production and transport of food and understand how fish species take advantage of new habitat.	Yes	Yes	Yes	California EcoRestore website. Site accessed November 4, 2020. URL = https://resources.ca.gov/CNRALegacyFiles/docs/ecorestore/projects/Lower_Yolo_Restoration.pdf .
Meins Landing Restoration	DWR, Suisun Marsh Preservation Agreement agencies, and State	Meins Landing is a 668-acre property in the eastern Suisun Marsh along Montezuma Slough that was purchased in 2005 as part of a multi-agency tidal restoration project. Previously a duck club, the property was purchased to restore it to tidal influence by breaching the levee. Due to the presence of three underground gas and oil pipelines with restrictive easements, the original restoration concept for the site was not able to be	Yes	Yes	Yes	California State Coastal Conservancy website. 2004. Site accessed November 4, 2020. URL = https://www.scc.ca.gov/webmaster/ftp/pdf/sccbb/2004

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
	Coastal Conservancy	implemented. While DWR explored other restoration options, the property was leased to the previous owners for 10 years and was operated as a duck club until the lease ended in 2016. The property is currently being operated as a managed marsh and maintained by DWR and Suisun Resource Conservation District, with no hunting leases on the property and restricted public access. As a managed marsh, the current operation goals are: 1. Operate Meins as a managed marsh to provide productive habitat for a diverse population of waterfowl, salt marsh harvest mouse, and other wildlife. 2. Formulate and test management practices to maximize nutrient production and export into adjacent sloughs to meet objectives of the Delta Smelt Resiliency Strategy. 3. Provide research opportunities for study of primary and secondary production, waterfowl feed utilization, nutrient export, and other topics to meet objectives of the Delta Smelt Recovery Plan. 4. Explore providing public access and hunting opportunities to meet demands by the SF Bay Conservation and Development Commission (BCDC) for habitat restoration projects in Suisun Marsh to include public access. Managed wetlands, like Meins Landing, are potentially more effective (and cheaper) at augmenting local food production than creating intertidal wetlands while providing more diverse habitats for multiple species. Research on managed wetlands is critical to understand the management techniques best suited to boost food/nutrient production while minimizing impacts to other species (e.g., waterfowl, western pond turtle, salt marsh harvest mouse). Once best management practices are identified, they could be evaluated on other sites throughout Suisun Marsh with cooperating landowners. Research by UC Davis and California Trout is currently underway on Meins Landing to evaluate primary and secondary production and determine optimal conditions to increase the production.				/0405/0405Board15 Meins Landing Acq.pdf.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Interagency Ecological Program	DWR, CDFW, State Water Board, USFWS, Reclamation, Geological Survey, Army Corps of Engineers, NMFS, and Environmental Protection Agency	The mission of the Interagency Ecological Program is to provide information on the factors that affect ecological resources in the Sacramento–San Joaquin Estuary to support more efficient management of the estuary. The program consists of 10 member agencies, three state (DWR, CDFW, and State Water Board), six federal (USFWS, Reclamation, Geological Survey, USACE, NMFS, and Environmental Protection Agency), and one nongovernment organization (the San Francisco Estuarine Institute). Program partners work together to develop a better understanding of the estuary’s ecology and the effects of the SWP and federal Central Valley Project (CVP) operations on the physical, chemical, and biological conditions of the San Francisco Bay-Delta estuary. Activities include data collection and analysis, evaluation of the impacts of human activities on fish and wildlife, interpretation of information and development of measures to avoid or offset impacts of water project operation and other human activities on the estuary, and assistance with planning, coordination, and integration of estuarine studies by other agencies. The Interagency Ecological Program Science Advisory Group also conducts independent scientific reviews of modeling activities and study programs in the Delta when requested. Current efforts focus on evaluation of the decline of pelagic species in the upper San Francisco Estuary. These efforts emphasize modeling and integration of results, and respond to management interests by including temperature modeling, wastewater impacts, contaminants, salvage efficiency, 3-dimensional particle tracking and individual based modeling for striped bass and longfin smelt. The ammonia work includes source, fate, and transport modeling, field studies, and a review and syntheses of data and studies on the effects of ammonia on aquatic species. The temperature work is closely coordinated with the CALFED-funded Computational Assessments of Scenarios of Change for the Delta Ecosystem (CASCaDE) project and will analyze the trends of water temperature stress zones and refugia in the Delta.	Yes	Yes	Yes	DWR website. <i>Interagency Ecological Program</i>. Site accessed November 4, 2020. URL = https://water.ca.gov/Programs/Environmental-Services/Interagency-Ecological-Program. Baxter, R., R. Breuer, L. Brown, M. Chotkowski, F. Feyrer, B. Herbold, P. Hrodey, K. Larsen, A. Mueller-Solger, T. Sommer, and K. Souza. 2009. <i>Addendum to the Interagency Ecological Program’s 2008 Work Plan to Evaluate the Decline of Pelagic Species in the Upper San Francisco Estuary</i>. February 24.
Mayberry Farms Subsidence	DWR	The Mayberry Farms Subsidence Reversal and Carbon Sequestration Project created permanently flooded wetlands on a 307-acre parcel on	Yes	Yes	Yes	California EcoRestore website. Site accessed

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Reversal and Carbon Sequestration Project		Sherman Island that is owned by DWR. The project has restored approximately 192 acres of emergent wetlands and enhanced approximately 115 acres of seasonally flooded wetlands. Construction occurred in summer 2010. Ongoing operations and maintenance is routinely performed by DWR. The Mayberry Farms project was conceived as a demonstration project that would provide subsidence reversal benefits and develop knowledge that could be used by operators of private wetlands (including duck clubs) that manage lands for waterfowl-based recreation. By maintaining permanent water, the growth and subsequent decomposition of emergent vegetation is expected to control and reverse subsidence. The project is also anticipated to provide climate benefits by sequestering atmospheric carbon dioxide. The project is expected to provide year-round wetland habitat for waterfowl and other wildlife.				November 5, 2020. URL= https://resources.ca.gov/CNRALegacyFiles/docs/ecorestore/projects/Sherman_Island_Mayberry_Farms_Wetlands.pdf. DWR website. <i>State of California Interim Delta Actions</i>. 2014. Site accessed November 5, 2020. URL= https://www.watereducation.org/sites/main/files/file-attachments/brock--combined_4-30-14.pdf.
Sherman Island Setback Levee-Mayberry Slough	DWR	Reclamation District 341, with funding from DWR, constructed four sections of setback levee to increase levee stability along Mayberry Slough on Sherman Island in 2004 and 2005. The Sherman Island setback levee represents an opportunity to reverse some of the ecological damage resulting from levee construction and maintenance by implementing a habitat development project that will augment the existing riparian vegetation and provide habitat for native species. Project implementation restored tidal wetland and riparian habitat. Construction of the waterside portion of the setback levee was divided into two phases (Phase IIA, Phase IIB) that were completed in fall 2008 and fall 2009, respectively. Vegetation monitoring and maintenance was conducted until 2013.	Yes	Yes	Yes	California EcoRestore fact sheet. Sherman Island Setback Levee – Mayberry Slough. Site accessed October 25, 2021. URL = https://resources.ca.gov/CNRALegacyFiles/docs/ecorestore/projects/Sherman_Island_Setback_Levee-Mayberry_Slough.pdf

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Sherman Island Whale's Mouth Wetlands	DWR	The Sherman Island Whale's Mouth Wetland Restoration Project restored approximately 600 acres of palustrine emergent wetlands within an 877-acre project boundary on a nearly 975-acre parcel on Sherman Island that is owned by DWR. The property is currently managed for flood irrigated pasture land, which includes a regular and extensive disturbance regime associated with field prepping, disking, and grazing. The ultimate outcome of the restoration project was hundreds of additional acres of freshwater emergent wetlands. Other native plant restoration components included installation of native trees and shrubs compatible with their respective hydrologic regime as well as a substantial amount of upland transitional area, all of which provide a diversity of habitat structure and function. The project was completed in 2015.	Yes	Yes	Yes	California EcoRestore fact sheet. Sherman Island Whale's Mouth Habitat Restoration Project. Site accessed October 25, 2021. URL = https://resources.ca.gov/CNRALegacyFiles/docs/ecorestore/projects/Sherman_Island-Whale's_Mouth_Wetland.pdf
Sherman Island – Whale's Belly Wetlands	DWR	Whale's Belly is part of the California EcoRestore Initiative to restore and protect at least 30,000 acres of habitat across the Delta. The project objectives are to reduce the effects of climate change and Delta subsidence, as well as improve habitat for millions of migrating birds along the Pacific Flyway that rely on the Delta as a crucial rest stop and safe haven. Whale's Belly is one of four projects on Sherman Island that creates managed wetlands, tidal wetlands, and setback levees to contribute toward EcoRestore's restoration targets. The Whale's Belly Wetland Restoration Project includes adding soils and materials to support protective levees and riverbanks, enabling these structures to effectively hold back high floodwaters. Construction will also involve relocation of drainage ditches, pipelines, and water pumps. Upon completion of construction activities, the island will be inundated to an approximate depth of 1–3 feet, allowing marshland growth to eliminate subsidence on this southeast section of Sherman Island. The project began in May 2020 and is scheduled for completion by summer 2022.	No	Yes	Yes	DWR website. DWR Enters 'Whale's Belly' to Combat Climate Change, Protect Water Deliveries. Site accessed on October 25, 2021. URL = https://water.ca.gov/News/Blog/2020/May/Whales-Belly .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Twitchell Island - East End Wetland Restoration	DWR	The Twitchell Island East End Wetland Restoration Project restored approximately 740 acres of palustrine emergent wetlands and approximately 50 acres of upland and riparian forest habitat on Twitchell Island. This property is owned by DWR and previously managed as flood irrigated corn and alfalfa. This project was completed in 2013.	Yes	Yes	Yes	California EcoRestore fact sheet. Twitchell Island – East End Wetland Restoration. Site accessed on October 25, 2021. URL = https://resources.ca.gov/CNRALegacyFiles/docs/ecorestore/projects/Twitchell_Island-East_End_Wetland.pdf .
Twitchell Island - San Joaquin River Setback Levee	DWR	This project will stabilize a threatened section of levee along the San Joaquin River and allow for several different types of waterside habitat features to be constructed. Expected habitat types include riparian shaded riverine aquatic, intertidal habitats, and upland vegetation created by waterside beaches, benches, and undulations. An original 2,200-foot section was completed in 2000 and is currently serving as a model for an approximately 23,000-foot setback spanning the entire San Joaquin River levee plus a proposed 80-acre tidal marsh restoration site on Chevron Point. There are eight reaches to the setback project. Reach #6, a 2,680-foot setback levee reach is the top priority. Funding has not yet been secured but all permits have been obtained. Reach #10 is the Chevron Point Dryland Levee that separates the 80-acre tidal marsh restoration site from the rest of the island.	No	Yes	Yes	California EcoRestore fact sheet. Twitchell Island – San Joaquin River Setback Levee. Site accessed on October 25, 2021. URL = https://resources.ca.gov/CNRALegacyFiles/docs/ecorestore/projects/Twitchell_Island-SJ_River_Setback_Levee.pdf .
North Delta Flood Control and Ecosystem Restoration Project	DWR	Consistent with objectives contained in the CALFED Record of Decision, the North Delta Flood Control and Ecosystem Restoration Project is intended to improve flood management and provide ecosystem benefits in the North Delta area through actions such as construction of setback levees and configuration of flood bypass areas to create quality habitat for species of concern. These actions are focused on McCormack-Williamson Tract and Staten Island. The purpose of the project is to implement flood control improvements in a manner that benefits aquatic and terrestrial habitats, species, and ecological processes. Flood control improvements are needed to reduce damage to land uses, infrastructure, and the Bay-Delta ecosystem resulting from overflows caused by insufficient channel	No	Yes	Yes	DWR. November 2007. <i>North Delta Flood Control and Ecosystem Restoration Project Draft EIR</i> . DWR. October 2010. <i>North Delta Flood Control and Ecosystem Restoration Project Draft EIR</i> . DWR website. <i>North Delta Program</i> . Site accessed

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		capacities and catastrophic levee failures near where the Mokelumne River, Cosumnes River, Dry Creek, and Morrison Creek converge.				November 5, 2020. URL = https://water.ca.gov/Programs/Flood-Management/Delta-Conveyance-And-Flood-Protection/North-Delta-Program .
North Delta Flow Action	DWR	As part of the Delta Smelt Resilience Strategy, this study investigates the role of augmented summer and fall flows in the Yolo Bypass and North Delta areas on lower trophic food web dynamics, such as phytoplankton blooms, and the potential benefits to listed fish species, specifically delta smelt. Managed pulse flows were conducted in 2016, 2018, and 2019 and appeared to result in increases in zooplankton or phytoplankton downstream. The study is being conducted in partnership with Reclamation, CDFW, U.S. Geological Survey, San Francisco State University, and UC Davis.	Yes	Yes	Yes	<i>North Delta Flow Action, 2019 Food Web Study Fact Sheet.</i> Site accessed November 30, 2021. URL = https://www.baydeltalive.com/assets/5c92b61032e1bfd2c6a30d4ee74773aa/application/pdf/North_Delta_Food_Web_Study_Fact_Sheet_0627_2019.pdf . <i>Interagency Ecological Program 2020 Work Plan Element: North Delta Flow Action: Role of improved Yolo Bypass Flows on Delta Food Web Dynamics.</i> Site accessed November 30, 2021. URL = file:///C:/Users/53124/Downloads/2020_281_Factsheet_NDeltaFlowAction_DWR_remediated_12212020.pdf .
South Delta Temporary Barriers Project	DWR	The 2017–2022 South Delta Temporary Barriers Project, consists of annual construction, operation, and removal of the Middle River, Old River near Tracy, Grant Line Canal, and Heald of Old River spring and fall rock barriers. The project reduces adverse water level impacts (i.e., minimum	Yes	Yes	Yes	DWR website. <i>South Delta Temporary Barriers Project.</i> Site accessed November 5, 2020. URL = https://water.ca.gov/Programs/Flood-Management/Delta-Conveyance-And-Flood-Protection/North-Delta-Program .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		tide elevations) caused by the SWP and CVP export pumping on local agricultural diverters within the South Delta Water Agency. The South Delta Temporary Barriers Project consists of four rock barriers across South Delta channels. The objectives of the project are to increase water levels, improve water circulation patterns and water quality in the southern Delta for local agricultural diversions, and improve operational flexibility of the SWP to help reduce fishery impacts and improve fishery conditions. Of the four rock barriers, the barrier at the head of Old River serves as a fish barrier (intended to primarily benefit migrating San Joaquin River Chinook salmon) and is installed and operated in April–May and again in September–November. The remaining three barriers (Old River at Tracy, Grant Line Canal, Middle River) serve as agricultural barriers (intended to primarily benefit agricultural water users in the south Delta) and are installed and operated between April 15 and November 30 of each season.				ms/Bay-Delta/Water-Quality-And-Supply/South-Delta-Temporary-Barriers-Project. DWR. 2019. <i>Comprehensive Operations Plan and Monitoring Special Study</i>. Site accessed November 5, 2020. URL = https://mavensnotebook.com/wp-content/uploads/2020/04/draft-Comprehensive-Operations-Plan.pdf.
Water Supply Contract Extension Program	DWR	The State of California entered into long-term water supply contracts with water agencies in the 1960s. Under terms of the contracts, DWR provides a water service to these agencies, known as SWP Contractors, from the SWP in exchange for payments that will recoup all costs associated with providing this water service over the life of the SWP. Many of the capital costs associated with the development and maintenance of the SWP is financed using revenue bonds. These bonds have historically been sold with 30-year terms that extend to the year 2035, the year in which most of the contracts expire. The program mission is to extend the term and amend the SWP contracts by conducting negotiations between DWR and the SWP Contractors which will occur in a public forum to ensure continued water supply affordability while complying with obligations under CEQA, and the Monterey Settlement Agreement.	Yes	Yes	Yes	California Department of Water Resources website. Site accessed November 5, 2020. URL = https://water.ca.gov/Programs/State-Water-Project/Management/Water-Supply-Contract-Extension.
Port of Stockton Dock 13 and 20 Aeration Facility	DWR	The Port of Stockton Dock 20 Aeration Facility was constructed in 2007 after the DWR Stockton Deep Water Ship Channel Demonstration Dissolved Oxygen Project showed the effectiveness of elevating dissolved oxygen concentrations in the channel through use of an in-channel aerator in order to mitigate adverse effects on aquatic life from oxygen depletion	Yes	Yes	Yes	Port of Stockton website. <i>Aeration Facilities</i>. Site accessed November 23, 2021. URL =

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		(including the health and migration behavior of anadromous fish such as salmon). The Aeration Facility, per the 2017 amended agreement for funding and operation, is financed voluntarily among participating San Joaquin River Dissolved Oxygen total maximum daily load (TMDL) interested parties. The facility is designed to inject dissolved oxygen into the San Joaquin River when dissolved oxygen concentrations are below the Central Valley Water Board's Basin Plan quality objectives. Dock 13 is located at the of the Deep Water Ship Channel and the San Joaquin River. Dock 13 consists of two jet aerators which run throughout the year to maintain dissolved oxygen levels above specific concentrations. From August to November this threshold is raised to benefit winter-run Chinook. DO levels are collected every 15 minutes with monitoring updates posted ever hour.				https://www.portofstockton.com/aeration-facility/. DWR website. <i>Port of Stockton Dock 20 Aeration Facility</i>. Site accessed November 23, 2021. URL = https://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/san_joaquin_oxygen/implementation_activities/. San Joaquin River Dissolved Oxygen TMDL Technical Working Group website. Site accessed November 5, 2020. URL = http://www.sjrdotmdl.org/.
Little Egbert Tract	Westervelt Ecological Services	Restoration plans for 180 acres of habitat restoration at the terminus of the Yolo Bypass, which will include the construction of habitat berms, subtidal flats, swales, and vegetated shoals. This restored aquatic land will provide habitat to a multitude of species including Swainson's hawk, giant garter snake, green sturgeon, longfin smelt, Chinook salmon, and California black rail.	No	No	Yes	Westervelt Ecological Services website. <i>Little Egbert Tract</i> . Site accessed June 21, 2021. URL = https://wesmitigation.com/egbert/ .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Delta Fish Agreement (Four Pumps Project)	DWR and CDFW	The 1986 Delta Pumping Plant Fish Protection Agreement between DWR and CDFW provides a mechanism for offsetting adverse fishery impacts caused by the diversion of water at the Harvey O. Banks Delta Pumping Plant, a part of the SWP located at the head of the California Aqueduct. Direct losses of Chinook salmon, steelhead, and striped bass are offset or mitigated through the funding and implementation of fish mitigation projects. DWR and CDFW work closely with the Fish Advisory Committee to implement the agreement and projects funded under the agreement. The Fish Advisory Committee is made up of representatives of the SWP Contractors, sport and commercial fishing groups, and environmental groups. The agreement was signed by the directors of DWR and CDFW on December 30, 1986, and has been amended twice since that time. The Delta Fish Agreement is also commonly known as the Four Pumps Agreement because it was subsequently identified as mitigation for the enlargement of the Banks Pumping Plant, including four additional pumps.	Yes	Yes	Yes	CDFW website. Delta Fish Agreement. Site accessed November 5, 2020. URL = https://wildlife.ca.gov/Conservation/Watersheds/1986-Delta-Fish-Agreement.
North Bay Aqueduct Alternative Intake Project	DWR and Solano County Water Agency	DWR issued a Notice of Preparation on December 2, 2009, to construct and operate an alternative intake on the Sacramento River, generally upstream of the Sacramento Regional Wastewater Treatment Plant, and connect it to the existing North Bay Aqueduct system by a new segment of pipe. The proposed alternative intake would be operated in conjunction with the existing North Bay Aqueduct intake at Barker Slough. The proposed project would be designed to improve water quality and to provide reliable deliveries of SWP supplies to its contractors, the Solano County Water Agency and the Napa County Flood Control and Water Conservation District. However, this project is currently on hold with no construction proceeding in the near term.	No	Yes	Yes	Solano County Water Agency website. Site accessed November 5, 2020. URL = http://www.scwa2.com/water-supply/north-bay-aqueduct. Delta Stewardship Council website. <i>North Bay Aqueduct</i>. Site accessed July 28, 2021. URL = https://viewperformance.delstacouncil.ca.gov/pm/north-bay-aqueduct.
Dutch Slough Tidal Marsh Restoration Project	DWR and California State	The Dutch Slough Tidal Marsh Restoration Project, located near Oakley in Eastern Contra Costa County, would restore wetland and uplands, and provide public access to the 1,187-acre Dutch Slough property owned by	No	Yes	Yes	DWR and CSCC. 2014. <i>Final Supplemental Environmental Impact Report Dutch Slough</i>

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
	Coastal Conservancy	DWR. The property is composed of three parcels separated by narrow engineered sloughs. The project would provide ecosystem benefits, including habitat for sensitive aquatic species. It also would be designed and implemented to maximize opportunities to assess the development of those habitats and measure ecosystem responses so that future Delta restoration projects will be more successful. Two neighboring projects proposed by other agencies that are related to the Dutch Slough Restoration Project collectively contribute to meeting project objectives. These include the City of Oakley's proposed Community Park and Public Access Conceptual Master Plan for 55 acres adjacent to the wetland restoration project and four miles of levee trails on the perimeter of the DWR lands. The City Community Park will provide parking and trailheads for the public access components of the Dutch Slough Restoration Project. Construction on two of the parcels, Emerson and Gilbert, started in May 2018 and site grading was completed in 2019, followed by revegetation planting. Breaching of these two parcels will be completed in 2021. Restoration planning of the third parcel, Burroughs, would begin in 2022.				<i>Tidal Marsh Restoration Project</i>. September. DWR and CCCC. 2010. <i>Dutch Slough Tidal Marsh Restoration Project Final Environmental Impact Report</i>. March. California EcoRestore website. <i>Dutch Slough Tidal Restoration Project</i>. Site accessed November 5, 2020. URL = https://water.ca.gov/Programs/Integrated-Regional-Water-Management/Delta-Ecosystem-Enhancement-Program/Dutch-Slough-Tidal-Restoration-Project.
Franks Tract Futures	CDFW, Department of Parks and Recreation, and DWR	Franks Tract Futures builds off the previous Franks Tract Feasibility Study, which was prepared by CDFW as an element of the Delta Smelt Resiliency Strategy. The restoration feasibility study was conducted in 2017–2018 to inform a feasible and locally accepted restoration design. are conducting studies to evaluate the feasibility of modifying the hydrodynamic conditions near Franks Tract to improve Delta water quality and enhance the aquatic ecosystem. The results of these studies have indicated that modifying the hydrodynamic conditions near Franks Tract may substantially reduce salinity in the Delta and protect fishery resources, including populations of delta smelt, a federally listed and state-listed species that is endemic to the Delta. Although the preliminary modeling indicated that the original plan met water quality and ecological objectives, it did not meet other objectives developed during the feasibility study, such as those for navigability, recreation and sustaining the local economy. The initial design concept will not be retained going	No	No	Yes	CDFW website. <i>Franks Tract Restoration ("Franks Tract Futures")</i>. Site accessed November 6, 2020. URL = https://wildlife.ca.gov/Conservation/Watersheds/Franks-Tract. CDFW. 2020. <i>Franks Tract Futures. Final Report</i>. September. Site accessed November 6, 2020. URL=https://franks-tract-futures-ucdavis.hub.arcgis.com/.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		forward in this next stage of planning and design. New alternatives are actively being developed that seek to address this broader range of interested party project objectives. Franks Tract Futures is consistent with ongoing planning efforts for the Delta to help balance competing uses and create a more sustainable system for the future.				
Fremont Weir Adult Fish Passage Modification Project	DWR and Reclamation	One of six separate projects identified and implemented to carry out the Reasonable and Prudent Alternative (RPA) Actions in the 2009 NMFS BiOp specific to the Yolo Bypass. DWR and Reclamation prepared the Initial Study/Environmental Assessment for the proposed Fremont Weir Adult Fish Passage Modification Project in 2017. Reclamation signed a Finding of No Significant Impact (FONSI) on July 14, 2017. The project was part of the original Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project and was identified to be included in California EcoRestore in 2015. In 2018, Reclamation and the DWR began construction on the Fremont Weir Adult Fish Passage Modification Project to improve adult fish passage at the Fremont Weir and along the Tule Canal in the Yolo Bypass. The project constructed a new fish passage structure at Fremont Weir to widen and deepen the fish ladder and removed barriers in the Tule Canal. The maximum target flow through the fish passage structure would be limited to approximately 1,100 cubic feet per second (cfs).	Yes	Yes	Yes	Reclamation, Bay Delta Office website. 2020. <i>Fremont Weir Adult Fish Passage Modification Project</i>. Site accessed January 7, 2021. URL = https://www.usbr.gov/mp/bdo/fremont-weir.html.
Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project	DWR and Reclamation	One of six separate projects identified and implemented to carry out the RPA Actions in the 2009 NMFS BiOp specific to the Yolo Bypass. The project will construct a two-way fish passage gateway at the head of the Fremont Weir, a 1.8-mile concrete wall that provides flood protection to Sacramento and surrounding communities. The 100-foot-wide gateway, or “big notch,” will open each winter, allowing juvenile salmon to move from the Sacramento River onto the floodplain and then back into the Sacramento River at Cache Slough. Providing fish access to the food-rich floodplain will expand survival rates for native fish on their migratory journey to the Pacific Ocean.	Yes	Yes	Yes	DWR and Reclamation. May 2019. <i>Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR)</i> .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		The project will also allow adult salmon, steelhead, and sturgeon to more easily access the Sacramento River from the bypass.				
Lower Yuba River Accord	DWR and Yuba County Water Agency	The Lower Yuba River Accord is a collaborative effort among environmental interests, fisheries agencies, and water agencies intended to resolve instream flow issues associated with operation of the Yuba Project in a way that would protect and enhance lower Yuba River fisheries and local water supply reliability. It also provides revenues for local flood control and water supply projects, improves statewide water supply reliability, and provides water for protection and restoration purposes in the Delta. Local water supply reliability is achieved through a conjunctive use program. The Lower Yuba River Accord includes three separate, but interrelated, agreements intended to meet program objectives. The Fisheries Agreement modifies the instream flow requirements contained in the State Water Board Revised Decision 1644 to provide increased flows in most months of most water years. These changes would primarily serve to improve habitat conditions for salmonids by reducing water temperatures during sensitive life stage periods. The Yuba Accord requires appropriate State Water Board amendments of Yuba County Water Agency's (YCWA) water-right permits and RD-1644. To assure that local water supply reliability would not be reduced by the higher minimum instream flows, YCWA and its participating local water districts implemented agreements that would establish a comprehensive conjunctive use program that would integrate the surface water and groundwater supplies of the local irrigation districts and mutual water companies that YCWA serves in Yuba County. Integration of surface water and groundwater would allow YCWA to increase the efficiency of its water management. Under the Water Purchase Agreement, the DWR entered into an agreement with YCWA to purchase water from YCWA for use in the Environmental Water Account Program or an equivalent program as long as operational and hydrological conditions allow. Additional water purchased by DWR would be available for the SWP in drier years. The	Yes	Yes	Yes	Reclamation and YCWA. October 2007. <i>Final Environmental Impact Report/ Environmental Impact Statement for the Proposed Lower Yuba River Accord</i>. Yuba Water Agency website. Site accessed November 6, 2020. URL= https://www.yubawater.org/157/Lower-Yuba-River-Accord.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		Environmental Water Account Program would take delivery of water in every year; the SWP would receive additional water in the drier years.				
Los Vaqueros Reservoir Expansion	Reclamation, DWR, and Contra Costa Water District (CCWD)	The Los Vaqueros Reservoir Expansion Project consists of enlarging the existing Los Vaqueros Reservoir and constructing related reservoir system facilities to develop water supplies for environmental water management that supports fish protection, habitat management, and other environmental needs in the Delta and tributary river systems, and to improve water supply reliability and water quality for urban users in the San Francisco Bay Area. Los Vaqueros Reservoir is a 100,000 acre-foot off-stream storage reservoir owned and operated by CCWD that is used to store water pumped from the Delta. This storage capacity allows CCWD to improve the water quality delivered to its customers and to adjust the timing of its Delta water diversions to accommodate the life cycles of Delta aquatic species, thus reducing species impact and providing a net benefit to the Delta environment. The proposed expansion project would increase the reservoir capacity to 275,000 acre-feet and add a new 470-cfs-connection that would allow the Los Vaqueros system to provide water to South Bay water agencies—Alameda County Flood Control and Water Conservation District, Zone 7, Alameda County Water District, and Santa Clara Valley Water District—that otherwise would receive all their Delta supplies through the existing SWP and CVP export pumps. It also would include construction of a new diversion on Old River with a capacity of 170 cfs. The new and expanded facilities would be operated in coordination with Reclamation and DWR to shift Delta pumping for the three South Bay water agencies from the CVP and SWP Delta export pumps to the expanded Los Vaqueros reservoir system. In August 2020, Reclamation released its Final Feasibility Report, which documents potential costs and benefits of the expansion of Los Vaqueros Reservoir. The recommended plan described in the report provides for federal cost sharing of up to 25% of project construction costs. A similar 25% federal share for Phase 2 construction was requested by members of	No	No	Yes	Reclamation et al. 2010. <i>Final Environmental Impact Statement/Environmental Impact Report for the Los Vaqueros Reservoir Expansion Project</i>. March 2010 U.S. Bureau of Reclamation. 2020. <i>Los Vaqueros Reservoir Expansion Investigation, Final Feasibility Report</i>. February. Contra Costa Water District website. <i>Los Vaqueros Reservoir Expansion Project</i>. Site accessed November 6, 2020. URL= https://www.ccwater.com/lystudies. Contra Costa Water District website. <i>Los Vaqueros Reservoir Expansion Updates</i>. Site accessed July 28, 2021. URL = https://www.ccwater.com/CivicAlerts.aspx?AID=768. Congressman Mike Thompson's letter of support. Site accessed July 28, 2021. URL = https://www.ccwater.com/DocumentCenter/View/9752/Congressman-Thompson-

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		Congress in a letter dated April 2, 2021, to the Department of the Interior. On January 20, 2021, the California Water Commission increased its Water Storage Investment Program funding for the project based on inflation.				LVE-Support-Letter-April-2021-PDF.
Transfer-Bethany Pipeline with the Los Vaqueros Reservoir Expansion	Reclamation, DWR, and CCWD	The Los Vaqueros Reservoir Expansion Project includes expansion of the Los Vaqueros Reservoir from its current capacity of 160 thousand acre-feet (TAF) to 275 TAF, construction of a pipeline between CCWD's Transfer Pump Station and the SWP's California Aqueduct at Bethany Reservoir (the "Transfer-Bethany Pipeline"), upgrades to the existing Transfer Pump Station Facilities, and construction of the Neroly High Lift Station. Expansion of Los Vaqueros Reservoir improves Bay Area water supply reliability and water quality while protecting Delta fisheries and providing additional Delta ecosystem benefits. The proposed project will include a regional intertie (the Transfer-Bethany Pipeline) and improved pump stations and pipelines. The Transfer-Bethany Pipeline is composed of a new 300-cfs (84-inch-diameter) pipeline would deliver water from the Transfer Facility to the vicinity of Bethany Reservoir for South-of-Delta partners. The new Transfer-Bethany Pipeline would tie into the California Aqueduct just north of Bethany Reservoir in the Bethany Recreation Area.	No	No	Yes	Supplement to the Final Environmental Impact Statement Final Environmental Impact Report (Feb. 2020). Site accessed October 20, 2021. URL = https://www.usbr.gov/mp/nepa/nepa_project_details.php?Project_ID=903. Los Vaqueros Expansion Project Homepage (2021) Site accessed October 20, 2021. URL = https://www.ccwater.com/706/Los-Vaqueros-Studies. Resolution Authorizing Execution of the First Amended and Restated Los Vaqueros Reservoir Expansion Project Activity Agreement and Los Vaqueros Reservoir Joint Exercise of Powers Agreement, and Authorizing Actions Related Thereto (Aug. 2021). Site accessed October 20, 2021. URL = https://www.sldmwa.org/0HTDocs/pdf_documents/Me

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
						etings/Board/Prepacket/AgendaItem8 LVEMaterials 2021 0805 BOD.pdf.
The Riparian Bird Conservation Plan	California Partners in Flight and Riparian Habitat Joint Venture	The Riparian Habitat Joint Venture (RHJV) was initiated by California Partners in Flight in 1994. To date, 18 federal, state, and private organizations have signed the Cooperative Agreement to protect and enhance habitats for native landbirds throughout California. These organizations include CDFW, DWR, California State Lands Commission, Ducks Unlimited, National Audubon Society, National Fish and Wildlife Foundation, The Nature Conservancy, The Trust for Public Land, The Resources Agency State of California, Reclamation, USFWS, U.S. Geological Survey, and Wildlife Conservation Board. The RHJV, modeled after the successful Joint Venture projects of the North American Waterfowl Management Plan, reinforces other collaborative efforts currently underway that protect biodiversity and enhance natural resources as well as the human element they support. The vision of the RHJV is to restore, enhance, and protect a network of functioning riparian habitat across California to support the long-term viability of landbirds and other species. A wide variety of other species of plants and animals will benefit through the protection of forests along rivers, streams, and lakes. The RHJV mission is to provide leadership and guidance to promote the effective conservation and restoration of riparian habitats in California through the following goals: (1) Identify and develop technical information based on sound science for a strategic approach to conserving and restoring riparian areas in California; (2) Promote and support riparian conservation on the ground by providing guidance, technical assistance and a forum for collaboration; and (3) Develop and influence riparian policies through outreach and education. In 2004, Partners in Flight and the RHJV prepared the Riparian Bird Conservation Plan, a guidance document that outline a strategy for conserving riparian birds, including birds using the Delta.	Yes	Yes	Yes	Riparian Habitat Joint Venture and California Partner in Flight. 2004. Version 2.0. <i>The Riparian Bird Conservation Plan: A Strategy for Reversing the Decline of Riparian Associated Birds in California.</i> http://www.prbo.org/calpif/pdfs/riparian_v-2.pdf.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Marine Invasive Species Program	California State Lands Commission	The California Marine Invasive Species Program is charged with preventing or minimizing the introduction of nonindigenous species to California Waters from commercial vessels. The program began in 1999 with the passage of California's Ballast Water Management for Control of Nonindigenous Species Act, which addressed the threat of species introductions through ships' ballast water during a time when federal regulations were not mandatory. In 2003, the Marine Invasive Species Act was passed, reauthorizing and expanding the 1999 Act. Subsequent amendments to the act and additional legislation have further expanded the scope of the program. The law charged the California State Lands Commission with oversight of the state's program to prevent or minimize the introduction of nonindigenous species from commercial vessels. To advance this goal, the commission uses a comprehensive approach that includes ballast water and vessel fouling management tracking, compliance, and enforcement; sound policy development in consultation with a wide array of experts and interested parties; applied research that advances the strategies for nonindigenous species prevention; and outreach and education to coordinate information exchange among scientists, legislators, and interested parties. The Coastal Ecosystems Protection Act of 2006 directed the commission to adopt performance standards for the discharge of ballast water by January 1, 2008, and prepare a report assessing the availability of treatment technologies to meet those standards. The commission completed the rulemaking process and adopted the standards in October 2007; the technology assessment report was completed in December 2007.	Yes	Yes	Yes	California State Lands Commission website. <i>Marine Invasive Species Program homepage</i>. Site accessed November 6, 2020. URL = https://www.slc.ca.gov/misp/. California State Lands Commission. 2009. <i>Biennial Report on the California Marine Invasive Species Program</i>. State Lands Commission. 2006. <i>Commercial Vessel Fouling in California: Analysis, Evaluation, and Recommendations to Reduce Nonindigenous Species Release from the Non-Ballast Water Vector</i>. April.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Central Valley Joint Venture Program	Central Valley Joint Venture (CVJV)	CVJV is a self-directed coalition consisting of 22 state and federal agencies and private conservation organizations. The partnership directs their efforts toward the common goal of providing for the habitat needs of migrating and resident birds in the Central Valley of California. The CVJV was established in 1988 as a regional partnership focused on the conservation of waterfowl and wetlands under the North American Waterfowl Management Plan. It has since broadened its focus to the conservation of habitats for other birds, consistent with major national and international bird conservation plans and the North American Bird Conservation Initiative. The CVJV provides guidance and facilitates grant funding to accomplish its habitat goals and objectives. Integrated bird conservation objectives for wetland habitats in the Central Valley identified in the 2006 Implementation Plan include restoration of 19,170 acres of seasonal wetland, enhancement of 2,118 acres of seasonal wetland annually, restoration of 1,208 acres of semi-permanent wetland, and restoration of 1,500 acres of riparian habitat.	Yes	Yes	Yes	Central Valley Joint Venture website. Site accessed November 6, 2020. URL = https://www.centralvalleyjointventure.org/. Central Valley Joint Venture, 2006. <i>Central Valley Joint Venture Implementation Plan—Conserving Bird Habitat</i>. U.S. Fish and Wildlife Service, Sacramento, CA.
Cache Creek, Bear Creek, Sulfur Creek, Harley Gulch Mercury TMDL	Central Valley Regional Water Quality Control Board	Historic mining activities in the Cache Creek watershed have discharged and continue to discharge large volumes of inorganic mercury to creeks in the watershed. Much of the mercury discharged from the mines is now distributed in the creek channels and floodplain downstream from the mines. Natural erosion processes are expected to slowly move the mercury downstream out of the watershed over the next several hundred years. However, current and proposed activities in and around the creek channel can enhance mobilization of this mercury. To reduce mercury loads in these streams, which ultimately connect to the northern Delta, the Central Valley Regional Water Quality Control Board is implementing mercury TMDLs for Cache Creek and its tributaries, as well as Sulfur Creek. The implementation plans require a reduction in mercury loads through a combination of actions to clean up mines, sediments, and wetlands; identify engineering options; control erosion reduction actions and perform studies and monitoring.	Yes	Yes	Yes	CVRWQCB. October 2005. Cache Creek, Bear Creek, Sulfur Creek, Harley Gulch TMDL for Mercury, Staff Report. CVRWQCB. October 2007. <i>The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley</i>, Fourth Edition. Revised October 2007 (with Approved Amendments).

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Irrigated Lands Regulatory Program	Central Valley Regional Water Quality Control Board	The Irrigated Lands Regulatory Program regulates discharges from irrigated agricultural lands. Its purpose is to prevent agricultural discharges from impairing the waters that receive the discharges. The California Water Code authorizes state and regional water boards to conditionally waive waste discharge requirements if this is in the public interest. On this basis, the Los Angeles, Central Coast, Central Valley, and San Diego regional water quality control boards have issued conditional waivers of waste discharge requirements to growers that contain conditions requiring water quality monitoring of receiving waters. Participation in the waiver program is voluntary; dischargers must file a permit application as an individual discharger, stop discharging, or apply for coverage by joining an established coalition group. The waivers must include corrective actions when impairments are found.	Yes	Yes	Yes	CVRWQCB website. <i>Irrigated Lands Regulatory Program (ILRP)</i> . Site accessed November 6, 2020. URL= https://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/ .
Sacramento–San Joaquin Delta Estuary TMDL for Methylmercury	Central Valley Regional Water Quality Control Board	The Central Valley Regional Water Quality Control Board identified the Delta as impaired because of elevated levels of methylmercury in Delta fish that pose a risk for human and wildlife consumers. As a result, it initiated the development of a water quality attainment strategy to resolve the mercury impairment. The strategy has two components: the methylmercury TMDL for the Delta and the amendment of the Water Quality Control Plan (WQCP) for the Sacramento River and San Joaquin River Basins (the Basin Plan) to implement the TMDL program. The Basin Plan amendment requires methylmercury load and waste load allocations for dischargers in the Delta and Yolo Bypass to be met as soon as possible, but no later than 2030. The regulatory mechanism to implement the Delta Mercury Control Program for point sources would be through NPDES permits. Nonpoint sources would be regulated in conformance with the State Water Board's Nonpoint Source Implementation and Enforcement Policy. Both point and nonpoint source dischargers would be required to conduct mercury and methylmercury control studies to develop and evaluate management practices to control mercury and methylmercury discharges. The Regional Water Board will use the study results and other information to amend relevant portions of the Delta Mercury Control Program during the Delta Mercury Control Program Review.	Yes	Yes	Yes	CVRWQCB. 2011. <i>Final Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento-San Joaquin River Delta Estuary</i> . (Attachment 1 to Resolution No. R5-2010-0043) CVRWQCB. 2010. <i>Sacramento-San Joaquin Delta Estuary TMDL for Methylmercury. Staff Report</i> . April.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		The Basin Plan amendment also requires proponents of new wetland and wetland restoration projects scheduled for construction after 2011 to either participate in a comprehensive study plan or implement a site-specific study plan, evaluate practices to minimize methylmercury discharges, and implement newly developed management practices as feasible. Projects would be required to include monitoring to demonstrate effectiveness of management practices. Activities, including changes to water management and storage in and upstream of the Delta, changes to salinity objectives, dredging and dredge materials disposal and reuse, and changes to flood conveyance flows, would be subject to the open water methylmercury allocations. Agencies would be required to include requirements for projects under their authority to conduct control studies and implement methylmercury reductions as necessary to comply with the allocations by 2030.				

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Central Valley Salt and Nitrate Control Program	Central Valley Regional Water Quality Control Board	The program is designed to address both legacy and ongoing salt and nitrate accumulation issues and establish a prioritized Nitrate Control Program for discharges to groundwater and a phased Salt Control Program for discharges to surface water and groundwater throughout the Central Valley.	Yes	Yes	Yes	Central Valley Regional Water Quality Control Board website. <i>Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS)</i> . Accessed May 9, 2023. https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/ .
San Joaquin River Salt and Boron TMDL	Central Valley Regional Water Quality Control Board	The purpose of the TMDL and associated control program is to manage salt and boron discharged from irrigated lands within the lower San Joaquin River Basin into the lower San Joaquin River and into the Sacramento–San Joaquin Delta at the Airport Way Bridge near Vernalis. The goal of the control program is to achieve compliance with salt and boron water quality objectives at Vernalis and in the lower San Joaquin River between the Merced and Stanislaus Rivers, without restricting the ability of dischargers to export salt out of the lower San Joaquin River Basin.	Yes	Yes	Yes	Central Valley Regional Water Quality Control Board website. <i>San Joaquin River Salt and Boron TMDL and Water Quality Objectives Basin Plan Amendments</i> . Accessed May 9, 2023. https://www.waterboards.ca.gov/rwqcb5/water_issues/tmdl/central_valley_projects/san_joaquin_salt_boron/ .
Contra Costa County General Plan 2005-2020	Contra Costa	The Contra Costa County General Plan sets policies, goals, and specific measures to help guide future growth and conservation of resources through 2020. Efforts are ongoing to update the general plan, with a planning horizon of 2040.	Yes	Yes	Yes	Contra Costa County website. General Plan Overview, Site accessed April 2022. https://www.contracosta.ca.gov/4732/General-Plan . Contra Costa County General Plan 2005-2020, as amended.
East Contra Costa County Habitat Conservation Plan/Natural	Contra Costa County and East Contra Costa	The East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan was adopted in 2006 and provides regional conservation and development guidelines to protect natural resources while improving and streamlining the permit process for endangered	Yes	Yes	Yes	Contra Costa County website. <i>East Contra Costa County Habitat Conservancy</i> . Site accessed November 6, 2020.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Community Conservation Plan	County Habitat Conservancy	species and wetland regulations. The plan was developed by a team of scientists and planners with input from independent panels of science reviewers and interested parties. Within the 174,018-acre inventory area, the plan provides permits for between 8,670 and 11,853 acres of development and will permit impacts on an additional 1,126 acres from rural infrastructure projects. The plan will result in the acquisition of a preserve system that will encompass 23,800 to 30,300 acres of land that will be managed for the benefit of 28 species as well as the natural communities that they depend upon. The East Contra Costa County Habitat Conservancy is a joint exercise of powers authority formed by Contra Costa County and the cities of Brentwood, Clayton, Oakley, and Pittsburg to implement the plan. It allows Contra Costa County, the Contra Costa County Flood Control and Water Conservation District, the East Bay Regional Park District and the cities of Brentwood, Clayton, Oakley, and Pittsburg to control permitting for activities and projects they perform or approve in the region that have the potential to adversely affect state- and federally listed species. The plan also provides for comprehensive species, wetlands, and ecosystem conservation and contributes to the recovery of endangered species in northern California. The plan avoids project-by-project permitting that often results in uncoordinated and biologically ineffective mitigation.				http://www.co.contra-costa.ca.us/depart/cd/water/HCP/index.html East Contra Costa County Habitat Conservation Plan Association. October 2006. <i>Final East Contra Costa County Habitat Conservation Plan/ Natural Community Conservation Plan</i>. URL = http://www.co.contra-costa.ca.us/depart/cd/water/HCP/documents.html.
Canal Modernization Project	CCWD	CCWD's Canal Modernization Project will replace the canal with a pipeline along a portion of the 48-mile Contra Costa Canal near Oakley. The first phase was initiated in 2009 and encased a 1,900-foot portion of the Contra Costa Canal to reduce salinity and water quality impacts of groundwater seepage from adjacent agricultural areas, as well as to increase public safety and flood protection. CCWD will be initiating plans for the remaining sections. CCWD is conducting a two-year study for advance planning and technical analysis for canal modernization.	No	Yes	Yes	Contra Costa Water District website. <i>Main Canal Modernization Studies</i>. Site accessed November 6, 2020. URL = https://www.ccwater.com/688/Main-Canal-Modernization-Studies.
Delta Protection Commission Land Use and Resource	Delta Protection Commission	The Delta Protection Commission, created with passage of the Delta Protection Act, was formed to adaptively protect, maintain, and where possible, enhance and restore the overall quality of the Delta environment	No	Yes	Yes	Delta Protection Commission website. <i>Land Use and Resource Management Plan</i>. Site accessed November 7,

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Management Plan Update		consistent with the Delta Protection Act and the Land Use and Resource Management Plan for the Primary Zone. The commission is currently updating its Land Use and Resource Management Plan, which was last adopted in 2010. The plan outlines the long-term land use requirements for the Delta and sets out findings, policies, and recommendations in the areas of environment, utilities and infrastructure, land use, agriculture, water, recreation and access, levees, and marine patrol/boater education/safety programs. The updated plan will place increased emphasis on the requirement for local government general plans to provide for consistency with the provisions of the Land Use and Resource Management Plan. The Delta Protection Commission develops priorities and timelines for tasks to be implemented each year and provides annual progress reports to the Legislature. One of the tasks identified by the commission is to monitor the Delta Vision, Bay Delta Conservation Plan, and Delta Risk Management Strategy processes and provide input as deemed appropriate.				2020. URL = http://delta.ca.gov/land-use/management-plan/. Delta Protection Commission. 2009. <i>Draft Land Use and Resource Management Plan for the Primary Zone of the Delta</i>. Compiled Draft Management Plan 11-12-2009.
Great California Delta Trail System	Delta Protection Commission	The Delta Protection Commission is leading the planning process for the Great California Delta Trail System. The system will link the San Francisco Bay Trail and trails planned along the Sacramento River in Yolo and Sacramento Counties to present and future trails in and around the Delta and along shorelines in several counties.	Yes	Yes	Yes	Delta Protection Commission website. <i>Recreation and Tourism</i> . Site accessed March 4, 2022. URL = https://delta.ca.gov/recreation-and-tourism/ .
Delta Plan	DSC	The Delta Reform Act, created by SB X7-1, established the co-equal goals for the Delta of “providing a more reliable water supply for California and protecting, restoring, and enhancing the delta ecosystem.” (Public Resources Code § 29702; Water Code § 85054). These coequal goals are to be achieved “in a manner that protects and enhances the unique cultural, recreational, natural resources, and agricultural values of the Delta as an evolving place.” (Water Code § 85054). The Delta Reform Act also established the DSC. The DSC is tasked with furthering the state’s coequal goals for the Delta through development of the Delta Plan, a comprehensive, long-term, resource management plan	Yes	Yes	Yes	Delta Stewardship Council website. <i>The Delta Plan</i> . Site accessed November 5, 2021. URL= https://www.deltacouncil.ca.gov/delta-plan/ .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		for the Delta, containing both regulatory policies and recommendations aimed at furthering the coequal goals and promoting a healthy Delta ecosystem. The Delta Plan provides for a distinct regulatory process for activities that qualify as Covered Actions under Water Code Section 85057.5. State and local agencies proposing covered actions, prior to initiating that action, must prepare a written certification of consistency with detailed findings regarding consistency with applicable Delta Plan policies and submit that certification to the DSC.				
Delta Adapts	DSC	The DSC decided to take action in the Delta and Suisun Marsh in response to climate change at its May 2018 meeting, directing staff to begin a two-phase effort preparing: (1) a <i>vulnerability assessment</i> to improve understanding of regional vulnerabilities in order to protect the vital resources the Delta provides to California and beyond with state interests and investments top of mind; and (2) an <i>adaptation plan</i> detailing strategies and tools that state, regional, and local governments can use to help communities, infrastructure, and ecosystems thrive in the face of climate change. Together, these two phases form the <i>Delta Adapts: Creating a Climate Resilient Future</i> initiative, a comprehensive, regional approach to climate resiliency that cuts across regional boundaries and commits to collaboration across state, local, and regional levels. Delta Adapts supports the Delta Reform Act, EO B-30-15, and the Delta Plan. The goals of Delta Adapts are to: (1) inform future work at the Council; Provide local governments with a toolkit of information to incorporate into their regulatory and planning documents; (2) integrate climate change into the state's prioritization of future Delta actions and investments; and (3) serve as a framework to be built upon by the Council and others in years to come. DSC staff are pursuing these goals across the two phases, while following the statutory requirements outlined in the Delta Reform Act of 2009. Delta Adapts will consider climate change impacts that are expected to occur and amend the Delta Plan, where applicable.	Yes	Yes	Yes	Delta Stewardship Council website. Delta Adapts: Creating a Climate Resilient Future. Site accessed October 28, 2021. URL = https://deltacouncil.ca.gov/delta-plan/climate-change Delta Stewardship Council website. Delta Adapts: Creating a Climate Resilient Future. Frequently Asked Questions. Site accessed October 28, 2021. URL = https://deltacouncil.ca.gov/delta-plan/delta-adapts-faq#:~:text=Delta%20Adapts%20consists%20of%20a%20vulnerability%20assessment%20to,ecosystems%20thrive%20in%20the%20face%20of%20climate%20change

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Recreation Proposal for the Sacramento–San Joaquin Delta and Suisun Marsh	Department of Parks and Recreation	In 2011, California State Parks developed a Recreation Proposal for the Delta and Suisun Marsh in response to the requirements in SBX7 1. The proposal recommends that communities on the edge of the Delta or Suisun Marsh with access to major transportation routes be developed as “gateways” to provide supplies and information to visitors about recreation opportunities available in an area. Recommendations also include collaboration with other agencies and other partners to expand wildlife viewing, angling, and hunting opportunities; and expansion of the State Park system in the Delta.	Yes	Yes	Yes	California State Parks, Planning Division. <i>Recreation Proposal for the Sacramento–San Joaquin Delta and Suisun Marsh, 2011.</i>
East Bay Municipal Utility District Camanche Permit Extension	East Bay Municipal Utility District (EBMUD)	East Bay Municipal Utility District (EBMUD) holds water right Permit 10478 (Application 13156) for appropriation of water by direct diversion and storage at Camanche and Pardee Reservoirs. Pursuant to Permit 10478, EBMUD was required to put water to beneficial use by December 1, 2000, and in 2000, EBMUD petitioned for an extension of time for construction and full beneficial use until December 31, 2040. On August 2, 2016, the State Water Board issued Order WR 2016-0019-EXEC approving an extension of time until December 31, 2040. Order WR 2016-0019-EXEC added some terms to Permit 10478 and deleted others. Among other changes, the Order incorporated a condition requiring measures, including flow and stream survey and streambed improvements, to ensure passage for salmon and steelhead downstream of Woodbridge Dam.	No	Yes	Yes	East Bay Municipal Utility District website. Site accessed November 7, 2020. URL= https://www.ebmud.com/water/about-your-water/water-supply/water-right-permit-10478-time-extension-project/ . CEQAnet website. Site accessed November 7, 2020. URL = https://ceqanet.opr.ca.gov/2008112043/4 .
Lower Mokelumne River Spawning Habitat Improvement Project	EBMUD	The Mokelumne River is tributary to the Delta and supports five species of anadromous fish. The implemented project completed habitat enhancement designs over the past few years and currently provides annual supplementation of 600 to 1,000 cubic yards of suitably sized salmonid spawning gravel in the maintenance phase to ensure long term functioning of habitat restoration. Fall-run Chinook salmon and steelhead are the primary management focus in the river. Availability of spawning gravel in this section of the Mokelumne River has been determined to be deficient because historic gold and aggregate mining operations removed gravel annually and upstream dams have reduced gravel transport to the	Yes	Yes	Yes	East Bay Municipal Utility District website. <i>Lower Mokelumne River Spawning and Rearing Habitat Improvement Project</i> . Site accessed November 7, 2020. URL= https://www.ebmud.com/recreation/protecting-natural-habitat/lower-mokelumne-

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		area. This area was chosen because it is known to have supported fall-run Chinook salmon and steelhead spawning in the past and because the substrate is suitable for habitat improvement.				river-spawning-and-rearing-habitat-improvement-project/#:~:text=The%20project%20is%20a%20long,an&%20steelhead%20spawnin&%20and%20rearing.
Water Supply Management Program 2040	EBMUD	EBMUD's Water Supply Management Program (WSMP 2040), adopted in 2012, describes EBMUD's planning for water supply reliability through 2040. It identifies and recommends a Preferred Portfolio of solutions to meet dry-year water needs through 2040, including water conservation, recycling, water transfers, desalination, and groundwater banking.	Yes	Yes	Yes	EBMUD website. <i>Water Supply Management Plan 2040</i> . Site accessed November 7, 2020. URL = https://www.ebmud.com/water/about-your-water/water-supply/water-supply-management-program-2040/ . EBMUD. September 2009. Water Supply Management Program 2040. Final Draft.
Bay Area Regional Desalination Project	EBMUD, CCWD, Santa Clara Valley Water District, and San Francisco Public Utility Commission	The Bay Area's four largest water agencies are jointly exploring the development of regional desalination facilities that would benefit Bay Area residents and businesses served by these agencies. The Bay Area Regional Desalination Project could consist of one or more desalination facilities, with an ultimate total capacity of up to 71 million gallons per day (mgd). The project would provide an additional source of water during emergencies, such as earthquakes or levee failures, increase supply reliability, and provide water during droughts or maintenance of other facilities. A pilot plant was constructed near the southern end of Antioch Bridge. Following the pilot study, environmental documentation and designs will be completed for a full-scale plant. In early 2014, a site analysis was completed to study potential impacts on the Delta environment and confirm that the potable water produced at the East Contra Costa location could be delivered to other Bay Area regions.	No	No	Yes	East Bay Municipal Utility District website. <i>Desalination for Bay Area Regional Reliability</i> . Site accessed November 7, 2020. URL= https://www.ebmud.com/about-us/construction-and-maintenance/construction-my-neighborhood/desalination-bay-area-regional-reliability/ .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		The partners continued public and interested party outreach to share the findings and seek input.				URS. July 2007. <i>Bay Area Regional Desalination Project Feasibility Study</i> .
Folsom Lake Temperature Control Device	El Dorado Irrigation District and Reclamation	El Dorado Irrigation District, in collaboration with the Reclamation, proposes to construct facilities on the bank of Folsom Lake to withdraw water from the warm upper reaches of the lake while preserving the coldwater pool at the bottom of the lake to protect downstream aquatic species. The facilities will include a large diameter concrete lined vertical shaft and five lined horizontal adits extending from the shaft. This structure, known as a Temperature Control Device, will replace the district's five existing raw pump casings that currently extract water from Folsom Lake at a rate of 19.5 mgd. The new facility will be sized to accommodate a maximum extraction rate of 74 mgd over an 18-hour period, which is equivalent to 52 mgd. Construction was planned to begin in June 2020.	No	Yes	Yes	EID website. <i>Folsom Lake Intake Project</i> . Site accessed November 7, 2020. URL = https://www.eid.org/about-us/project-updates/folsom-lake-intake-project . Reclamation website. <i>Project Details</i> . Site accessed November 7, 2020. URL = http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=797 .
El Dorado Water Reliability Project (formerly known as the Supplemental Water Rights Project)	El Dorado Water and Power Authority	The proposed project is to establish permitted water rights allowing diversion of water from the American River basin to meet planned future water demands in the El Dorado Irrigation District and Georgetown Divide Public Utility District service areas and other areas located within El Dorado County that are outside of these service areas. El Dorado Water and Power Authority will be filing with the State Water Board, Division of Water Rights, petitions for partial assignment of each of State Filed Applications 5644 and 5645, and accompanying applications allowing for the total withdrawal for use of 40,000 AFY, consistent with the diversion and storage locations allowed it under the El Dorado-Sacramento Municipal Utility District Cooperation Agreement.	No	Yes	Yes	El Dorado County Water Agency website. <i>Projects</i> . Site accessed November 7, 2020. URL = https://www.edcgov.us/Water/pages/projects.aspx#:~:text=The%20El%20Dorado%20Water%20Reliability,Slope%20of%20El%20Dorado%20County .
Recovery Plan for Sacramento River Winter-run Chinook Salmon, Central Valley Spring-run Chinook	NMFS	The Final Recovery Plan provides a roadmap that describes the steps, strategy, and actions that should be taken to return winter-run Chinook salmon, spring-run Chinook salmon, and steelhead to viable status in the Central Valley, California thereby ensuring their long-term persistence and evolutionary potential. The general near-term strategic approach to recovery includes methods to: secure all extant populations, monitor for	Yes	Yes	Yes	U.S. Department of Commerce, National Oceanic and Atmospheric Administration, West Coast Region. <i>Recovery Plan for Sacramento River Winter-Run</i>

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Salmon and Central Valley Steelhead		<i>O. mykiss</i> in habitats accessible to anadromous fish, and minimize straying from hatcheries to natural spawning areas. Conduct critical research on fish passage and reintroductions with climate change and develop recovery plan for sustainable populations that have minimal susceptibility to catastrophic events. Recovery plan for Sacramento River Winter-Run Chinook salmon, Central Valley Spring-Run Chinook salmon, and Central Valley Steelhead was released in July 2014.				<i>Chinook Salmon, Central Valley Spring-Run Chinook Salmon, and Central Valley Steelhead, July 2014.</i>
Eastern San Joaquin Integrated Conjunctive Use Program	Northeastern San Joaquin County Groundwater Banking Authority	The Eastern San Joaquin Integrated Regional Water Management Plan (Eastern San Joaquin IRWMP) is a collaborative regional planning document that was published in June 2014. The IRWMP defines and integrates key water management strategies to establish protocols and courses of action to implement the Eastern San Joaquin Integrated Conjunctive Use Program (ICU Program). The program was designed to implement a comprehensive, prioritized set of projects and management actions to meet adopted Best Management Objectives, moving the Eastern San Joaquin County Region toward the goal of sustainable and reliable water supplies. The Integrated Conjunctive Use Program is to develop approximately 140,000 to 160,000 AFY of new surface water supply for the basin that will be used to directly and indirectly to support conjunctive use by the Northeastern San Joaquin County Groundwater Banking Authority (GBA) member agencies. This amount of water would support groundwater recharge at a level consistent with the GBA's objectives for conjunctive use and the underlying groundwater basin. Within this framework, the program would implement the following categories of conjunctive use projects and actions: • Water conservation measures • Water recycling • Groundwater banking • Water transfers • Development of surface storage facilities • Groundwater recharge	Yes	Yes	Yes	NSJCGBA. September 2009. <i>Eastern San Joaquin Basin Integrated Conjunctive Use Program Programmatic Environmental Impact Report</i>. NSJCGBA. February 2011. <i>Eastern San Joaquin Basin Integrated Conjunctive Use Program Final Programmatic Environmental Impact Report</i>. Greater San Joaquin County Regional Coordinating Committee website. <i>Eastern San Joaquin ICU Program</i>. Site accessed November 7, 2020. URL= http://www.esjirwm.org/IRWMP/Eastern-San-Joaquin-ICU-Program.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		• River withdrawals • Construction of pipelines and other facilities To enable and facilitate sustainable and reliable management of San Joaquin County's water resources, the GBA developed a series of Basin Management Objectives to support conjunctive use and address a variety of water resources issues, including groundwater overdraft, saline groundwater intrusion, degradation of groundwater quality, environmental quality, land subsidence, supply reliability, water demand, urban growth, recreation, agriculture, flood protection, and other issues. The purpose of the Basin Management Objectives is to ensure the long-term sustainability of water resources in the San Joaquin Region.				
Sacramento River Water Reliability Study	Placer County Water Agency and Reclamation	The Reclamation and Placer County Water Agency, on behalf of Placer County Water Agency, Sacramento Suburban Water District, and the cities of Roseville and Sacramento, are investigating the viability of a joint water supply diversion from the Sacramento River to meet the needs of the cost-sharing partners. The Sacramento River Water Reliability Study will be consistent with the Water Forum Agreement in pursuing a Sacramento River diversion to accomplish the following objectives envisioned in the agreement: (1) meeting the needs of planned future growth within the Placer-Sacramento region, (2) maintaining a reliable water supply while reducing diversions of surface water from the American River in future dry years to preserve the river ecosystem, and (3) enhancing ground water conjunctive management to help sustain the quality and availability of ground water for the future. To meet the water supply needs of the cost-sharing partners, the Sacramento River Water Reliability Study is identifying a package of water supply infrastructure components, including new or expanded diversions from the Sacramento, Feather, or American Rivers, and new or expanded water treatment and pumping facilities, storage tanks, and major transmission and distribution pipelines. The study includes a feasibility study and an EIS/EIR for identified water supply alternatives as the basis for seeking necessary BiOps and permits from the responsible resource	No	No	Yes	Reclamation website. Site accessed November 7, 2020. URL = http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=907 .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		agencies to allow execution of necessary agreements and construction of the recommended water supply infrastructure.				
Liberty Island Conservation Bank	Reclamation District 2093	This project received permits and approvals in 2009 to create a conservation bank on the northern tip of Liberty Island that would preserve, create, restore, and enhance habitat for native Delta fish species, including Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, California Central Valley steelhead, delta smelt, and Central Valley fall- and late fall-run Chinook salmon. The project consists of creating tidal channels, perennial marsh, riparian habitat, and occasionally flooded uplands on the site. The project also includes the breaching of the northernmost east-west levee, and preservation and restoration of shaded riverine aquatic habitat along the levee shorelines of the tidal sloughs. The island's private levees failed in the 1997 flood and were not recovered, leaving all but the upper 1,000 acres and the adjacent levees permanently flooded. These upper acres encompass the proposed bank. The lower nearly 4,000 acres will remain, at least for the near future, predominantly open water and subtidal because tidal elevations are too great for marsh or riparian habitat.	Yes	Yes	Yes	Wildlands Inc. website. <i>Mitigation Projects. Liberty Island Conservation Bank.</i> Site accessed November 7, 2020. URL= https://www.wildlandsinc.com/banks/liberty-island-conservation-bank-salm/.
Flood Management Program	Sacramento Area Flood Control Agency (SAFCA), CVFPB, and USACE	The SAFCA Flood Management Program includes studies, designs, and construction of flood control improvements. In the South Sacramento area, SAFCA projects include the South Sacramento Streams Project and the Sacramento River Bank Protection Project. The South Sacramento Streams Project consists of levee, floodwall, and channel improvements starting south of the town of Freeport along the Sacramento River to protect the City of Sacramento from flooding associated with Morrison, Florin, Elder, and Union House creeks. The Sacramento River Bank Protection Project, which is implemented and funded primarily through USACE, addresses long-term erosion protection along the Sacramento River and its tributaries. Bank protection measures typically consist of large angular rock placed to protect the bank, with a layer of soil/rock material to allow bank re-vegetation. SAFCA contributes to funding the local share for bank protection activities within its jurisdiction.	Yes	Yes	Yes	SAFCA website. <i>South Sacramento Streams Project information.</i> Site accessed November 7, 2020. URL = http://www.safca.org/Programs_SoSacStreams.html. SAFCA website. <i>Sacramento River Bank Protection Program information.</i> Site accessed November 7, 2020. URL = http://www.safca.org/

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
						Programs SacBankProtection.html .
Sacramento County General Plan of 2005-2030	Sacramento County	The Sacramento County General Plan of 2005–2030 outlines goals, objectives, policies, and measures for new growth, housing needs, and environmental protection. The updated plan adopted on November 9, 2011, focused on revitalizing commercial corridors and strategies to reduce GHG emissions in compliance with state laws.	Yes	Yes	Yes	Sacramento County Planning and Environmental Review, General Plan website. Site accessed February 24, 2022. URL = https://planning.sacounty.net/PlansandProjectsIn-Progress/Pages/GeneralPlan.aspx .
Sacramento International Airport Master Plan	Sacramento County	The Master Plan for Sacramento International Airport was completed in 2004 and establishes a program for the improvement of existing facilities and the development of facilities at the airport over the next 20 years. The plan identifies the type and extent of facilities that are required to meet projections of aviation demand and the airport functions, including the airfield, terminal and related passenger services, cargo, general aviation, airport support, and access. A Notice of Preparation (NOP) for the preparation Supplemental EIR was released in September 2020.	Yes	Yes	Yes	Sacramento County website. <i>Department of Airports</i> . Site accessed November 7, 2020. URL= https://sacramento.aero/sca/about/planning_design .
South Sacramento Habitat Conservation Plan	South Sacramento Conservation Agency Joint Powers Authority	The South Sacramento Habitat Conservation Plan is a regional plan to address issues related to species conservation, agricultural protection, and urban development in south Sacramento County. Adopted in 2018, the HCP covers 40 different species of plants and wildlife including 10 that are state or federally listed as threatened or endangered and allow landowners to engage in the “incidental take” of listed species (i.e., to destroy or degrade habitat) in return for conservation commitments from local jurisdictions. The conservation measures outlined in the HCP would minimize and mitigate the impact of incidental take and provide for the conservation of covered species that may occur in the plan area. The geographic location of the HCP includes a combined 317,656 acres within south Sacramento County (unincorporated area) and the cities of Rancho Cordova, Elk Grove, and Galt.	Yes	Yes	Yes	South Sacramento Habitat Conservation Plan website. Site accessed November 7, 2020. URL= https://www.southsachcp.com/ .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Sacramento Stormwater Quality Partnership	Sacramento County, Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova	The Sacramento Stormwater Quality Partnership is a collaborative of public agencies that protects and improves water quality in local waterways for the benefit of the community and the environment. The partnership's main charge is to oversee compliance with the Sacramento Area-wide Municipal Stormwater Permit, which is designed to comply with state and federal clean water regulations (NPDES Stormwater Permit No. CAS082597). The goals of the partnership are to: educate and inform the public about urban runoff pollution; encourage public participation in community and clean-up events; work with industries and businesses to encourage pollution prevention; require construction activities to reduce erosion and pollution; and require developing projects to include pollution controls that will continue to operate after construction is complete. Program elements include monitoring, target pollutant reduction, special studies (such as evaluating the effectiveness of best management practices), and public outreach.	Yes	Yes	Yes	Sacramento Stormwater Quality Partnership website. Site accessed November 7, 2020. URL = http://www.beriverfriendly.net/. Sacramento Stormwater Quality Partnership website. <i>Stormwater Quality Design Manual</i>. Site accessed November 7, 2020. URL = http://www.beriverfriendly.net/newdevelopment/stormwaterqualitydesignmanual/#SWQ_DesignManual. Sacramento County Stormwater Quality Program website. <i>Stormwater Quality Improvement Plan</i>. 2009. Site accessed November 7, 2020. URL = http://www.beriverfriendly.net/documents/.
Sacramento Regional Wastewater Treatment Plant Facility Upgrade Project (EchoWater)	Sacramento Regional County Sanitation District	Upgrade existing secondary treatment facilities to advanced unit processes including improved nitrification/denitrification and filtration. The Sacramento Regional County Sanitation District is upgrading its existing facilities at the Sacramento Regional Wastewater Plant to meet new NPDES permit requirements. Project implementation would not result in an increase in permitted wastewater treatment capacity; however, would result in improved treated effluent water quality. The project will upgrade existing secondary treatment facilities to advanced unit processes including improved nitrification/denitrification and filtration.	No	Yes	Yes	Regional San website. <i>EchoWater Project</i>. Site accessed November 7, 2020. URL = https://www.regionalsan.com/echowater-project.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Harvest Water (formerly called the South County Ag Program)	Sacramento Regional County Sanitation District	Harvest Water is being developed by Sacramento Regional County Sanitation District and could deliver up to 50,000 AFY of safe and reliable supply of tertiary-treated water for agricultural uses to more than 16,000 acres of permanent agriculture through irrigation, as well as habitat conservation lands near the Cosumnes River and Stone Lakes Wildlife Refuge. This project has received up to \$287.5 million through the Proposition 1 grant funding of the California Water Commission, Water Storage Investment Program. The district is currently working with local farmers and the initial planning stages of preliminary designs for transmission and distribution systems near Elk Grove in southern Sacramento County.	No	Yes	Yes	Regional San website. <i>Harvest Water</i> . Site accessed November 30, 2021. URL = https://www.regionalsan.com/harvest-water .
San Francisco Bay Plan Amendment and Special Programs	San Francisco Bay Conservation and Development Commission	The San Francisco BCDC is a 27-member commission created by the California Legislature in 1965 dedicated to the protection and enhancement of San Francisco Bay and to the encouragement of the Bay's responsible use. The commissioners are appointees from local governments and state/federal agencies. The BCDC has jurisdiction over the open water, marshes, and mudflats of greater San Francisco Bay, including Suisun, San Pablo, Honker, Richardson, San Rafael, San Leandro and Grizzly Bays and the Carquinez Strait, and some inland areas. It regulates all filling and dredging in San Francisco Bay (which includes San Pablo and Suisun Bays, sloughs and certain creeks and tributaries that are part of the Bay system, salt ponds and certain other areas that have been diked-off from the Bay), protects Suisun Marsh, regulates new development within the first 100 feet inland from the Bay, pursues an active planning program to study Bay issues, and engages in the region-wide state and federal program to prepare a Long Term Management Strategy for dredging and dredge material disposal in San Francisco Bay. Among its various responsibilities, the BCDC sponsors special programs that address climate change planning; subtidal habitat research, restoration, and management; and a long-term management strategy for the placement of dredged material in the San Francisco Bay region.	No	Yes	Yes	San Francisco Bay Conservation and Development Commission website. Site accessed November 7, 2020. URL = https://www.bcdc.ca.gov/aboutus/ .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
San Francisco Bay Mercury TMDL	San Francisco Bay Region Water Quality Control Board	San Francisco Bay is impaired because mercury contamination is adversely affecting existing beneficial uses, including sport fishing, preservation of rare and endangered species, and wildlife habitat. On February 12, 2008, the U.S. Environmental Protection Agency approved a Basin Plan amendment incorporating a TMDL for mercury in San Francisco Bay and an implementation plan to achieve the TMDL. The amendment was formerly adopted by the San Francisco Bay Water Board, the State Water Board, and the state Office of Administrative Law. It is now officially incorporated into the WQCP for the San Francisco Bay Basin (Basin Plan). The San Francisco Bay mercury TMDL, which includes the waters of the Delta within the San Francisco Bay region, is intended to (1) reduce mercury loads to achieve load and wasteload allocations; (2) reduce methylmercury production and consequent risk to humans and wildlife exposed to methylmercury; 3) conduct monitoring and focused studies to track progress and improve the scientific understanding of the system; and 4) encourage actions that address multiple pollutants. The implementation plan establishes requirements for dischargers to reduce or control mercury loads and identifies actions necessary to better understand and control methylmercury production. In addition, it addresses potential mercury sources and describes actions necessary to manage risks to Bay fish consumers. Load reductions are expected via the Delta Methylmercury TMDL (river source), plus urban runoff management, Guadalupe River mine remediation, municipal and industrial wastewater source controls and pretreatment, and sediment remediation.	Yes	Yes	Yes	SFBRWQCB. 2008. <i>Basin Plan Amendment</i> .
San Joaquin County Multi-Species Habitat Conservation and Open Space Plan	San Joaquin Council of Governments	Permitted in 2000, the key purpose of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan is to provide a strategy for balancing the need to conserve open space and the need to convert open space to non-open space uses. These goals are intended to be met while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the federal Endangered Species Act or the California Endangered Species Act; providing and maintaining multiple-	Yes	Yes	Yes	San Joaquin Council of Governments website. <i>Habitat</i> . Site accessed November 7, 2020. URL = https://www.sjcog.org/94/Habitat .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		use open spaces that contribute to the quality of life of the residents of San Joaquin County; and accommodating a growing population while minimizing costs to project proponents and society at large. The conservation strategy relies on minimizing, avoiding, and mitigating impacts on the species covered by the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan. Minimization of impacts on covered species takes a species-based approach emphasizing the measures to minimize incidental take by averting the actual killing or injury of individual covered species and minimizing impacts on habitat for such species on open space lands converted to non-open space uses. Unavoidable impacts on covered species are addressed through a habitat-based approach that emphasizes compensation for habitat losses through the establishment, enhancement and management-in-perpetuity of preserves composed of a specific vegetation types or association of vegetation types (habitats) upon which discrete groups of covered species rely. The purchase of easements from landowners willing to sell urban development rights is the primary method for acquiring preserves. The plan identifies zones distinguished by a discrete association of soil types, water regimes (e.g., Delta lands subject to tidal influence, irrigated lands, lands receiving only natural rainfall), elevation, topography, and vegetation types. In general, impacts within a particular zone are mitigated within the same zone.				
San Joaquin County General Plan Update	San Joaquin County	The San Joaquin County General Plan 2010 was adopted on July 29, 1992. The general plan provides guidance for future growth in a manner that preserves the county's natural and rural assets. Most of the urban growth is directed to existing urban communities. In December 2016, San Joaquin County began the process to update the 2008 general plan. The general plan update will provide the blueprint for growth in the county unincorporated areas through 2035.	Yes	Yes	Yes	San Joaquin County General Plan Update website. Community Development Department. Site accessed November 7, 2020. URL = https://www.sjgov.org/comdev/cgi-bin/cdyn.exe?grp=neighpresv&htm=generalplandef.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
San Joaquin County, Stockton, and Tracy Stormwater Management Programs	San Joaquin County (Department of Public Works), Stockton (Municipal Utilities Department), Tracy (Water Resources Department), and State Water Board	San Joaquin County has developed a Stormwater Management Program committed to protecting local rivers and the Delta by involving and educating residents in stormwater pollution prevention, regulating stormwater runoff from construction sites, investigating non-stormwater discharges, and reducing non-stormwater run-off from municipal operations. Storm drainage is conveyed via County storm drains to the Calaveras, Mokelumne, Old, and San Joaquin Rivers, where it ultimately flows into the Delta. Effective January 2021, San Joaquin County Department of Public Works and City of Stockton released a new Stormwater Quality Control Criteria Plan which outlines new guidelines for construction projects region-wide. In addition to the County program, several municipalities in San Joaquin County have developed stormwater management programs and obtained NPDES permits from the State Water Board. Permits issued for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities are typically issued to a group of co-permittees encompassing an entire metropolitan area. These permits are reissued as the permits expire. For smaller municipalities, the first 5-year term of the NPDES permits were adopted by the State Water Board in 2003 and expired on May 1, 2008. Under the General Permit, Section H.21, Continuation of Expired Permit, the General Permit continues in force and in effect until a new General Permit is issued or the State Water Board rescinds the General Permit. The goals of the City of Stockton's program are to reduce the degradation of the beneficial uses of the San Joaquin River and tributary streams and the regional groundwater aquifer caused by urban runoff in the metropolitan area of Stockton. The City of Tracy's NPDES permit requires the city to develop and implement a Storm Water Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable.	Yes	Yes	Yes	County of San Joaquin. September 2003. <i>Stormwater Management Plan</i>. City of Stockton. April 2009. <i>City of Stockton Stormwater Management Plan</i>. City of Tracy. September 2003. <i>Stormwater Management Program</i>. Site accessed November 7, 2020. URL = http://library.municode.com/HTML/16660/level2/TIT11PUUT_CH11.34STMADICO.html#TOPTITLE. San Joaquin County Flood Control & Water Conservation District website. <i>Stormwater Program</i>. Site accessed November 23, 2021. URL = http://www.sjwater.org/Stormwater-Management/Stormwater-Program.
Solano Multispecies	Solano County Water Agency	The Solano HCP is intended to support the issuance of an ITP under the federal Endangered Species Act for a period of 30 years. This permit is required by the March 19, 1999, Solano Project Contract Renewal	No	Yes	Yes	Solano County Water Agency website. <i>Habitat Conservation Plan Final</i>

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Habitat Conservation Plan		Biological Opinion between the USFWS and Reclamation. The scope of the Solano HCP was expanded beyond the requirements of the BiOp to include additional voluntary applicants and additional species for incidental take coverage. Thirty-seven (37) species are proposed to be covered under the Solano HCP. The minimum geographical area to be covered is the Solano County Water Agency's contract service area that is the cities of Fairfield, Vacaville, Vallejo, Suisun City, the Solano Irrigation District, and the Maine Prairie Water District. The area covered by the HCP is all of Solano County and a small portion of Yolo County. The Final Administrative Draft was submitted to the lead agencies in June 2009. The HCP includes a Coastal Marsh Natural Community Conservation Strategy designed to maintain the water and sediment quality standards, hydrology of this natural community; contribute to the restoration of tidally influenced coastal marsh habitat; and promote habitat connectivity. Primary conservation actions include preservation (primarily through avoidance), restoration, invasive species control, and improvement of water quality. The plan area covers 580,000 acres, which includes 12,000 acres of proposed development and 30,000 acres that will be preserved.				<i>Administrative Draft</i>. October 2012. Site accessed November 7, 2020. URL = https://www.scwa2.com/solano-multispecies-habitat-conservation-plan/.
Bay-Delta Water Quality Control Plan Update (San Joaquin River Flows and Southern Delta Salinity)	State Water Board	The State Water Board is updating the 2006 Bay-Delta WQCP in two separate processes (Plan Amendments). On December 12, 2018, through State Water Board Resolution No. 2018-0059, the State Water Board adopted the first Plan amendments and Final Substitute Environmental Document establishing the Lower San Joaquin River flow objectives and revised southern Delta salinity objectives. On February 25, 2019, the Office of Administrative Law approved the Plan amendments, which are now in effect.	Yes	Yes	Yes	State Water Resources Control Board website. Site accessed November 7, 2020. URL = http://www.swrcb.ca.gov/waterrights/water_issues/programs/bay_delta/.
Bay-Delta Water Quality Control Plan Update (Delta Outflows, Sacramento River)	State Water Board	The State Water Board is updating the 2006 Bay-Delta WQCP in two separate processes. The State Water Board is also considering plan amendments focused on the Sacramento River and its tributaries, Delta eastside tributaries (including the Calaveras, Cosumnes, and Mokelumne Rivers), Delta	No	No	Yes	State Water Resources Control Board website. Site accessed November 7, 2020. URL = http://www.swrcb.ca.gov/w

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
and Delta Tributary Inflows, Cold Water Habitat and Interior Delta Flows)		outflows, and interior Delta flows. The second plan amendment, currently in progress, focuses on the Sacramento River and its tributaries, Delta eastside tributaries (including the Calaveras, Cosumnes, and Mokelumne Rivers), Delta outflows, and interior Delta.				aterights/water issues/programs/bay delta/ .
California Water Boards' Strategic Plan Update – 2008-2012	State Water Board	The Strategic Plan Update broadly identifies the State Water Board's vision and direction for the future. It identifies goals intended to achieve that vision, which include: implementing strategies to fully support the beneficial uses for all 2006-listed water bodies; improving and protecting groundwater quality in high-use basins; increasing sustainable local water supplies available for meeting existing and future beneficial uses and ensuring adequate flows for fish and wildlife habitat; comprehensively addressing water quality protection and restoration in consideration of the connections between water quality, water quantity, and climate change, throughout California's water planning processes; improving Water Board transparency and accountability; enhancing consistency across the Water Boards; and ensuring that the Water Boards have access to information and expertise. The plan also identifies environmental priorities that focus on strategies for achieving environmental outcomes associated with protecting the State's surface waters and groundwaters and promoting sustainable water supplies. To better address the coordinated activities in the Bay-Delta, the State Water Board adopted Resolution 2007-0079 in 2007; similar resolutions were adopted by the San Francisco Bay and Central Valley regional water boards. In those resolutions, the Water Boards committed to ensure the protection of beneficial uses of water, and to the equitable administration of water rights in the Bay-Delta and its tributaries. A strategic work plan, completed in July 2008, describes the actions the Water Boards will undertake to protect beneficial uses of water in the Bay-Delta and the timelines and resource needs for implementing those actions. Workplan activities are divided into the nine broad elements covering a range of actions that (1) implement the Water Boards' core water quality responsibilities; (2) continue meeting prior Water Board commitments; (3) are responsive to priorities identified by the Governor and the Delta	Yes	Yes	Yes	State Water Resources Control Board website. Site accessed November 7, 2020. URL = http://www.swrcb.ca.gov/water issues/hot topics/strategic plan/.

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		Vision Blue Ribbon Task Force; and (4) build on existing processes, such as the BDCP. The Water Boards do not have the capacity or responsibility to conduct all the planning and implementation activities needed to protect and restore fisheries, aquatic habitats, and other beneficial uses in the Bay-Delta. Accordingly, the work plan identifies activities that will need to be coordinated with other efforts.				
Freshwater and Estuarine Harmful Algal Bloom Program	State Water Board	Assembly Bill (AB) 834 (Freshwater and Estuarine Harmful Algal Bloom Program), signed in September 2019, requires the State Water Board to establish a formal program to protect water quality and public health from harmful algal blooms in consultation with state and federal agencies, and California Native American Tribes. The major responsibilities under the bill include six components involving: event response, statewide assessment and monitoring, risk assessment, research, outreach and education, and reporting.	Yes	Yes	Yes	State Water Resources Control Board website. <i>Freshwater and Estuarine Harmful Algal Bloom (FHAB) Program</i> . Accessed May 9, 2023. https://www.waterboards.ca.gov/water_issues/programs/swamp/freshwater_cyanobacteria.html .
Financial Assistance Programs for Wastewater and Water Facilities for Small Communities	State Water Board and Department of Public Health	State Water Board Resolution No. 200800048 includes the Small Community Wastewater Strategy to assist small and/or disadvantaged communities with wastewater needs for training and funding. The Small Community Wastewater Grant Program and Clean Water State Revolving Fund Program provide grants, low-interest loans, and bonds for construction of wastewater facilities. The Department of Public Health Drinking Water State Revolving Fund provides grants and low-interest loans for disadvantaged and small communities. On February 19, 2013, the State Water Board approved a streamlined process.	Yes	Yes	Yes	State Water Resources Control Board website. Site accessed November 9, 2020. URL= http://www.waterboards.ca.gov/water_issues/programs/grants_loans/small_community_wastewater_grant/ .
Groundwater Ambient Monitoring and Assessment Program	State Water Board, Central Valley Regional Water Quality Control Board, and Department of Public Health	The State Water Board and/or Central Valley Regional Water Quality Control Board have an ongoing program to establish water quality objectives to protect beneficial uses of surface water and groundwater. Existing programs have focused on hazardous substances from landfills, waste disposal sites, fuel storage, and industrial facilities. The Groundwater Ambient Monitoring and Assessment program has been implemented to identify emerging pollutants and other constituents that affect drinking water quality. Currently, there is only one subbasin in the	Yes	Yes	Yes	State Water Resources Control Board website. Site accessed November 9, 2020. URL = http://www.waterboards.ca.gov/gama/ .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		Central Valley that is under study as priority basin (western San Joaquin Valley near Tracy). This program is being coordinated with the Department of Public Health California Drinking Water Source Assessment and Protection program that provides information to water users. Information from these programs is used by these agencies to establish cleanup programs to protect groundwater quality.				
Delta Water Supply Project	City of Stockton	The Delta Water Supply Project is a new supplemental water supply for the Stockton Metropolitan Area by diverting water from the Delta and conveying it through a pipeline to a surface water treatment plant, where it would be treated to the highest drinking water standards and distributed. Initially, the project would have the capacity to treat and deliver up to 30 mgd or 33,600 acre-feet of water per year, meeting approximately one third of Stockton's water needs.	Yes	Yes	Yes	CDM Smith website. Stockton Delta Water Project. Site accessed November 9, 2020. URL = https://cdmsmith.com/en/Client-Solutions/Projects/Stockton-Delta-Water-Project .
Battle Creek Salmon and Steelhead Restoration Project	Reclamation and State Water Board	Construction of the Battle Creek Salmon and Steelhead Restoration Project was initiated in 2009 reestablish approximately 42 miles of prime salmon and steelhead habitat on Battle Creek, plus an additional 6 miles on its tributaries. The species benefited by the project include the Central Valley spring-run Chinook salmon (state- and federally listed as threatened), the Sacramento River winter-run Chinook salmon (state- and federally listed as endangered), and the Central Valley steelhead (federally listed as threatened). Restoration of Battle Creek will be accomplished primarily through the modification of the Battle Creek Hydroelectric Project (FERC Project No. 1121) facilities and operations, including instream flow releases. Facility changes include the removal of five diversion dams and construction of fish ladders and fish screens at three diversion dams. PG&E is the owner and licensee of the Hydroelectric Project. Any changes to the Hydroelectric Project trigger the need for PG&E to seek a license amendment from FERC. The Restoration Project has been developed in collaboration with various resource agencies, including the USFWS, NMFS, CDFW, and the California Bay Delta Authority, and in conjunction with participation from the public,	No	Yes	Yes	Reclamation website. Site accessed November 9, 2020. URL = https://www.usbr.gov/mp/battlecreek/. Reclamation and SWRCB. 2005. Battle Creek Salmon and Steelhead Restoration Project final environmental impact statement/environmental impact report. July 2005. URL = http://www.usbr.gov/mp/epa/nepa_projdetails.cfm?Project_ID=99.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		including the Greater Battle Creek Watershed Working Group and the Battle Creek Watershed Conservancy.				
Delta Dredged Sediment Long-Term Management Strategy/Pinole Shoal Management Study	USACE	The Delta Dredged Sediment Long-Term Management Strategy is a cooperative planning effort to coordinate, plan, and implement beneficial reuse of sediments in the Delta. Five agencies (USACE, U.S. Environmental Protection Agency, DWR, California Bay Delta Authority, and the Central Valley Regional Water Quality Control Board) have begun to examine Delta dredging, reuse, and disposal needs. The strategy development process will examine and coordinate dredging needs and sediment management in the Delta to assist in maintaining and improving channel function (navigation, water conveyance, flood control, and recreation), levee rehabilitation, and ecosystem restoration. Agencies and interested parties will work cooperatively to develop a sediment management plan that is based on sound science and protective of the ecosystem, water supply, and water quality functions of the Delta. As part of this effort, the sediment management plan will consider regulatory process improvements for dredging and dredged material management so that project evaluation is coordinated, efficient, timely, and protective of Delta resources.	Yes	Yes	Yes	USACE website. <i>Pinole Shoal Management Study/Delta LTMS (O&M)</i> . Site accessed November 9, 2020. https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Projects-A-Z/Pinole-Shoal-Management-Study-Delta-LTMS-O-M-/ .
Lower San Joaquin	USACE	The Lower San Joaquin Feasibility Study is intended to determine if there is a federal interest in providing flood risk management and ecosystem restoration improvements along the Lower (northern) San Joaquin River. The Lower San Joaquin River study area includes the San Joaquin River from the Mariposa Bypass downstream to, and including, the city of Stockton. The study area also includes the channels of the San Joaquin River in the southernmost reaches of the Delta: Paradise Cut and Old River as far north as Tracy Boulevard and Middle River as far north as Victoria Canal. The floodplains of the lower San Joaquin River and its tributaries are also included in the study area. Additionally, studies have been funded by grants from the California Delta Conservancy and funds from Reclamation District Number 2062. Currently the effort is being led by the San Joaquin County Resource Conservation District, American Rivers, and the South Delta Water Agency,	No	Yes	Yes	San Joaquin Area Flood Control Agency website. Last updated 2009. URL = http://www.sjafca.com/lower_sj_river_feasibility.php . U.S. Army Corps of Engineers Lower San Joaquin River website. URL= https://www.spk.usace.army.mil/lower_sj_river/ . CEQAnet. Lower San Joaquin River Feasibility Study. Site

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		with the purpose of developing a mitigation strategy to consider and minimize the downstream effects of the future Paradise Cut Flood Bypass Expansion Project.				accessed November 9, 2020. URL = https://ceqanet.opr.ca.gov/2010012027/4. South Delta Water Agency website. Site accessed October 20, 2021. URL = https://southdeltawater.org/paradise-cut-expansion. Paradise Cut Conservation and Flood Management Project, Phase 2: Bond Accountability website. Site accessed October 20, 2021. URL = https://bondaccountability.resources.ca.gov/Project.aspx?ProjectPK=25976&PropositionPK=48.
Sacramento River Bank Protection Project	USACE	Originally authorized by Section 203 of the Flood Control Act of 1960, the Sacramento River Bank Protection Project is a long-term flood risk management project designed to enhance public safety and help protect property along the Sacramento River and its tributaries. While the original authorization approved the rehabilitation of 430,000 linear feet of levee, the 1974 Water Resources Development Act added 405,000 linear feet to the authorization and a 2007 bill authorized another 80,000 linear feet for a total of 915,000 linear feet of project. USACE is set to release a Post Authorization Change Report, including an EIS, to address the effects of the latest authorization. The USACE Sacramento District is responsible for implementation of the project in conjunction with its nonfederal partner, the California CVFPB. A Final Post Authorization Change Report and Final EIS/EIR were released in April and March 2020, respectively.	No	Yes	Yes	U.S. Army Corps of Engineers website. Site accessed April 2, 2021. URL = https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-River-Bank-Protection/.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Suisun Bay Channel Operations and Maintenance	USACE	The project is located 30 miles northeast of San Francisco and is part of the San Francisco Bay to Stockton Ship Channel. The project provides for annual maintenance dredging of the main channel, 300 feet wide and -35 feet deep at mean lower low water, from the Carquinez Strait at Martinez to Pittsburg (called Suisun Bay Channel), and maintenance dredging of New York Slough Channel farther upstream to Antioch (a distance of 17 miles). The project also provides annual maintenance dredging for a channel 250 feet wide and -20 feet deep south of Seal Islands, from the main channel at Point Edith to the main channel again at Port Chicago at mile 6.	Yes	Yes	Yes	USACE website. <i>Suisun Bay Channel Operations and Maintenance</i> . Site accessed November 9, 2020. URL = https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Projects-by-Category/Projects-for-Navigable-Waterways/Suisun-Bay-Channel---/ .
Suisun Channel (Slough) Operation and Maintenance	USACE	The Suisun Channel connects the City of Suisun near Fairfield, California to Grizzly Bay and thus to Suisun Bay 30 miles northeast of San Francisco. Project operations and maintenance provides for maintenance dredging of an entrance channel in Suisun Bay 200 feet wide and -8 feet deep, and thence a channel 100 to 125 feet wide and -8 feet deep for 13 miles to the head of navigation at City of Suisun, with a turning basin. This shallow draft channel is maintained on an infrequent basis.	Yes	Yes	Yes	USACE website. <i>Suisun Channel (Slough) Operations and Maintenance</i> . Site accessed November 9, 2020. URL = https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Projects-for-Navigable-Waterways/Suisun-Channel-Slough---/#::~:~:text=Project%20Operations%20and%20Maintenance%20(0%26M,8%20feet%20MLLW%2C%20and%20a
San Francisco Bay to Stockton Deep Water Ship Channel Project	USACE, Port of Stockton, and Contra Costa County Water Agency	The San Francisco Bay to Stockton Deep Water Ship Channel Project is a congressionally authorized project being implemented by USACE, the Port of Stockton, and Contra Costa County Water Agency. A joint EIS/EIR will evaluate the action of navigational improvements to the Stockton Deep Water Ship Channel. A General Reevaluation Report and EIS, both released in January 2020, determined the feasibility of modifying the current dimensions of the West Richmond, Pinole Shoal, Suisun Bay, and Stockton	No	No	Yes	USACE website. <i>San Francisco Bay to Stockton (JFB)</i> . Site accessed November 9, 2020. URL = https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Projects-by-Category/Projects-for-Navigable-Waterways/Suisun-Channel-Slough---/#::~:~:text=Project%20Operations%20and%20Maintenance%20(0%26M,8%20feet%20MLLW%2C%20and%20a

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		Ship Channels, which are currently maintained to 35 feet and provide access to oil terminals, industry in Pittsburg, and the Port of Stockton. The proposed action consists of altering the depth of the deep draft navigation route.				<u>Category/Projects-for-Navigable-Waterways/San-Francisco-Bay-to-Stockton-IFB-/-</u> .
Sacramento River Deep Water Ship Channel Project	U.S. Army of Corps of Engineers and Port of Sacramento	The Sacramento River Deep Water Ship Channel Project is a Congressionally authorized project being implemented by USACE and the Port of Sacramento. The proposed project would complete the deepening and widening of the navigation channel to its authorized depth of 35 feet. Deepening of the existing ship channel is anticipated to allow for movement of cargo via larger, deeper draft vessels. Widening portions of the channel would increase navigational safety by increasing maneuverability. The 46.5-mile-long ship channel lies within Contra Costa, Solano, Sacramento, and Yolo counties and serves the marine terminal facilities at the Port of Sacramento. The Sacramento Deep Water Ship Channel joins the existing 35-foot-deep channel at New York Slough, thereby affording the Port of Sacramento access to San Francisco Bay Area harbors and the Pacific Ocean. The project has been on hold since 2014.	No	No	Yes	USACE website. <i>Sacramento River Deep Water Ship Channel</i> . Site accessed November 9, 2020. URL = https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Projects-A-Z/Sacramento-River-Deep-Water-Ship-Channel-C/#:~:text=PROJECT%20LOCATION%20AND%20DESCRIPTION,harbors%20and%20the%20Pacific%20Ocean.
Shasta Lake Water Resources Investigation	Reclamation	The Shasta Lake Water Resources Investigation is currently being undertaken by Reclamation to determine the type and extent of federal interest in a multiple purpose plan to modify Shasta Dam and Reservoir to increase survival of anadromous fish populations in the upper Sacramento River; increase water supplies and water supply reliability to agricultural, municipal and industrial, and environmental purposes; and, to the extent possible through meeting these objectives, include features to benefit other identified ecosystem, flood damage reduction, and related water resources needs, consistent with the objectives of the CALFED Bay Delta Program. Anticipated alternatives for expansion of Shasta Lake include, among other features, raising the dam from 6.5 to 18.5 feet above current elevation, which would result in additional storage capacity of 256,000 to 634,000 acre-feet, respectively. The increased capacity is expected to improve water supply reliability and increase the coldwater pool, which would provide improved water temperature conditions for anadromous fish in the Sacramento River downstream of the dam.	No	No	Yes	Reclamation. 2015. <i>Final Feasibility Report and Appendices</i> . August. Site accessed November 9, 2020. URL = https://www.usbr.gov/mp/slwr/ Reclamation. 2015. <i>Final EIS and Appendices</i> . August. Site accessed November 9, 2020. URL = https://www.usbr.gov/mp/slwr/ .

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		Reclamation prepared a Draft Supplemental EIS to address new and updated information that has come available since the publication of the Final and Draft EIS. The draft supplemental includes updated information on the potential impacts of the project to waters of the United States, a revision of the wild and scenic river considerations for the McCloud River that refocuses on federal requirements, and updated modeling to reflect the operational changes to Shasta Dam in the 2019 BiOps issued by the USFWS and NMFS. The draft supplement was available for public comment through October 5, 2020.				
San Luis Reservoir Low Point Improvement	Reclamation, Santa Clara Valley Water District, and San Luis and Delta Mendota Water Authority	Reclamation and DWR jointly manage San Luis Reservoir for the purpose of storing and reregulating CVP and SWP water from the Delta. San Luis Reservoir is an off-stream water storage facility that stores water for both projects. In 2000, the CALFED Programmatic Record of Decision identified the need to resolve the low point problem to potentially increase use of water from San Luis Reservoir by up to 200,000 acre-feet. The San Luis Reservoir Low Point Project is designed to address water supply reliability issues in San Luis Reservoir that result when water levels fall below 369 feet above sea level (corresponding to a reservoir capacity of 300,000 acre-feet) and create water quality degradation that has the potential to interrupt a portion of the San Felipe Division's water supply. The term "low point" refers to a range of minimum pool elevations in San Luis Reservoir. During the late summer months if the reservoir elevation drops below 369 feet above sea level, the conditions in San Luis Reservoir promote the growth of algae in the reservoir. The water quality during the algal blooms is not suitable for agricultural water users with drip irrigation systems in San Benito County or municipal and industrial water users relying on existing water treatment facilities in Santa Clara County. The low point issue increases progressively as the reservoir continues to drop below elevation 369 feet. This creates a risk for the San Felipe Division contractors because they rely on San Luis Reservoir for receiving their CVP allocation.	No	No	Yes	Reclamation website. San Luis Reservoir Low Point Improvement Project. Site accessed November 10, 2020. URL = http://www.usbr.gov/mp/sllpp/index.html .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
San Luis Reservoir Expansion Project B.F. Sisk Dam Safety of Dams Modification Project	Reclamation, San Luis & Delta Mendota Water Authority DWR	In 2006 Reclamation initiated a Safety of Dams Corrective Action Study to determine actions to reduce seismic risks at the dam.	No	Yes	Yes	U.S. Bureau of Reclamation, Mid-Pacific Region. 2013. <i>San Luis Reservoir Expansion, Draft Appraisal Report, Central Valley Project, California</i> . December.
B.F. Sisk Dam Raise and Reservoir Expansion Project	Reclamation, San Luis & Delta Mendota Water Authority	The project will lower seismic risks and reduce downstream public safety concerns by raising the dam crest by 12 feet, adding shear-keys, and installing downstream stability dams to address bank instability during a seismic event. The Final EIS was released in August 2019, with a Record of Decision posted in December 2019. A supplemental EIS was released in July 2021 with a FONSI and signed in August 2021. Currently, the project is undergoing facility feasibility studies and reviews, final design, and economic, environmental, and geologic assessments. The final project is projected to cost 1.1 billion dollars.	No	No	Yes	Reclamation website. <i>B.F. Sisk Dam Raise and Reservoir Expansion Project</i> . Site accessed November 23, 2021. URL= https://www.usbr.gov/mp/sod/projects/sisk/ .
Delta-Mendota Canal Recirculation Feasibility Study	Reclamation and DWR	Delta Mendota Canal recirculation is a concept under study by Reclamation and DWR to augment San Joaquin River flows with Delta water to reduce salinity and to maintain adequate flows required for beneficial uses. To accomplish this, the study is investigating options for recirculating water pumped from the Jones Pumping Plant, located in the south Delta near Tracy, through the Delta Mendota Canal for release to the San Joaquin River. These releases would reach the San Joaquin River and eventually the south Delta via an existing wasteway or a yet to be identified route. The purpose of the study is to meet certain requirements of PL 108-361 and D-1641. The study has been proposed as a way “to provide flow, reduce salinity concentrations into the San Joaquin River, and reduce the reliance on the New Melones Reservoir for meeting water quality and fishery flow objectives through the use of excess capacity in export pumping and conveyance facilities” consistent with PL 108-361, Title 1, Section 103. A plan formulation report was released in January 2010 and updated in September 2010.	No	No	No	Reclamation website. Site accessed November 9, 2020. URL = http://www.usbr.gov/mp/dmcrecirc/index.html .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Sacramento Valley Water Management Plan	Reclamation and DWR	In 1997, the State Water Board issued a notice of the water rights hearings to allocate responsibility for meeting the 1995 Delta WQCP objectives. Because the issues were so complex, the State Water Board divided the water rights proceedings into eight phases. Phase 8 was to allocate responsibility for satisfying the flow-related water quality objectives of the 1995 Delta WQCP among water right holders in the watersheds of the Sacramento, Cosumnes, and Calaveras Rivers. To avoid the consequences of delay associated with resolving Phase 8 issues, over 40 water suppliers in the Sacramento Valley, DWR, Reclamation, and the Downstream Water Users developed a cooperative water management partnership to better manage water and provide a mechanism for satisfying Bay-Delta water quality and flow objectives. This partnership led to the development of the Short-Term Settlement Agreement, which continues the commitment of Reclamation and DWR to meet the State Water Board D-1641 flow-related standards and provides for a collaborative process among the parties to develop projects to meet water supply, water quality, and environmental needs in the Sacramento Valley, Bay-Delta, and throughout California. As a result of the parties' commitment, on January 31, 2003, the State Water Board dismissed Phase 8 of the Bay-Delta Hearings. The 2010/2011 Regional Water Management Plan Annual Update focused on changes to water management practices, monitoring programs, individual water budgets, and new and proposed projects. It also reviewed baseline conditions and Quantifiable Objectives and Targeted Benefits. As part of the agreement, 185,000 acre-feet of capacity is to be provided within 3 years of implementing the agreement to assist with meeting local and WQCP requirements as well as south of Delta needs. As part of the agreement, the parties agreed to further the objective to meet unmet water demands in the Sacramento Valley by providing at least 92,500 acre-feet, and up to a total of 185,000 acre-feet to support SWP and CVP water supplies during certain water year types. This would be accomplished through increased groundwater use and reservoir reoperation in lieu of river diversions.	No	No	No	Northern California Water Association website. <i>Sacramento Valley Water Management Agreement</i>. Site accessed November 9, 2020. URL = https://norcalwater.org/efficient-water-management/efficient-water-management-regional-sustainability/regional-planning/sacramento-valley-water-management-agreement/.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Upper San Joaquin River Basin Storage Investigation	Reclamation and DWR	The Upper San Joaquin River Basin Storage Investigation is intended to examine how Upper San Joaquin Storage can enhance the San Joaquin River restoration efforts and improve water supply reliability for agricultural, municipal and industrial, and environmental uses in the Friant Division, the San Joaquin Valley, and other regions of the state. The Investigation also will evaluate integration of conjunctive management and water transfer concepts into project formulations. Additional storage is also expected to provide flood damage reduction benefits. DWR, Reclamation, and their partners have developed a two-phase Plan of Study. Phase 1 will identify water resource opportunities and issues in the Upper San Joaquin River watershed. This phase will include an appraisal of opportunities to increase surface storage and conjunctive uses for groundwater. Phase 2 will be more detailed and will begin with public meetings to determine the scope of the study. DWR and Reclamation will work with the public and key local, state, and federal agencies, coordinate related activities, and present technical findings. Public involvement will be open and will guide the agencies' planning efforts. The objectives of the investigations are to: contribute to restoration of the San Joaquin River, improve water quality of the San Joaquin River, and facilitate additional conjunctive management and water exchanges that improve the quality of water deliveries to urban communities. To the extent possible, the Upper San Joaquin River Basin Storage Investigation will explore opportunities to provide other benefits that could include hydropower, flood control, and recreation. Reclamation released a Draft Feasibility Report and Draft EIS in 2014.	No	No	No	Reclamation. May 29, 2009. <i>Letter - Plan Formulation Report for the Upper San Joaquin River Basin Storage Investigation</i>. Reclamation and DWR. October 2008. <i>Upper San Joaquin River Basin Storage Investigation Plan Formulation Report</i>. Reclamation website. <i>Upper San Joaquin River Basin Storage Investigation</i>. Site accessed November 9, 2020. URL= https://www.usbr.gov/mp/scao/storage/.
Grassland Bypass Project	Reclamation and San Luis & Delta Mendota Water Authority	The purposes and objectives of the proposed continuation of the Grassland Bypass Project are: To extend the San Luis Drain Use Agreement in order to allow the Grassland Basin Drainers time to acquire funds and develop feasible drainwater treatment technology to meet revised Basin Plan objectives (amendment underway) and Waste Discharge Requirements;	Yes	Yes	Yes	USBR and SLDMWA. August 2009. <i>Grassland Bypass Project, 2010–2019 Final Environmental Impact Statement and Environmental Impact Report</i>. Reclamation. 2019. <i>10-Year Use Agreement for the San</i>

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		To continue the separation of unusable agricultural drainage water discharged from the Grassland Drainage Area from wetland water supply conveyance channels; and To facilitate drainage management that maintains the viability of agriculture in the project area and promotes continuous improvement in water quality in the San Joaquin River. The project would continue the present drainwater conveyance using the Drain with discharge of a portion of the collected drainwater to Mud Slough. New features include negotiation with Reclamation and other interested parties for a 2010 Use Agreement for the Drain, to include an updated compliance monitoring plan, revised selenium and salinity load limits, an enhanced incentive performance fee system, a new Waste Discharge Requirement from the Regional Board, and mitigation for continued discharge to Mud Slough. In-Valley treatment/drainage reuse at the San Joaquin River Water Quality Improvement Project facility would be expanded to 6,900 acres.				<i>Luis & Delta-Mendota Water Authority Long-Term Storm Water Management Plan for the Grasslands Drainage Area. Draft Environmental Assessment.</i> December. Site accessed December 8, 2021. URL= https://www.usbr.gov/mp/nepa/nepa_project_details.php?Project_ID=41544.
Agricultural Drainage Selenium Management Program Plan	Reclamation and San Luis & Delta-Mendota Water Authority	Impairment of water quality in the San Joaquin River, the Delta, and San Francisco Bay has resulted in the completion of a TMDL for selenium in the lower San Joaquin River, listing of the western Delta as having impaired water quality for selenium, and initiation of a TMDL study for selenium in North San Francisco Bay. The overall goal of the Agricultural Drainage Selenium Management Program is to minimize discharges of selenium in subsurface agricultural drainage from the western San Joaquin Valley to the river and downstream areas. Actions being taken include reduction in the generation of agricultural drainage containing elevated levels of selenium (through land and irrigation management practices) and limiting where and when the drainage water can be discharged.	Yes	Yes	Yes	CVRWQCB. 2001. <i>Total Maximum Daily Load for Selenium in the Lower San Joaquin River</i>. Sacramento, California. Staff Report. August. Reclamation and San Luis & Delta-Mendota Water Authority. 2008. <i>Grassland Bypass Project, 2010–2019 Environmental Impact Statement and Environmental Impact Report</i>. December. Reclamation. 2006. <i>San Luis Drainage Feature Re-evaluation Final Environmental Impact</i>

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
						<i>Statement</i>. May. Mid-Pacific Region, Sacramento, California. SFBRWQCB website. Site accessed November 9, 2020. URL = http://www.swrcb.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/seleniummdl.shtml. DWR website. <i>Agricultural Drainage</i>. Site accessed November 9, 2020. URL= https://water.ca.gov/Programs/All-Programs/Agricultural-Drainage.
Anadromous Fish Screen Program	Reclamation and USFWS	The primary objective of the Anadromous Fish Screen Program is to protect juvenile Chinook salmon (all runs), steelhead, green and white sturgeon, striped bass, and American shad from entrainment at priority diversions throughout the Central Valley. Section 3406 (b)(21) of the CVP Improvement Act requires the Secretary of the Interior to assist the State of California in developing and implementing measures to avoid losses of juvenile anadromous fish resulting from unscreened or inadequately screened diversions on the Sacramento and San Joaquin Rivers, their tributaries, the Delta, and the Suisun Marsh. Additionally, all Anadromous Fish Screen Program projects meet Goal 3 of the CALFED Ecosystem Restoration Program Draft Stage 1 Implementation Plan.	Yes	Yes	Yes	USFWS website. <i>The Anadromous Fish Screen Program</i> . Site accessed November 10, 2020. URL = http://www.fws.gov/cno/fisheries/cvpia/AnadromFishScreen.cfm .
Folsom Dam Safety and Flood Damage Reduction Project	Reclamation, USACE, Sacramento Area Flood Control	The project represents a coordinated effort among the Reclamation and USACE to address dam safety and enhanced flood control at Folsom Dam. The project includes the Joint Federal Project Auxiliary Spillway, seismic improvements to the Main Concrete Dam and Mormon Island Auxiliary Dam, static improvements to earthen structures, security upgrades,	Yes	Yes	Yes	USBR, USACE, SAFCA, and CVFPB. March 2007. <i>Folsom Dam Safety and Flood Damage Reduction Final Environmental Impact</i>

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
	Agency, and CVFPB	replacement of the Main Concrete Dam spillway gates, and a 3.5-foot raise to all Folsom Facility structures. Construction on the auxiliary spillway began in 2008 and was mostly completed in 2017. The modifications to the dam allow for the release of water sooner than is now possible, with the potential for higher releases should the downstream levees be improved to accommodate the increased flows. These larger, earlier releases from Folsom Reservoir would create and conserve flood storage space based on projected reservoir inflows resulting from a major storm impacting the upper American River watershed. However, the modifications would be operated using existing criteria until the completion of a revised Folsom Water Control manual and supporting supplemental environmental compliance documentation. The manual would be completed one year prior to completion of proposed structural modifications at Folsom Dam and Reservoir, at which time the full potential benefits of the proposed modifications would be realized. In April 2020, the USACE, Sacramento District USACE intended to prepare a Draft Supplemental Joint EIS/EIR for the 2007 Folsom Dam Safety and Flood Damage Reduction EIS/EIR and the 2017 Folsom Dam Raise Project Final Supplemental EIS/EIR.				<i>Statement/Environmental Impact Report.</i> Reclamation website. <i>Folsom Dam Safety and Flood Damage Reduction Project</i>. Site accessed November 10, 2020. URL= https://www.usbr.gov/mp/sod/projects/folsom/.
San Joaquin River Restoration Program	Reclamation, USFWS, NMFS, DWR, and CDFW	The San Joaquin River Restoration Program is a comprehensive long-term effort to restore flows to the San Joaquin River from Friant Dam to the confluence of Merced River and restore a self-sustaining Chinook salmon fishery in the river while reducing or avoiding adverse water supply impacts from restoration flows. The restoration program is the product of more than 18 years of litigation, which culminated in a Stipulation of Settlement on the lawsuit known as NRDC, et al. v. Kirk Rodgers, et al. The settling parties reached agreement on the terms and conditions of the settlement, which was subsequently approved by Federal Court on October 23, 2006. The settling parties include the Natural Resources Defense Council, Friant Water Users Authority, and the U.S. Departments of the Interior and Commerce. The settlement's two primary goals are to:	Yes	Yes	Yes	San Joaquin River Restoration Program website. Site accessed November 10, 2020. URL = http://www.restoresjr.net/. National Marine Fisheries Service website. <i>San Joaquin River Restoration</i>. Site accessed July 28, 2021. URL = https://www.fisheries.noaa.gov/west-coast/habitat-conservation/san-joaquin-river-restoration.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		(1) Restore and maintain fish populations in “good condition” in the main stem of the San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish; and (2) Reduce or avoid adverse water supply impacts to all the Friant Division long-term contractors that may result from the Interim Flows and Restoration Flows provided for in the settlement. The settlement requires specific releases of water from Friant Dam to the confluence of the Merced River, which are designed primarily to meet the various life stage needs for spring- and fall-run Chinook salmon. The release schedule assumes continuation of the current average Friant Dam release of 116,741 acre-feet, with additional flow requirements depending on the year type. Interim flows began in October 2009, and full restoration flows would begin no later than January 2014. Salmon will be reintroduced in the upper reaches no later than December 31, 2012. There are many physical improvements within and near the San Joaquin River that will be undertaken to fully achieve the river restoration goal. The improvements will occur in two separate phases that will focus on a combination of water releases from Friant Dam, as well as structural and channel improvements. A Fisheries Management Plan, Framework, and Monitoring Plan have also been developed from 2010 to 2018 to support establishing self-sustaining spring-run and fall-run Chinook. The project was authorized and funded with the passage of San Joaquin River Restoration Settlement Act, part of the Omnibus Public Land Management Act of 2009 (Public Law 111-11).				
Ballast Water Management Program	U.S. Coast Guard (Coast Guard)	In July 2004, the Coast Guard established a ballast water management program for all vessels equipped with ballast water tanks that enter or operate within U.S. waters. This program requires vessels to maintain a ballast water management plan that is specific for that vessel and allows any master or appropriate official to understand and execute the ballast water management strategy for that vessel. The Coast Guard may impose a civil penalty if ships headed to the U.S. fail to submit a ballast water management reporting form.	Yes	Yes	Yes	U.S. Coast Guard website. <i>Ballast Water Management</i> . Site accessed November 10, 2020. URL = https://www.dco.uscg.mil/Our-Organization/Assistant-Commandant-for-Prevention-Policy-CG-

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		The National Invasive Species Act (NISA) required the Coast Guard to establish national voluntary ballast water management guidelines. If the guidelines were deemed inadequate, NISA directed the Coast Guard to convert them into a mandatory national program. To comply with NISA, the Coast Guard has established both regulations and guidelines to prevent the introduction of these species because the original voluntary guidelines were deemed inadequate prior to establishing the regulations.				<u>5P/Commercial-Regulations-standards-CG-5PS/Office-of-Operating-and-Environmental-Standards/Environmental-Standards/General-Information/</u> .
2019 NMFS Biological Opinion on the Long-term Operations of the Central Valley Project and State Water Project	U.S. Department of Commerce, NMFS, Reclamation, and DWR	On October 21, 2019, NMFS issued a final BiOp finding that continued operations of the CVP/SWP is not likely jeopardize several listed species, including Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, Southern Distinct Population Segment of North American green sturgeon, and Southern Resident killer whales. The BiOp effective through December 31, 2030. In its final 2009 BiOp, NMFS identified an RPA that, if implemented, is believed to avoid the likelihood of jeopardizing the continued existence of these listed species. Reclamation's 2019 proposed action includes changes that have similar objectives or goals as the 2009 RPA. The following summarizes the actions identified in the RPA that would be undertaken by Reclamation and/or DWR. • Manage water temperature and water storage in Shasta Reservoir to benefit winter-run Chinook salmon in the Sacramento River. • Provide flows and adequate water temperatures in Clear Creek to benefit spring-run Chinook salmon. • Improve juvenile salmonids rearing habitat in the lower Sacramento River and northern Delta. • Improve survival of migrating juveniles by implementing additional gate closures at the Delta Cross Channel. • Limit the strength of reverse flows in Old and Middle Rivers to reduce entrainment of juvenile fish into the state and federal export facilities in the south Delta. • Implement facility improvements at the state and federal export facilities to increase fish survival.	Yes	Yes	Yes	NMFS. 2019. <i>Biological Opinion on the Long-Term Operations of the Central Valley Project and State Water Project</i> . October 21, 2009.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		• Implement measures, including a fish study using acoustic tags, to improve the ability to increase survival of juvenile steelhead migrating from the San Joaquin River basin. • Implement a flow management standard, temperature management plan, and facility modifications to improve conditions for steelhead in the American River. • Implement a new year-round minimum flow regime that improves conditions for steelhead in the Stanislaus River. • Complete a Hatchery Genetic Management Plan to increase and stabilize the prey base for Southern Resident killer whales. • Provide long-term fish passage at Keswick and Shasta dams on the Sacramento River, Nimbus and Folsom dams on the American River, and New Melones Dam on the Stanislaus River. The final BiOp also identified research, monitoring, and reporting requirements.				
2019 USFWS Biological Opinion on the Long-Term Operations of the Central Valley Project and State Water Project (delta smelt)	Reclamation, USFWS, and DWR	On October 21, 2019, USFWS delivered its BiOp to Reclamation on the effects of the continued operation of the federal CVP and the SWP on the delta smelt and its designated critical habitat. USFWS determined that the continued operation of these two water projects is not likely to jeopardize the continued existence of the delta smelt and is not likely to destroy or adversely modify its critical habitat. The 2008 BiOp RPA included actions to reduce entrainment, provide for increased high quality low-salinity habitat in certain year types, create additional subtidal habitat and monitor ongoing operations. The current proposed action includes similar actions to the RPA to address entrainment risk, reduced habitat quality, and habitat restoration as articulated in the Effects Analysis. The proposed action addresses the stressors identified in 2008 RPA and in the Effects Analysis in a manner that is protective of delta smelt.	Yes	Yes	Yes	USFWS. 2019. <i>Biological Opinion for the Reinitiation of Consultation on the Coordinated Operations of the Central Valley Project (CVP) and State Water Project (SWP)</i> . Sacramento, California.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
North American Waterfowl Management Plan	USFWS	The North American Waterfowl Management Plan, a collaboration of Canada, the United States, and Mexico to enhance waterfowl populations, was originally written in 1986 and envisioned as a 15-year effort to achieve landscape conditions that could sustain waterfowl populations. The plan has been modified twice since the 1986 Plan to account for biological, sociological, and economic changes that influence the status of waterfowl and the conduct of cooperative habitat conservation. This 2018 Plan Update presents examples of progress toward achieving the goals of the 2012 Revision. It also establishes important groundwork for incorporating an understanding of people's relationship with nature into the North American waterfowl conservation enterprise.	Yes	Yes	Yes	USFWS. 2018. <i>North American Waterfowl Management Plan Update: Connecting People, Waterfowl and Wetlands</i> . Site accessed November 10, 2020. URL= https://www.fws.gov/migratorybirds/pdf/management/NAWMP/2018NAWMP.pdf .
Stone Lakes National Wildlife Refuge Comprehensive Conservation Plan	USFWS	USFWS published a final Comprehensive Conservation Plan for Stone Lakes National Wildlife Refuge in January 2007 to describe the selected alternative for managing Stone Lakes National Wildlife Refuge for the next 15 years. The refuge is located about 10 miles south of Sacramento, straddling I-5 and extending south from Freeport to Lost Slough. Under the plan, the Refuge will continue its focus of providing wintering habitat for migratory birds and management to benefit endangered species. Management programs for migratory birds and other Central Valley wildlife will be expanded and improved and public use opportunities will also be expanded. The number of refuge units open to the public will increase from one to five. In addition, environmental education, interpretation, wildlife observation, wildlife photography, hunting, and fishing programs will be expanded. The plan achieves the refuge's purposes, vision, and goals; contributes to the Refuge System mission; addresses the significant issues and relevant mandates; and is consistent with principles of sound fish and wildlife management.	Yes	Yes	Yes	USFWS. January 2007. <i>Stone Lakes National Wildlife Refuge Comprehensive Conservation Plan</i> . Site updated on February 5, 2019. Site accessed November 10, 2020. URL = https://www.fws.gov/refuge/Stone Lakes/what we do/planning.html .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Recovery Plan for the Sacramento-San Joaquin Delta Native Fishes	U.S. Fish and Wildlife Service	The recovery plan addresses the recovery needs for several fishes that occupy the Delta, including delta smelt, Sacramento splittail, longfin smelt, green sturgeon, Chinook salmon (spring-run, late fall-run, and San Joaquin fall-run), and Sacramento perch (believed to be extirpated). The objective of the plan is to establish self-sustaining populations of these species that will persist indefinitely. This would be accomplished by managing the estuary to provide better habitat for aquatic life in general and for the fish addressed by the plan. Recovery actions include tasks such as increasing freshwater flows; reducing entrainment losses to water diversions; reducing the effects of dredging, contaminants, and harvest; developing additional shallow-water habitat, riparian vegetation zones, and tidal marsh; reducing effects of toxic substances from urban non-point sources; reducing the effects of introduced species; and conducting research and monitoring.	Yes	Yes	Yes	U.S. Department of the Interior, Fish and Wildlife Service, 1996. <i>Recovery Plan for the Sacramento/San Joaquin Delta Native Fishes</i> . November.
San Joaquin Basin Action Plan	Reclamation, USFWS, and CDFW	The San Joaquin Basin Action Plan is a cooperative agreement between Reclamation, USFWS, and CDFW to jointly develop a habitat acquisition and wetland enhancement project on approximately 23,500 acres of lands within the Northern San Joaquin River Basin. The plan was created in 1989 to meet Kesterson Reservoir mitigation needs. Water supply for Level 4 will be acquired under CVPIA Section 3406(d)(5).	Yes	Yes	Yes	Reclamation website. <i>Environmental Documents for Section 3406(d) water</i> . Site accessed November 10, 2020. URL = http://www.usbr.gov/mp/cvpia/3406d/env_docs/index.html .
Lower American River Temperature Reduction Modeling Project	USFWS, Anadromous Fish Restoration Program; Reclamation; Sacramento Water Forum	The objective of the Lower American River Temperature Reduction Modeling Project is to develop predictive tools that will: (1) Reduce uncertainties in the performance of identified temperature control actions that could be implemented to improve the management of cold-water resources in the Folsom/Natoma Reservoir system and the lower American River, and (2) Be available for daily operations, planning, and salmon and steelhead habitat studies by other project operators and other interested parties. The project adapted, calibrated, and verified existing thermodynamic and hydrologic mathematical models for application at Folsom Reservoir, Lake Natoma and the lower American River. The models were used to assess	Yes	Yes	Yes	Reclamation, USFWS, and Sacramento Water Forum. 2007. <i>Temperature Modeling of Folsom Lake, Lake Natoma, and the Lower American River</i> . Prepared by the Bureau of Reclamation Technical Service Center. April 2007. Site accessed November 10, 2020. URL = https://www.usbr.gov/tsc/t

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		the effectiveness of the identified actions individually and in combination in order to support a recommendation as to the development and implementation of one or more actions for the purpose of reducing temperatures in the lower American River. The actions identified to improve transport of cold water through Lake Natoma and reduce the temperature of the lower American River included: a Nimbus Dam curtain, a Lake Natoma plunge zone curtain, Nimbus powerplant debris wall removal, dredging Lake Natoma, and modifying Folsom Powerplant peak loading operation.				echreferences/hydraulics_lab/pubs/PAP/PAP-1084.pdf . Water Forum. 2019. LAR FISH Plan Action Update. Draft. Site accessed November 10, 2020. URL = https://www.waterforum.org/wp-content/uploads/2019/08/FISH-Plan-2019-Action-Update-Draft-Report-8.219.pdf .
Delta Fish Species Conservation Hatchery	USFWS, Reclamation, DWR, and CDFW	Reclamation proposes to partner with DWR to construct and operate a conservation hatchery for Delta smelt at Rio Vista by 2030. The conservation hatchery would breed and propagate a stock of fish with equivalent genetic resources of the native stock and at sufficient quantities to effectively augment the existing wild population, so that they can be returned to the wild to reproduce naturally in their habitat. Federal agencies expect to partner with the State and local agencies in conducting initial engineering design, site demolition and preparation activities, planning and environmental compliance consultation, and other activities. In addition to the conservation hatchery, DWR commits continued support of the operation and research being conducted by the University of California, Davis, Fish Conservation and Culture Laboratory (FCCL) at the existing facility in Byron, CA and a smaller population at the FCCL at Livingston Stone National Fish Hatchery in Shasta, CA.	No	Yes	Yes	U.S. Fish and Wildlife Service website. <i>Bay-Delta Fishery Resources</i> . Site accessed November 30, 2021. URL = https://www.fws.gov/sfbaydelta/Fisheries/FisheryResources/Index.htm .
UCD Fish Conservation and Cultural Lab	University of California, Davis, DWR, and Reclamation	The University of California, Davis (U.C. Davis) and DWR, working with federal agencies, operates a program to spawn and rear delta smelt for scientific studies, and develops and improves cultural methods for delta and longfin smelt.	Yes	Yes	Yes	UC Davis website. <i>Fish Conservation and Culture Laboratory</i> . Site accessed November 10, 2020. URL = https://fccl.ucdavis.edu/ .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Lower American River Flow Management Standard Implementation	Water Forum and Reclamation	Lower American River flow criteria in the NMFS BiOp described above were developed based on information prepared by the Water Forum and Reclamation, along with the participation of the USFWS, NMFS, and CDFW. The Water Forum has prepared a Draft EIR to reach consensus on the substance of the flow management standard to be included in a joint petition to the State Water Board to amend Reclamation's water right permits. Through management of water temperature and flow, the flow management standard is intended to improve the condition of aquatic resources in the lower American River, particularly fall-run Chinook salmon and steelhead. In addition, the flow management standard would benefit other fish species, the aquatic environment, and the riparian ecosystem of the lower American River corridor. Biological monitoring activities designed to support the flow management standard are currently being conducted by Reclamation and CDFW.	Yes	Yes	Yes	U.S. Bureau of Reclamation website. Site accessed November 11, 2020. URL = http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=23261 . Water Forum. December 2008. <i>Flow Management Standard Program: Implementation Plan</i> .
West Sacramento Levee Improvements Program	West Sacramento Area Flood Control Agency and USACE	The West Sacramento Levee Improvements Program (WSLIP) would construct improvements to the levees protecting West Sacramento to meet local and federal flood protection criteria. The program area includes the entire WSAFCA boundaries which encompasses portions of the Sacramento River, the Yolo Bypass, the Sacramento Bypass, and the Sacramento Deep Water Ship Channel. The levee system associated with these waterways includes over 50 miles of levees in Reclamation Districts 900, 537, and 811; DWR's Maintenance Area 4; and the Deep Water Ship Channel. These levees surround the West Sacramento. For the purposes of this program, the levees have been generally divided into the nine reaches: Sacramento River Levee North, Sacramento River Levee South, Port North Levee, Port South Levee, South Cross Levee, Deep Water Ship Channel Levee East, Deep Water Ship Channel Levee West, Yolo Bypass Levee, and Sacramento Bypass Levee.	Yes	Yes	Yes	USACE website. <i>West Sacramento General Reevaluation Report</i> . Site accessed November 11, 2020. URL = https://www.spk.usace.army.mil/Missions/Civil-Works/West-Sacramento/ .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Yolo County Habitat/Natural Community Conservation Plan	Yolo Habitat Conservancy	The Yolo Habitat Conservancy, a Joint Powers Authority, launched the Yolo Natural Heritage Program in March 2007. This effort includes the continuing preparation of a joint HCP/ Natural Community Conservation Plan (HCP/NCCP). Member agencies include Yolo County, City of Davis, City of Woodland, City of West Sacramento, and City of Winters. The HCP/NCCP describes the measures that local agencies will implement to conserve biological resources, obtain permits for urban growth and public infrastructure projects, and continue to maintain the agricultural heritage and productivity of the county. The nearly 653,549-acre planning area provides habitat for covered species occurring within five dominant habitats/natural communities. The plan proposes to address 12 covered species, including seven state-listed species: palmate-bracted bird's beak, giant garter snake, Swainson's hawk, western yellow-billed cuckoo, and bank swallow. The Yolo Habitat Conservancy also consults regularly with CDFW and USFWS, as well as the Conservancy's Advisory Committee and other partners.	Yes	Yes	Yes	Yolo Habitat Conservancy website. <i>Yolo HCP/NCCP</i> . Site accessed November 11, 2020. URL = https://www.yolohabitatconservancy.org/about/ .
Yolo County Stormwater Management Program	Yolo County, Public Works Division	The Yolo County Stormwater Management Program is composed of six elements: Public Education and Outreach, Public Involvement and Participation, Illicit Discharges, Construction Activities, New Development and Redevelopment, and County Operations. The program provides education, opportunities for participation, requires permanent stormwater best management practices for major development, implements improved control measures at county facilities, and delineates responsibilities. The program was adopted by the Yolo County Board of Supervisors in 1994.	Yes	Yes	Yes	Yolo County. 2003. <i>Stormwater Management Program (SWMP) Planning Document</i> . Revised October 2004.
Franklin Bulk Substation	Sacramento Municipal Utility District	This project will construct a new distribution substation with a breaker and a half bus configuration. In addition, the Rancho Seco-Pocket 230 kilovolt No. 1 Line will be looped into the substation and 2-16.2 MVar of capacitor banks will be installed. The substation will include 5-230 kilovolt circuit breakers and a single 230/69 kilovolt transformer, rated at 224 MVA.	No	Yes	Yes	CEQAnet. <i>SMUD Franklin Electric Transmission Project Initial Study and Mitigated Negative Declaration Addendum</i> . Site accessed November 11, 2020. URL=

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
						https://ceqanet.opr.ca.gov/2016042050/3 .
SBX7 7 Water Conservation Act of 2009	California State Administration	The administration expanded existing programs to provide technical assistance, shared data and information, and incentives to urban and agricultural local and regional water agencies, as well as local governmental agencies, to promote agricultural and urban water conservation in excess of the amounts envisioned by SBX7 7. The administration works collaboratively with interested parties to identify and remove impediments to achieving statewide conservation targets, recycling and stormwater goals; to evaluate and update targets for additional water use efficiency, including consideration of expanding the 20 percent by 2020 targets by holding total urban water consumption at 2000 levels until 2030, achieving even greater per capita reductions in water use. The administration also works with local and regional entities to develop performance measures to evaluate agricultural water management.	Yes	Yes	Yes	DWR website. <i>SB X7-7</i> . Site accessed November 11, 2020. URL= https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-X7-7 .
Klamath Basin Restoration Agreement	Klamath Basin interested parties	In April 2016, the U.S. Department of the Interior, U.S. Department of Commerce, PacifiCorp, and the States of Oregon and California signed an agreement that, following a process administered by FERC, is expected to remove four dams on the Klamath River by 2020, amounting to one of the largest river restoration efforts in the nation. State and federal officials also signed a separate agreement with irrigation interests and other parties known as the 2016 Klamath Power and Facilities Agreement. This agreement will help Klamath Basin irrigators avoid potentially adverse financial and regulatory impacts associated with the return of fish runs to the Upper Klamath Basin, which are anticipated after dams are removed. CDFW and the Natural Resources Agency will continue to work with diverse interested parties to implement the Klamath Basin restoration and settlement agreements. Those agreements include measures to improve water quality in the Klamath River, restore anadromous fish runs, including Chinook and Coho salmon, and improve water reliability for agricultural and other uses by providing a drought planning mechanism for low water years. The administration will work with Congress to secure	No	No	Yes	DOI website. <i>Press releases. Two New Klamath Basin Agreements Carve out Path for Dam Removal and Provide Key Benefits to Irrigators</i> . April 6, 2016. Site accessed November 11, 2020. URL= https://www.doi.gov/pressreleases/two-new-klamath-basin-agreements-carve-out-path-dam-removal-and-provide-key-benefits .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		the necessary federal authorizations for the agreements and secure the necessary funding for removal of four hydroelectric dams on the Klamath River and funding for the necessary basin restoration.				
Sites Reservoir/North of the Delta Offstream Storage	Sites Reservoir Authority	By operating in conjunction with other California reservoirs, Sites Reservoir substantially increases water supply flexibility, reliability, and resiliency in drier years. Sites Reservoir is the only proposed storage facility in the State of California that will help with statewide operational effectiveness of the SWP and CVP. Located 10 miles west of the town of Maxwell in rural Glenn and Colusa counties, Sites Reservoir would be an off-stream storage facility that captures and stores stormwater flows in the Sacramento River for release in dry and critical years for environmental use and for California communities, farms, and businesses when it is so desperately needed.	No	No	Yes	Sites Project website. Site accessed November 11, 2020. URL= https://sitesproject.org/ .
Sustainable Groundwater Management Act	State Water Board, California Department of Toxic Substances Control, DWR	DWR has developed a Strategic Plan for its Sustainable Groundwater Management Program. The program will implement the new and expanded responsibilities identified in the 2014 Sustainable Groundwater Management Act. Some of these expanded responsibilities include: (1) developing regulations to revise groundwater basin boundaries; (2) adopting regulations for evaluating and implementing Groundwater Sustainability Plans and coordination agreements; (3) identifying basins subject to critical conditions of overdraft; (4) identifying water available for groundwater replenishment; and (5) publishing best management practices for the sustainable management of groundwater.	Yes	Yes	Yes	DWR. <i>Sustainable Groundwater Management Act (SGMA)</i> . Site accessed July 29, 2021. URL = https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Delta Science Plan	Delta Plan Interagency Implementation Committee	The 2019 Delta Science Plan is the first comprehensive update to the 2013 Delta Science Plan. As with the 2013 document, the update process took on an open, transparent, and inclusive approach involving input from a diverse range of federal and state agencies, interested parties, academia, and the public. The actions identified in this updated Plan are intended to promote more forward looking and nimble science and management efforts. They address how to use open and transparent processes to prioritize science activities, determine how these can be carried out effectively and efficiently, and identify how the resulting information is best communicated to those who need it.	Yes	Yes	Yes	<i>The 2019 Delta Science Plan</i> . Site accessed November 11, 2020. URL = https://deltascienceplan.deltacouncil.ca.gov/ .
Twitchell Island-San Joaquin Setback Levee Project	DWR	This project would stabilize a threatened section of levee along the San Joaquin River while also creating different habitat types of waterside features to be constructed. In 2000, 2,200 linear feet of the waterside levee was re-contoured and replanted with native vegetation to create shaded riverine aquatic habitat. Additional riparian habitat, intertidal habitat, upland vegetation, and waterside beaches, benches, and undulations are planned in conjunction with an additional 23,000-foot setback along the San Joaquin River.	No	Yes	Yes	DWR website. <i>California EcoRestore</i> . Site accessed November 30, 2021. URL = https://resources.ca.gov/CNRALegacyFiles/docs/ecorestore/projects/Twitchell_Island-SJ_River_Setback_Levee.pdf .
Twitchell Island Mitigation Enhancement Site	DWR	The Twitchell Island Mitigation Enhancement Site is currently in pre-project maintenance, with work on the planting plan and freshwater marsh to begin in 2022. After establishment, the project will contribute 110 advanced mitigation acres to Delta Levee Program participants, and the 70 enhancement acres will continue its current lease.	No	Yes	Yes	DWR website. Delta Ecosystem Enhancement Advance Mitigation. Site accessed October 25, 2021. URL = https://water.ca.gov/Programs/Integrated-Regional-Water-Management/Delta-Ecosystem-Enhancement-Program/Delta-Ecosystem-Enhancement-Advance-Mitigation .
Grizzly Slough Floodplain Project	DWR	The Grizzly Slough Floodplain Restoration Project is one of two main elements of the North Delta Flood Control and Ecosystem Restoration	Yes	Yes	Yes	DWR website. <i>North Delta Program</i> . Site accessed

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
at the Cosumnes River Preserve		Project that consists of flood management and habitat improvements where the Mokelumne River, Cosumnes River, Dry Creek and Morrison Creeks converge. Flood flows and high-water conditions in this area threaten levees, bridges, and roadways. The North Delta project will reduce flooding and provide contiguous aquatic and floodplain habitat along the downstream portion of the Cosumnes Preserve by modifying levees on Grizzly Slough. Benefits to ecosystem processes, fish and wildlife, will be achieved by recreating floodplain seasonal wetlands and riparian habitat on the Grizzly Slough proper. As of July 28, 2021, the grantee was securing final permits and subcontractors prior to construction.				November 11, 2020. URL= https://water.ca.gov/Programs/Flood-Management/Delta-Conveyance-And-Flood-Protection/North-Delta-Program. <i>California EcoRestore fact sheet. Grizzly Slough Floodplain Project.</i> Site accessed November 11, 2020. URL = https://resources.ca.gov/CNRALegacyFiles/docs/ecorestore/projects/Grizzly Slough Floodplain Project.pdf. Proposition 1 Ecosystem Restoration and Water Quality Grant Program Update Staff Report. July 28, 2021. URL = http://deltaconservancy.ca.gov/wp-content/uploads/2021/07/AI-7.1-Proposition-1-Program-Update-7-28-21.pdf.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Lower Putah Creek Realignment	CDFW	One of six separate projects identified and implemented to carry out the RPA Actions in the 2009 NMFS BiOp specific to the Yolo Bypass. The project will restore 300-700 acres of tidal freshwater wetlands, creating 5 miles of a new fish channel, improving anadromous fish access to 25 miles of stream, and restoring at least 5,000 square feet of salmon spawning habitat. Connectivity between these habitats will enhance salmonid in migration and spawning as well as rearing and outmigration conditions for smolts. The project will achieve this objective by enhancing habitat within Lower Putah Creek to support the recovery of local fall-run Chinook salmon, steelhead, and Sacramento splittail populations. This project has been identified as one of the projects that will be implemented under California EcoRestore.	No	Yes	Yes	DWR. <i>EcoRestore 5-year fact sheet</i>. Site accessed November 11, 2020. URL= https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/EcoRestore/EcoRestore-5YR-Fact-Sheet_ay20.pdf?la=en&hash=BF60A28CC870C32351F807CC11D5C1E35BAC5461.
Wallace Weir Improvements and Tule Canal Agricultural Crossings	Reclamation District 108, Reclamation, and DWR	One of six separate projects identified and implemented to carry out the RPA Actions in the 2009 NMFS BiOp specific to the Yolo Bypass. The project replaced the seasonal earthen dam at Wallace Weir with a permanent, operable structure that would provide year-round operational control. The project also includes a fish rescue facility that would return fish back to the Sacramento River. Wallace Weir has been treated as a common element to the larger habitat restoration and fish passage projects included in the 2009 NMFS BiOp. This project serves primarily as a fish passage improvement action that will prevent upstream migration of straying adult salmonids and sturgeon into the Colusa Basin Drain. Operational control of water levels provides greater flexibility for managing water releases for agriculture and wetlands habitat. DWR has contracted with RD 108 to develop the project, including acting as the CEQA lead agency. This project has been identified as one of the projects that will be implemented under California EcoRestore.	Yes	Yes	Yes	USFWS website. <i>The Yolo Bypass</i>. Site accessed November 11, 2020. URL= https://www.fws.gov/cno/newsroom/Highlights/2018/yolo-bypass-restoration/. Site last updated August 8, 2018. DWR. <i>EcoRestore 5-year fact sheet</i>. Site accessed November 11, 2020. URL= https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/EcoRestore/EcoRestore-5YR-Fact-Sheet_ay20.pdf?la=en&hash=BF60A28CC870C32351F807CC11D5C1E35BAC5461.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Prospect Island Tidal Habitat Restoration Project	DWR and CDFW	The northern portion of Prospect Island (about 1,253 acres) is currently owned by DWR, who acquired the property with the intent of restoring freshwater tidal marshes and associated aquatic habitat. Consistent with the objectives for the refuge, USACE and DWR completed the environmental documentation Mitigated Negative Declaration/Findings of No Significant Impact (MND/FONSI) for a restoration project on Prospect Island in 2001. This project would partially fulfill the 80,000-acre tidal habitat restoration obligation outlined in RPA 4 of the 2019 USFWS BiOp for the effects of long-term coordinated operations of the SWP and the federal CVP on delta smelt and has been fully funded by the SWP contractors with several restoration activities in the planning process. The Final EIR was certified in 2019.	No	No	Yes	DWR. <i>Prospect Island Tidal Habitat Restoration Project</i> . Site accessed November 30, 2021. URL = https://resources.ca.gov/CNRA/LegacyFiles/docs/ecorestore/projects/Prospect_Island_Tidal_Habitat_Restoration.pdf .
Tule Red Tidal Restoration Project	State and Federal Contractors Water Agency, DWR, and Westervelt Ecological Services	The Tule Red Tidal Restoration Project is a public-private partnership effort to restore about 460 acres of tidal wetlands in the Suisun Marsh. The project is part of both current restoration requirements for the state and federal water projects and an effort to reconnect land to water in the marsh in order to promote habitat for important native fish species, such as delta smelt and salmon. The Tule Red Tidal Restoration Project is an effort by the State and Federal Contractors Water Agency, a joint powers authority comprised of the export service contractors of the SWP and CVP. This project has been identified as one of the projects implemented under California EcoRestore and was completed on October 15, 2019.	Yes	Yes	Yes	Westervelt Ecological Services website. Site accessed November 11, 2020. URL = https://wesmitigation.com/tule-red-tidal-restoration-project/ . DWR. <i>EcoRestore 5-year fact sheet</i> . Site accessed November 30, 2021. URL = https://water.ca.gov/News/Blog/2019/Oct-19/Tule-Red-completion .
McCormack-Williamson Tract Flood Control and Ecosystem Restoration Project	DWR	This project is a part of the North Delta Flood Control and Ecosystem Restoration Project and will implement flood control improvements principally on and around McCormack-Williamson Tract in a manner that benefits aquatic and terrestrial habitats, species, and ecological processes. Flood control improvements are needed to reduce damage to land uses, infrastructure, and the Bay-Delta ecosystem caused by catastrophic levee	No	Yes	Yes	DWR website. <i>North Delta Program</i> . Site accessed November 11, 2020. URL = https://water.ca.gov/Programs/Flood-Management/Delta-Conveyance-And-Flood-

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		failures in the project study area. This project has been identified as one of the projects that will be implemented under California EcoRestore.				<u>Protection/North-Delta-Program.</u> DWR. <i>EcoRestore 5-year fact sheet</i> . Site accessed November 11, 2020. URL= https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/EcoRestore/EcoRestore-5YR-Fact-Sheet_ay20.pdf?la=en&hash=BF60A28CC870C32351F807CC11D5C1E35BAC5461 .
Hill Slough Restoration Project	CDFW	The purpose of the overall project is to restore brackish tidal marsh and associated upland ecotone at the northern Suisun Marsh near the corner of Highway 12 and Grizzly Island Road to benefit endangered as well as migratory and resident species. This project will meet Ecosystem Restoration Program goals and objectives by reducing the risk of entrainment of at-risk, native anadromous species of concern including spring-run and winter-run Chinook salmon, steelhead trout, and green sturgeon, as well as other resident and transitory fish species in the Suisun Bay. The project will also meet goals calling for restoration of tidal brackish marsh that will aid in the recovery of listed plant and wildlife species while contributing to primary productivity in the estuary. This project has been identified as one of the projects that will be implemented under California EcoRestore.	No	Yes	Yes	DWR. <i>EcoRestore 5-year fact sheet</i> . Site accessed November 11, 2020. URL= https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/EcoRestore/EcoRestore-5YR-Fact-Sheet_ay20.pdf?la=en&hash=BF60A28CC870C32351F807CC11D5C1E35BAC5461 .
Goat Island at Rush Ranch Tidal Marsh Restoration	Solano Land Trust	This project aims to restore tidal marsh habitat by reconnecting and reestablishing tidal marsh hydrology and related physical and ecological processes within and around Goat Island Marsh. This project will be implemented in conjunction with construction of an Interpretive Nature Trail to Goat Island Marsh to offset public access impacts resulting from closure of the levee trail. This project has been identified as one of the projects that will be implemented under California EcoRestore.	No	Yes	Yes	DWR. <i>Goat Island Tidal Marsh Restoration fact sheet</i> . Site accessed November 11, 2020. URL = https://resources.ca.gov/CNRALegacyFiles/docs/.ecorest

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
						ore/projects/Goat_Island.pdf
Knights Landing Outfall Gates Fish Barrier Project	California Natural Resources Agency	Rehabilitate the outfall gates by repairing known structural deficiencies (including scouring found at the inlet and outlet gates), replacing worn out appurtenances, construct a trash barrier system to protect the gates and ease debris collection, and upgrading the electrical and communication system to include backup capability to meet current USACE operations and maintenance standards This project was one of the projects implemented under California EcoRestore.	Yes	Yes	Yes	DWR. <i>EcoRestore 5-year fact sheet</i> . Site accessed November 11, 2020. URL= https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/EcoRestore/EcoRestore-5YR-Fact-Sheet_ay20.pdf?la=en&hash=BF60A28CC870C32351F807CC11D5C1E35BAC5461 .
Lookout Slough Tidal Habitat Restoration and Flood Improvement Project	DWR	The project is designed to be a multi-benefit project to restore approximately 3,100 acres of tidal marsh, increase flood storage and conveyance in the Yolo Bypass, increase levee resilience, and decrease flood risk. Habitat restoration and flood improvement goals would be attained by excavating a network of tidal channels, constructing a new setback levee along Duck Slough, breaching and degrading the Shag Slough (Yolo Bypass West) Levee, breaching the Vogel Levee, and improving the Cache/Hass Slough Levee. On November 3, 2020, DWR certified the EIR for the Lookout Slough Tidal Habitat Restoration and Flood Improvement Project and filed a Notice of Determination with the Governor's Office of Planning and Research. On July 16, 2021, the DSC, as part of an Appeals of the Certification of Consistency case, remanded DWR on portions of the project which had not provide enough information to be shown as consistent with the Delta Plan. DWR is responsible for providing additional information. However, on July 27, 2021, approval of Permit No. 19477 was granted by the CVFPB under California Code of Regulations, Title 23, Article 3, Section 6 to construct approximately 2.9 miles of a new setback levee along Duck Slough and Liberty Island Road and breach the existing Yolo Bypass levee at Shag Slough. This permitted work would	No	Yes	Yes	DWR. 2021. <i>Delta Projects</i> . Site accessed April 2, 2021. URL= https://water.ca.gov/Programs/Environmental-Services/Restoration-Mitigation-Compliance/Delta-Projects . Maven's Notebook website. <i>Now Available: Final Determination on the Appeals of the Lookout Slough Tidal Habitat Restoration and Flood Improvement Project Certification of Consistency</i> . Site accessed November 23, 2021. URL = https://mavensnotebook.com/2021/07/17/now-available-final-determination-on-the-

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
		restore and enhance approximately 3,164 acres of upland, tidal, and floodplain habitat.				<u>appeals-of-the-lookout-slough-tidal-habitat-restoration-and-flood-improvement-project-certification-of-consistency/</u> . CEQA website. SCH Number 2019039136. Site accessed July 28, 2021. URL = <u>https://ceqanet.opr.ca.gov/Project/2019039136</u> .
Decker Island Tidal Habitat Restoration Project	DWR, CDFW	Decker Island is located in the Delta along the Sacramento River. DWR is undertaking the restoration of the Decker Island Tidal Habitat Restoration Project in conjunction with CDFW to enhance roughly 140 acres of established emergent wetland with muted tidal connectivity to Horseshoe Bend, and uplands to fully tidal habitat. Construction began in August 2018 and was completed by mid-November of the same year. CDFW will implement biological monitoring to ensure desired site functions are established and to inform future restoration projects.	Yes	Yes	Yes	DWR. <i>Decker Island project restores 140 acres of tidal wetland habitat, aims to boost fish survival rates</i> . Site accessed July 29, 2021. URL = <u>https://water.ca.gov/News/Blog/2018/Nov-18/Decker-Island-Project</u> .
SR-239 Project (East Bay – Contra Costa, Alameda, northern San Joaquin Counties)	Contra Costa Transportation Authority, Contra Costa County, Caltrans	The State Route 239 project will provide a new, four-lane highway from State Route 4 at Marsh Creek Road in Contra Costa County to Interstate 580 in Alameda County. This new state route will ultimately improve the transportation network for an area that had few viable north-south roadway connections between East Contra Costa and the Central Valley.	No	Yes	Yes	Contra Costa Transportation Authority. <i>State Route 239 Project</i> . Site accessed April 2, 2021. URL = <u>https://ccta.net/projects/state-route-239-project/</u> .
City of Antioch Brackish Water Desalination Project	City of Antioch	The Antioch Brackish Water Desalination Project, which utilizes existing infrastructure to the extent possible, includes the construction of new desalination facilities and associated infrastructure, in order to improve the city's water supply reliability and operational flexibility. Once constructed the desalination facility, located at the existing water treatment plant, will provide for 6 mgd of capacity (producing up to 5,500 AFY, helping the City reduce its purchases of more expensive CCWD water.	No	Yes	Yes	City of Antioch. 2019. <i>Antioch Brackish Water Desal Project</i> . Site accessed April 2, 2021. URL = <u>http://www.antiochbrackishdesal.com/</u> .

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Three Creeks Parkway Restoration Project	Contra Costa County Flood Control and Water Conservation District	In July 2015, the Contra Costa County Flood Control and Water Conservation District partnered with American Rivers, a nonprofit partner, on the \$2 million Three Creeks Parkway Restoration Project in Brentwood, a multi-agency public-private partnership to transform 1/4 mile of the Marsh Creek flood control channel into high quality salmon and riparian habitat, with enhanced public access. Since then, the project has expanded to restore ¾ mile of Marsh Creek and costs approximately \$9.0 million. Approximately \$5.9 million of outside funding from private, federal, and state agencies has been obtained to date. The Project has multiple local and regional partners including the City of Brentwood, Friends of Marsh Creek Watershed, East Contra Costa County Habitat Conservancy, and East Bay Regional Park District. In 2018, planning and environmental studies were completed, and construction began in June 2020. Phase 1 has been completed.	Yes	Yes	Yes	Contra Costa County. 2021. <i>Three Creeks Parkway Project</i> . Site accessed April 2, 2021. URL = https://www.contracosta.ca.gov/5814/Three-Creeks-Parkway-Project .
Winter Island Tidal Habitat Restoration Project	DWR, CDFW	The Winter Island Tidal Habitat Restoration Project was created to partially fulfill the Fish Restoration Program 8,000-acre tidal habitat restoration obligations of DWR in RPA 4 of the 2019 USFWS BiOp for the effects of the long-term coordinated operations of the SWP and the federal CVP on delta smelt. Because restoration of tidal habitat would provide access for salmonids rearing at Winter Island, the project is also consistent with RPA I.6.1 of NMFS Salmonid BiOp for SWP/CVP operations. These obligations were upheld in the 2019 Re-evaluation of Consultation published by USFWS and NMFS, with the addition that the Fish Restoration Program now has until 2030 to reach these restoration goals. The project was also established to fulfill FRP's 800-acre mesohaline habitat requirement of CDFW Longfin Smelt ITP for the SWP Delta operations. The primary goal of the project is to restore unrestricted tidal connectivity between the interior of Winter Island and the surrounding channels, which would convert muted tidal emergent wetland and open water habitats into tidal wetland habitat and improve access for the benefit of native fish species. Construction was completed on September 25, 2019.	Yes	Yes	Yes	DWR website. Winter Island Tidal Habitat Restoration Project. URL = https://resources.ca.gov/CNRA/LegacyFiles/docs/ecorestore/projects/Winter_Island_Tidal_Habitat_Restoration.pdf . California Department of Water Resources. 2020. Winter Island Annual Monitoring Report.

Project/Program	Primary Agencies	Description	Existing Conditions	No Project	Cumulative	References
Interagency Ecological Program	USGS, USACE, USBR, US EPA, USFWS, NMFS, DWR, State Water Board, CDFW,	Since the 1970s the Interagency Ecological Program (IEP) mission has been to support management of the Bay-Delta ecosystem by integrating relevant ecological data in a timely manner. The IEP relies on a wide range multidisciplinary teams to address high priority management and policy needs and responsibilities as directed under federal, state, and local regulatory requirements. The 2022 Annual Work Plan includes annually planned work—such as compliance monitoring, baseline status and trends, modeling, directed studies, workshops, and project management—by IEP agencies to be conducted as part of the consortium within the Bay-Delta ecosystem during the calendar year. As part of the IEP monitoring program, two monitoring stations on 18-inch diameter pipe pilings are expected to be installed in the Sacramento River near the proposed intakes.		Yes	Yes	Interagency Ecological Program. 2021. <i>2022 Annual Work Plan</i> . Site accessed April 5, 2022. URL = https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=196010&inline .

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