

Introduction

This section describes recent changes to the existing environmental conditions and regulatory setting of the Project area, summarizes the unchanged affected environment, and describes changed environmental effects related to water supply for the Project. This section contains a review and update of the 2000 RDEIR/EIS water supply impact assessment, incorporated by reference in the 2001 FEIR. The water supply impacts of the Project were analyzed most recently in the 2001 FEIS, which also served as a basis for this analysis.

This section considers impacts on the existing Delta water supply conditions that result from upstream reservoir operations and irrigation diversions for the full range of watershed rainfall and runoff, as represented by the historical 1922–2003 monthly runoff for the Central Valley tributaries to the Delta. All of the existing reservoirs and water demands for municipal, agricultural, and wildlife refuge uses are included in the CALSIM modeling described in Chapter 3. This section evaluates potential Project effects on the existing water supply conditions.

The Project is assumed to operate separately from the integrated CVP and SWP reservoir and export pumping. This allows the results from the current CALSIM modeling of the existing CVP and SWP facilities and reservoir operations and permitted Delta operations (D-1641) to be used as the existing baseline conditions for evaluating Project operations and potential impacts on Delta riparian water users, Delta appropriative water rights diverters (such as Antioch, CCWD, and the City of Stockton), and the CVP contractors and SWP contractors.

This section discusses Delta conditions related to water supply (the amount of water available for beneficial uses) and the possible effects of Project operations on the existing water supplies from the Delta. Beneficial uses of Delta water include in-Delta uses (e.g., crop irrigation, drinking water) by other riparian or water rights holders, protection of fish and wildlife habitat, and exports for contractors receiving water from the CVP or the SWP.

The water supply impact assessment focuses on the potential Project effects on existing water users in the Delta. The potential effects on CVP and SWP Delta operations or on CCWD operations are assumed to be avoided through adherence

to the operational criteria and stipulated agreements and protest dismissal agreements described in Chapter 2. The simulated Project operations, fully described in Chapter 3, will not reduce the water supply of any CVP or SWP contractors.

The Project operations result in no water supply changes to any water users other than the proposed places of use, which are analyzed in Chapter 5, “Cumulative Effects,” and Chapter 6, “Growth Inducing Effects.” The small changes in Delta consumptive use (i.e., evaporation) from the Project islands evaluated in the 2001 FEIR and 2001 FEIS remain the same.

Summary of Impacts

Table 4.1-1 provides a summary and comparison of the impacts and mitigation measures for water supply from the 2001 FEIR, 2001 FEIS, and this Place of Use EIR.

Table 4.1-1. Comparison between Delta Wetlands Project 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts on Water Supply

2001 FEIR and 2001 FEIS Impacts and Mitigation Measures	Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures
PROPOSED PROJECT (ALTERNATIVE 2)	
<p>Impact A-2: Reduction in Delta Consumptive Use (B) Mitigation: No mitigation is required.</p>	<p>Impact WS-1: Reduction in Delta Consumptive Use (B and LTS) Mitigation: No mitigation is required. No change.</p>
ALTERNATIVE 1	
<p>Impact A-1: Increase in Delta Consumptive Use (LTS) Mitigation: No mitigation is required.</p>	<p>Impact WS-2: Increase in Delta Consumptive Use (LTS) Mitigation: No mitigation is required. No change.</p>
ALTERNATIVE 3	
<p>Impact A-1: Increase in Delta Consumptive Use (SU) Mitigation: No mitigation is available.</p>	<p>Impact WS-2: Increase in Delta Consumptive Use (SU) Mitigation: No mitigation is available. No change.</p>
<p>Note: SU = Significant and unavoidable; LTS = Less than significant; LTS-M = Less than significant with mitigation; B = Beneficial.</p>	

Delta consumptive use refers to water diverted from Delta channels for beneficial uses (e.g., irrigation of crops) or evaporated from the Delta channels. Standardized estimates of Delta evapotranspiration (ET) are used in the DAYFLOW Delta water budget (i.e., gross channel depletions).

The evaluation of the Project effects on consumptive use was based on the average monthly water budget for typical operations (i.e., reservoir storage volume). The four Project islands have existing riparian and appropriate water

rights to use a reasonable quantity of water of about 44 thousand acre-feet (taf) from Delta channels for agricultural and other beneficial purposes.

Under Project operations, consumptive water use would shift from crop ET to evaporation during periods of storage on the Reservoir Islands and the seasonally flooded portions of the Habitat Islands, with reduced crop ET. These land use changes would shift ET slightly, depending on the length of storage on the Reservoir Islands. Total consumptive use for the Proposed Project was estimated to be about the same as under existing conditions. There is no change from the 2001 FEIR and 2001 FEIS conclusion that the Project would not have a significant impact on Delta consumptive use and that no mitigation is required.

Summary of Changes, New Circumstances, and New Information

Substantial Changes in the Project

Since the 2001 FEIR and 2001 FEIS was completed, there have been no substantial changes to the Project resulting in any new significant effects or substantial increase in the severity of effects on water supply. The 2001 FEIR and 2001 FEIS identified no significant impacts on other Delta water supplies or uses associated with Alternatives 1 and 2 and identified one significant effect (increased evaporation) for Alternative 3.

As described in Chapter 2, “Project Description,” only Alternative 2 as amended by the incorporation of the BOs, FOC, WQMP, protest dismissal agreements, and other environmental commitments (Proposed Project), was simulated for evaluation of water supply impacts in the Place of Use EIR. The simulation of the Proposed Project encompasses the full range of impacts associated with Alternatives 1 and 2. Alternative 3 was modeled in the 2001 FEIR and 2001 FEIS, but is not simulated again for this Place of Use EIR because the impacts would be consistent with the 2001 FEIR and 2001 FEIS conclusions and because Alternative 3 would be inconsistent with the FOC and the existing BOs. This Place of Use EIR evaluates operations under D-1641, without OMR restrictions, to evaluate and assess the maximum potential water quality and fish impacts. The potential water supply impacts on CVP and SWP contractors are assumed to be eliminated by the operation of the Project independent of the CVP and SWP in accordance with the protest dismissal agreement terms discussed below. In-Delta water users similarly are assumed to be protected by the D-1641 Delta operations criteria, which limit exports and require minimum outflows to protect all Delta beneficial uses.

Agreements That Protect Prior Water Rights and State Water Project and Central Valley Project Delta Operations

In response to the 1997 State Water Board water right hearing, 18 parties filed protests with the State Water Board against the Project applicant's water rights applications. The Project entered into negotiations with some of these parties. The Project applicant entered into stipulated agreements with Reclamation, DWR, Amador County, the City of Stockton, and North Delta Water Agency that affirm the seniority of these parties' water rights. These agreements were summarized in Appendix A of the 2000 RDEIR/EIS. Following the 2000 water rights hearings, the Project applicant signed protest dismissal agreements with CCWD, which protects the Los Vaqueros Reservoir water rights and operations, including diversions for salinity control (reduction), and with CUWA and EBMUD. These stipulated agreements define how the Project will be operated independent of, and in a manner that does not adversely affect, the CVP and SWP Delta operations. These stipulated agreements provide the basis for assuming that the Project operations will not affect existing water rights and water supply in the Delta.

New Information and New Circumstances

The major Delta water rights decision controlling the existing CVP and SWP Delta operations continues to be D-1641, which implements the Delta objectives established by the State Water Board in the 1995 WQCP. The 1995 WQCP was reviewed and updated by the State Water Board in 2006, with no major changes in the Delta flow or salinity objectives for beneficial water uses or for fish and wildlife protection.

CCWD has begun construction on a new (alternative) water intake on Victoria Canal, and the City of Stockton is constructing a new intake on the San Joaquin River at Empire Tract. A water supply intake was constructed in 2007 near the SWP Harvey O. Banks Pumping Plant (SWP Banks) to service the Mountain House community.

Since 2001, several new investigations of Delta water supply conditions have been prepared by Reclamation and DWR or through CALFED-funded additional monitoring, research, and restoration efforts. The most relevant of these studies for the Project water supply circumstances in the Delta are summarized here.

In-Delta Storage Investigations

DWR investigated in-Delta storage as part of the ISI for CALFED. These studies evaluated the Project Reservoir Islands as a storage facility that would be integrated with the other CVP and SWP reservoirs. This integrated operation was somewhat different from the independent Project operations that are being

evaluated in this section, but provide valuable information about potential Project operations and possible environmental impacts and benefits from in-Delta storage operations. These studies generally confirmed that there is unused surplus outflow in a majority of water years (about 75%) that could be diverted to an in-Delta storage facility without interfering with any existing CVP or SWP water supply or Delta water diversion. These studies confirm that San Luis Reservoir is filled to capacity in many years, so that additional in-Delta storage would increase the seasonal water supply.

State Water Project Water Supply Reliability

Another new source of information was the CALSIM modeling studies prepared by the DWR Bay-Delta Office on the SWP water supply reliability (California Department of Water Resources 2008). This water supply reliability report is updated on a 2-year cycle and discusses the SWP demands (i.e., Table A contract amounts) and the annual SWP allocations (percent of Table A delivery projections) that are based on hydrologic conditions and various Delta constraints. The CALSIM model results demonstrate that SWP water supplies are substantially reduced from Table A contract amounts in many years. The difficulties of delivering the full SWP Table A contract amounts with the existing facilities (including the 6,680-cfs limit on SWP Banks pumping) are described in the SWP water supply reliability report. The most recent reliability report describes the substantial reductions in SWP deliveries that would result from any limits on OMR flows during the January–June period for delta smelt or Chinook salmon protection.

Central Valley Project–State Water Project Operations Criteria and Plan Evaluations

The BA and BO documents for the CVP-SWP OCAP have been reviewed for new information about possible future water supply conditions. The BA for OCAP was expanded and updated (Bureau of Reclamation 2008) by Reclamation and DWR. The revised BO from USFWS for delta smelt was released (U.S. Fish and Wildlife Service 2008) and included new restrictions on reverse OMR during the months of December–June. The revised BO from NMFS for Chinook salmon, steelhead, and sturgeon was released (National Marine Fisheries Service 2009) and also included OMR restrictions that will limit the existing conditions for CVP and SWP export pumping. Whatever these new restrictions on CVP and SWP Delta operations may require, the Project will not interfere with or otherwise limit the existing water supply conditions.

The relationships between Delta flows or exports and biological conditions will continue to be controversial, and the effects of operations on biological resources will be monitored intensively by the IEP agencies. The effects of Delta operations will continue to be reviewed periodically, and the Delta objectives and export limits likely will be modified under adaptive environmental management principles. These OCAP evaluations have not included an in-Delta storage

facility, so the basic operations of the Project cannot be determined from the OCAP studies. This Place of Use EIR continues to evaluate the Project as an independent facility and does not consider integrated operations with the CVP and SWP.

Future Delta Conditions Studies

Several future Delta planning studies have been completed since the 2001 FEIR and 2001 FEIS, and planning studies related to CVP and SWP operations are continuing. The OCAP studies appear to be ongoing, with revisions and changes every few years. The more recent BDCP is the major planning effort focused on alternative conveyance and habitat restoration (e.g., land conversion) options for protection and recovery of Endangered species in the Delta. These planning studies are briefly described in Chapter 2, "Project Description."

The possible effects of changes in the future CVP and SWP Delta operations on Project operations are not considered in this Place of Use EIR. The potential for the Project to operate under the reverse OMR restrictions required in the 2008 USFWS and 2009 NMFS BOs is not discussed in this Place of Use EIR because the BOs did not consider in-Delta storage facilities. In any of these future Delta scenarios (i.e., configurations or operations), the basic assumption that the Project will not interfere with or limit the existing water users in the Delta, or reduce the water supply available for any existing water right or CVP or SWP contractor, remains valid.

Existing Conditions

This section discusses changes in the existing conditions or regulatory setting since the 2001 FEIR and 2001 FEIS.

Regulatory Setting

Federal, state, and local regulations are effectively integrated within the state water rights and water quality control planning framework, administered by the State Water Board, to control water supply in the Delta. Various water quality and flow objectives have been established by the State Water Board to ensure that the quantity and quality of Delta water are sufficient to satisfy all designated beneficial uses; implementation of these objectives in D-1641 requires various limitations on the operations of the south Delta SWP and CVP export pumps, which affect Delta outflow and corresponding salinity levels in the Delta.

The Project operations will not interfere with senior legal water diversions within the Delta or the existing CVP and SWP operations. The Project is evaluated as an independent project and is assumed not to change any existing CVP or SWP Delta operations that are controlled by the existing State Water Board objectives

(D-1641). These baseline Delta water supply operations and the simulated changes in Delta flows caused by the Project are fully described in Chapter 3, “Project Operations.” These results are briefly evaluated for water supply impacts in this section and evaluated for impacts on water quality and fish habitat and abundance in subsequent sections.

Delta Water Rights

Numerous parties hold rights to divert water from the Delta and upstream tributaries. The reasonable beneficial requirements of existing riparian and senior appropriative users with regard to both water quantity and water quality must not be impaired by exercise of subsequent appropriative water rights. DWR’s SWP and Reclamation’s CVP and other water rights holders divert water from the Delta under appropriative rights. More than 1,000 siphons and pumps are used to divert water under riparian and appropriative rights from Delta channels. Project operations would be conducted under existing riparian and appropriative water rights and new appropriative rights.

Riparian water rights are entitlements to water that are held by owners of land bordering natural flows of water. A landowner has the right to divert a portion of the natural flow for reasonable and beneficial use on his or her land within the same watershed. If natural flows are not sufficient to meet reasonable beneficial requirements of all riparian users on a stream, the users must share the available supply according to each owner’s reasonable requirements and uses.

Appropriative rights are held in the form of conditional permits or licenses from the State Water Board. These authorizations contain terms and conditions to protect prior water right holders and to protect the public interest in fish and wildlife resources. The State Water Board reserves jurisdiction to establish or revise certain permit or license terms and conditions for salinity control, protection of fish and wildlife, protection of vested water rights, and coordination of terms and conditions among the major water supply projects.

Various water quality and flow objectives have been established by the State Water Board to ensure that the quality of Delta water is sufficient to satisfy all designated uses; implementation of these objectives requires that limitations be placed on Delta water supply operations, particularly operations of the SWP and CVP, affecting amounts of fresh water and salinity levels in the Delta. The Project would be prohibited from affecting the ability of those holding prior water rights, such as DWR and Reclamation, to exercise those rights, and the Project would not be allowed to interfere with compliance with Delta water quality standards or protection of biological resources.

Diversion and storage of water in upstream reservoirs by California’s two major water supply projects, DWR’s SWP and Reclamation’s CVP, and diversion and export of water from the Delta are authorized and regulated by the State Water Board under appropriative water rights. The SWP and the CVP store and release water upstream of the Delta and export water from the Delta to areas generally south and west of the Delta. Reclamation diverts water from the Delta through its

CVP Jones Pumping Plant (CVP Jones) to the DMC and San Luis Canal, and DWR pumps for export through the California Aqueduct and South Bay Aqueduct at its SWP Banks Pumping Plant. DWR also operates the North Bay Aqueduct, which diverts water at the Barker Slough Pumping Plant.

A third substantial diverter of Delta water is CCWD, which currently diverts water from Mallard Slough near Pittsburg (when outflow is high), from Rock Slough and from the Los Vaqueros intake on Old River. Several municipal users (e.g., Antioch, Mountain House) and many agricultural users also divert water from the Delta under riparian and appropriative rights. Stockton is constructing a water supply intake on Empire Tract.

Delta Regulatory Limits

The limits on SWP Banks and CVP Jones pumping sometimes restrict the Delta exports to less than the full CVP and SWP demands for Delta exports. These regulatory limits result from Delta outflow requirements, Delta salinity objectives, export/inflow limits, and permitted or physical export pumping capacity. The Project would provide additional water for summer and fall exports in July–November to supply some of the unmet SWP water demands (i.e., delivery deficit). The State Water Board Water Rights Division has primary regulatory authority over water supplies and issues permits for water rights specifying amounts and conditions for diversion and storage facilities.

1995 Water Quality Control Plan and D-1641

The State Water Board's 1995 WQCP (adopted May 1995) and the State Water Board's Final EIR for Implementation of the 1995 Bay/Delta Water Quality Control Plan (November 1999) incorporated several elements of the EPA, NMFS, and USFWS regulatory objectives for salinity and Endangered species protection. The changes from the previous regulatory limits for CVP and SWP Delta operations were substantial. The State Water Board fully implemented the 1995 WQCP with D-1641 in March 2000. The new provisions for X2, E/I ratio, and the VAMP that are implemented in D-1641 are summarized in Chapter 3, "Project Operations." The modeling of the Project assumed that none of the CVP or SWP Delta operations to meet these regulatory criteria would be changed with Project operations. The Project therefore was assumed to satisfy these regulatory limits and to cause no impacts on Delta water users or to CVP or SWP contractors.

Endangered Fish Species Protection

The ESA requires assessment of the effects of water project operations on fish species listed under the act as Threatened or Endangered. NMFS issued a revised (updated) BO on the effects of SWP and CVP operations on Chinook salmon, steelhead, and green sturgeon in June 2009. The USFWS issued a revised

(updated) BO on the effects of SWP and CVP operations on delta smelt in December 2008. These BOs include reasonable and prudent measures (requirements) for Delta outflow, DCC gate closure, reverse OMR flow restrictions, and reduced export pumping for fish protection. These fish protection requirements impose additional constraints on Delta water supply operations. The Project will not interfere with CVP and SWP compliance with these measures. The Project will obtain revised (updated) BOs from NMFS and USFWS, as well as from DFG, that will specify constraints on Project operations for fish protection. These Project criteria are expected to be somewhat similar to the previously developed FOC included in the 1997 Project BOs. Chapter 3, "Project Operations," describes these FOC in more detail.

Delta Water Transfers

The California Legislature has passed several laws to encourage water transfers beyond the boundaries of historical water service areas. These laws protect water users who are not a party to the transfer and also protect fish and wildlife from impacts caused by the water transfer. The State Water Board has established a process to expand the place of use of those conducting a short-term (1-year) water transfer. Several long-term transfers also have been negotiated and permitted. The most recent is the Yuba Accord, which includes increased minimum flows for fish habitat protection, and a long-term transfer of about 60 taf to DWR for use by the Environmental Water Account (EWA) for fish entrainment reduction.

In previous drought years, substantial water transfers through the Delta have occurred. About 800 taf were purchased for transfer in 1991 as a part of DWR's Drought Water Bank, the largest water transfer year on record. The amount of additional water that was actually pumped at SWP Banks Pumping Plant in 1991 is more difficult to determine. Beginning in 1995, California experienced a series of higher-than-normal runoff years, and the need for water transfers decreased during the wet years. In 2001 (a dry year) the EWA purchased and transferred 105 taf, and other parties transferred about 360 taf, making use of the CVP and SWP pumping plants for diversion from the Delta. In 2002, the EWA transferred 142 taf from upstream of the Delta, and other parties transferred additional water through the Delta. The EWA made upstream purchases of about 100 taf in subsequent years (2003, 2004), but because there is no centralized reporting or accounting (i.e., neither the State Water Board nor DWR) for water transfers, the importance of this Delta water management activity is difficult to determine.

The Project would be a major new source of water transfers. The water diverted onto the Project storage islands would have flowed into Suisun Bay during relatively high-flow periods, when estuarine habitat benefits from outflow might be relatively small. Project storage water would be diverted when Delta outflow was high and the environmental effects of (fish-screened) diversions would be relatively small (See Section 4.5, Fish). Project storage water would be transferred to designated places of use when unused permitted SWP export capacity and aqueduct conveyance capacity were available in the months of July–November. The months of July–September have been identified in other water

transfer evaluations (EWA, Yuba Accord, and OCAP) as months when additional export pumping may be the least harmful to fish. Project water transfers could be delivered directly to SWP contractors in some years, or stored in groundwater banks with delivery to designated places of use in subsequent water years.

Environmental Commitments

Changes in Project design and prior agreements with Delta water rights holders or agencies have resulted in the Project environmental commitments. These commitments minimize the impacts of the original Project design and operation on water supply.

In response to the 1997 State Water Board water right hearing, 18 parties filed protests with the State Water Board against the Project applicant's water rights applications. The Project entered into negotiations with some of these parties. As a result of these discussions, the Project applicant entered into stipulated agreements with Amador County and the City of Stockton that affirm the seniority of protesting parties' water rights. The Project applicant entered into stipulated agreements with Reclamation, DWR, and North Delta Water Agency to operate the Project in a manner that is consistent with the existing CVP and SWP Delta operations and follows the water quality objectives in the Delta that protect existing water users.

Environmental Effects

Methods

Project diversions to storage and releases for export or water quality enhancement could affect water supply in the Delta through changes in channel flow quantity, timing, and water quality.

The Reclamation, DWR, CUWA, and CCWD settlement agreements include provisions to ensure Project operations would not result in adverse effects on Project operations in the Delta or for CVP and SWP contractors. Those provisions have been incorporated into simulated Project operations, as described in Chapter 3. The monthly water supply simulation provided a quantitative approach for evaluating the Project operations—the diversions to storage, the discharge and export pumping and delivery to designated places of use or groundwater banks, and the release for increased Delta outflow. The operations of the groundwater banking facilities and delivery to designated places of use are simulated. The Project operations result in no water supply changes to any water users other than the proposed places of use, which are analyzed in Chapter 5, "Cumulative Effects," and Chapter 6, "Growth Inducing Effects." The small changes in Delta consumptive use (i.e., evaporation) from the Project islands evaluated in the 2001 FEIR and 2001 FEIS remain unchanged.

Significance Criteria

The water supply impact analysis considered several criteria for determining the significance of impacts related to this resource. The analysis took into account both relevant criteria contained in Appendix G of the State CEQA Guidelines (Association of Environmental Professionals 2009) and Project-specific criteria developed by the lead agency to address potential impacts unique to the Project's location and elements.

A project alternative is assumed to have a significant (detectable) impact on Delta consumptive use if it would cause an increase in Delta lowland ET exceeding 1% of the No-Project Alternative ET from Delta lowlands (of about 890 taf/yr). This assumed significance criterion also could be expressed as a change of more than 20% of the consumptive use on the Project islands (44 taf/yr) because the Project islands represent about 5% of the area of the Delta lowlands. A project is considered to have a beneficial effect on Delta consumptive use if it would cause a decrease in Delta lowland ET. Potential effects of the Project on increased water supply and resulting growth-inducing or cumulative impacts in the designated places of use are described in Chapter 5, "Cumulative Impacts," and Chapter 6, "Growth-Inducing Impacts."

Impacts and Mitigation Measures

The Project diversions, storage, discharge for exports, and releases for outflow would not interfere with any existing water users in the Delta and would not reduce the delivery to any CVP or SWP contractor. The Project releases for outflow would substantially reduce export salinity in some fall months of some years and provide a water quality benefit to many Delta water users and CVP and SWP contractors, as described more fully in Section 4.2, Water Quality. The simulated changes in water supply conditions for each Project Alternative are summarized below. The only mitigation measure for water supply impacts would be the required water accounting for Project implementation under the various protest dismissal agreements.

Proposed Project (Alternative 2)

Alternative 2 was simulated as the Proposed Project with the IDSM model, as described in Chapter 3. The simulated monthly Project diversions, discharges for export pumping, and releases for Delta outflow in the fall months were slightly different from the operations previously simulated for the 2001 FEIR and 2001 FEIS. However, the consumptive uses were assumed to be the same as for the 2001 FEIR and 2001 FEIS.

Under Alternative 2, Habitat Island ET is estimated to average 14 taf/yr, and evaporation of stored water would average approximately 23 taf/yr. Total consumptive use under Alternative 2 is estimated to average approximately

7 taf/yr less than under the No-Project Alternative. This is a beneficial impact, and no mitigation is necessary. Daily accounting of Project operations would be required under the protest dismissal agreements as described below.

Impact WS-1: Reduction in Delta Consumptive Use

This impact has not changed since the 2001 FEIR and 2001 FEIS. Conversion of the Project islands from agriculture to water storage and wildlife habitat management would reduce the Delta consumptive use of water (from evaporation and/or crop transpiration). This impact is considered beneficial and less than significant.

Mitigation

No mitigation is required.

Alternative 1

Under Alternative 1, land uses would change from irrigated agriculture to primarily water storage on the Reservoir Islands and to wildlife habitat and wildlife feed crops on the Habitat Islands. These land use changes would reduce ET from a total of 44 taf/yr to 14 taf/yr (2001 FEIR and 2001 FEIS estimated ET from the Habitat Islands) for the four islands. Additionally, an average of approximately 34 taf/yr of evaporation would be lost from stored water on the Reservoir Islands during periods of water storage, somewhat more than under Alternative 2 because of increases in storage duration. An unknown amount of evaporation from moist soil and possibly from seepage would continue to be lost on the Reservoir Islands directly after total drawdown. Also, an ET amount approximately equal to the ET for the Habitat Islands (14 taf) would be lost during periods when the Reservoir Islands are in a shallow-water wetland condition.

Total consumptive use on the four Project islands is expected to increase by approximately 4 taf/yr compared with use under the No-Project Alternative as a long-term average. This is less than significant, and no mitigation is required. Daily accounting of Project operations would be required under the protest dismissal agreements as described below.

Impact WS-2: Increase in Delta Consumptive Use

This impact has not changed since the 2001 FEIR and 2001 FEIS. Conversion of the Project islands from agriculture to water storage and wildlife habitat management would slightly increase the Delta consumptive use of water (from evaporation and/or crop transpiration). This impact is considered less than significant.

Mitigation

No mitigation is required.

Alternative 3

Under Alternative 3, evaporation of stored water from all four Project islands is estimated to average 54 taf/yr (2001 FEIR and 2001 FEIS). Because all four islands would be operated as Reservoir Islands, there would be essentially no Habitat Island ET as under Alternatives 1 and 2 except for ET from a small portion of Bouldin Island. Total consumptive use under Alternative 3 is estimated to average 54 taf/yr, approximately 10 taf/yr greater than under the No-Project Alternative. This increase in Delta consumptive use represents about a 1% increase in Delta lowland consumptive use and would be considered significant. However, the consumptive use under Alternative 3 would be supplied by Project diversions of surplus Delta outflow, whereas the No-Project Alternative consumptive use would be supplied by irrigation diversions in the summer. Although Alternative 3 is not considered a viable Alternative because of its wildlife and vegetation impacts, daily accounting of Project operations would be required under the protest dismissal agreements as described below.

Impact WS-2: Increase in Delta Consumptive Use

This impact has not changed since the 2001 FEIR and 2001 FEIS. Conversion of the Project islands from agriculture to water storage would increase the Delta consumptive use of water (from evaporation). This impact is considered significant and unavoidable.

Mitigation

No mitigation is available.

No-Project Alternative

The No-Project Alternative analysis is the same as it was presented in the 2001 FEIR and 2001 FEIS and is hereby incorporated by reference. Under the No-Project Alternative, consumptive use could increase, but not measurably so at the scale of monthly water supply modeling. The No-Project consumptive use was estimated for the four Project islands, located in the Delta lowlands (peat soils), to be about 44 taf/yr. This is the existing consumptive use for the four Project islands (17,500 irrigated acres) under existing riparian and appropriative water rights for agricultural and other beneficial purposes.

Delta Water Supply Accounting Procedures

During the 2000 water rights hearings, the Project applicant signed additional protest dismissal agreements with CUWA, CCWD, and EBMUD. These agreements include the WQMP, which provides several requirements for daily flow, salinity, and DOC monitoring, as well as modeling and accounting for the contribution of Project discharges and releases at the water supply intakes. Additional details about the water quality monitoring and modeling are given in Section 4.2, Water Quality.

The Project operations would be tracked with daily water accounting. DWR Division of Operations and Maintenance, in cooperation with Reclamation's Central Valley Operations Center (CVOC), maintains daily water budget estimates for the Delta and designates the Delta condition each day as being "in balance" or "in excess" relative to all State Water Board objectives and water right terms and conditions. When the Delta condition is designated by DWR and Reclamation to be in balance, all Delta inflow is determined to be required to meet Delta objectives and satisfy diversions by CCWD, the CVP, the SWP, other senior water right holders, and Delta riparian water users. Therefore, when the Delta is in balance, additional water would not be available for diversion by the Project.

When DWR (and Reclamation) determine the Delta condition to be in excess, the Project would be allowed to divert available excess water for storage on the Reservoir Islands. The daily quantity of available excess water would be estimated according to the normal Delta water supply accounting procedures. To provide extra protection for compliance with 1995 WQCP Delta objectives (D-1641) and for existing water right holders, the State Water Board may establish requirements for amounts of water within the designated excess water (buffers) that would be available for Project diversions. Even with additional State Water Board-established safeguards in place, excess Delta inflow is available for diversion during certain periods, especially major runoff events.

Project operations would not be permitted to interfere with senior appropriative water right holders or Delta riparian users. Following the 1997 water rights hearings, the Project applicant entered into stipulated agreements with Reclamation, DWR, Amador County, the City of Stockton, and North Delta Water Agency. These agreements affirm the seniority of these parties' water rights; they also outline general conditions under which the Project would operate to preclude interference with those water rights or with a party's ability to meet particular water quality criteria. Additional information about the terms of these agreements is available in Chapter 2, "Project Description."

The Project will submit timely reports to the State Water Board on the daily operations of each Reservoir Island, as well as the daily Delta conditions that may affect Project diversions and discharges for export or releases for Delta outflow. These monitoring and reporting requirements are similar to mitigation monitoring required for other water projects. Although there are no significant water supply impacts from Project implementation or operations, these monitoring and reporting requirements (under the protest dismissal agreements) will provide an accurate record of Project operations and water supply and water quality benefits.