Appendix B

State Water Board's Environmental Checklist

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Environmental Checklist Form
Appendix A to the State Water Board's CEQA Regulations
Cal. Code. Regs., tit. 23, div. 3, ch. 27 sections 3720–3781

The Project

1 **Project Title:** Update to the Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary: Water Quality Objectives for the Protection of Southern Delta Agricultural Beneficial Uses; San Joaquin River Flow Objectives for the Protection of Fish and Wildlife Beneficial Uses; and the Program of Implementation for Those Objectives

2 **Lead Agency Name and Address:**

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3 **Contact Person and Phone Number:**

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4 **Project Location—Plan Area and Extended Plan Area:** The State Water Resources Control Board (State Water Board) is proposing amendments to the 2006 *Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary* (2006 Bay-Delta Plan) to address: San Joaquin River (SJR) flow water quality objectives for the protection of fish and wildlife beneficial uses; water quality objectives for the protection of southern Delta agricultural beneficial uses; and respective programs of implementation for the water quality objectives. The plan area, defined below, encompasses the areas where the proposed plan amendments[1] apply to protect the beneficial uses.

- Stanislaus River Watershed from and including New Melones Reservoir to the confluence of the Lower San Joaquin River (LSJR).
- Tuolumne River Watershed from and including New Don Pedro Reservoir to the confluence of the LSJR.
- Merced River Watershed from and including Lake McClure to the confluence with the LSJR.
- Mainstem of the LSJR between its confluence with the Merced River downstream to Vernalis.
- Areas that receive a portion of their water supply from and that are contiguous with the above areas.

[1] These plan amendments are the *project* as defined in State CEQA Guidelines, Section 15378.

- The Southern Delta, including the SJR from Vernalis to Brandt Bridge; Middle River from Old River to Victoria Canal; and Old River/Grant Line Canal from the Head of Old River to West Canal.

The flow requirements would be released from the three rim dams[2] on the three eastside tributaries[3] in the plan area. These rim dams are the farthest upstream impediments to fish. The State Water Board would evaluate, in a subsequent water right proceeding, imposing responsibility on surface water users who divert surface water from the Stanislaus, Tuolumne, and Merced River Watersheds above the rim dams in accordance with the water right priority system and applicable law. As such, the plan amendments have the potential to affect areas within the watersheds that receive a portion of their water supply from these areas. These areas are referred to as the extended plan area and are listed below.

- Stanislaus River Watershed upstream of New Melones Reservoir: Alpine, Calaveras, and Tuolumne Counties.
- Tuolumne River Watershed upstream of New Don Pedro: Tuolumne County.
- Merced River Watershed upstream of Lake McClure: Mariposa and Madera Counties.

Finally, the plan amendments also have the potential to affect areas outside of the plan area or extended plan area that obtain beneficial use of water from the Stanislaus, Tuolumne, and Merced Rivers, and the LSJR downstream of the Merced River, but are not contiguous with the plan area or extended plan area.

- City and County of San Francisco (CCSF).
- Any other area served by water delivered from the plan area or extended plan area not otherwise listed above.

Communities within close proximity of the various rivers, rim dams, reservoirs, and counties in the plan area and extended plan area are summarized below (rivers from south to north).

- LSJR: Merced, Stanislaus, and San Joaquin Counties.
- Merced River: Merced, Mariposa, and Madera Counties.
- Lake McClure and New Exchequer Dam on the Merced River: Mariposa County, unincorporated communities of Snelling and Granite Springs.
- Tuolumne River: Tuolumne and Stanislaus Counties.
- New Don Pedro Reservoir and Dam on the Tuolumne River: Tuolumne County, in proximity to unincorporated communities of La Grange, Chinese Camp, Moccasin, Blanchard, and Jamestown.
- Stanislaus River: Calaveras, Tuolumne, and San Joaquin Counties.
- New Melones Reservoir and Dam on the Stanislaus River: Calaveras and Tuolumne Counties, in proximity to communities of Angels Camp[4], Copperopolis,[5] Columbia,[3] Sonora,[2] Jamestown,[3] Copper Cove,[3] and Knights Ferry.[3]

[2] In this document, the term *rim dams* is used when referencing the three major dams and reservoirs on each of the eastside tributaries: New Melones Dam and Reservoir on the Stanislaus River; New Don Pedro Dam and Reservoir on the Tuolumne River; and New Exchequer Dam and Lake McClure on the Merced River.

[3] In this document, the term *three eastside tributaries* refers to the Stanislaus, Tuolumne, and Merced Rivers.

[4] Incorporated community.

[5] Unincorporated community.

The flow requirements are not expected to result in a decrease to the baseline annual Central Valley Project (CVP) or State Water Project (SWP) exports because the annual inflow of the LSJR into the southern Delta is expected to increase. The potential change to exports is expected to have a very limited effect on the CVP/ SWP export service areas since minor increases in exports under the flow requirements are not considered to be growth inducing (see recirculated substitute environmental document [SED] Chapter 17, *Cumulative Impacts, Growth Inducing Effects, and Irreversible Commitment of Resources*, for more information). Therefore, the CVP/SWP export service areas are not included in the plan area and are not further discussed in the checklist.

5 **Description of Project:** The State Water Board is proposing amendments to the 2006 Bay-Delta Plan to address: SJR flow water quality objectives for the protection of fish and wildlife beneficial uses; water quality objectives for the protection of southern Delta agricultural beneficial uses; and respective programs of implementation for the water quality objectives. The plan amendments include potential changes to the monitoring and special studies program included in the 2006 Bay-Delta Plan. The flow requirements and the water quality objectives are summarized below. A detailed description of the water quality objectives is found in the SED, Chapter 3, *Alternatives Description*, and Appendix K, *Revised Water Quality Control Plan*.

Flow Water Quality Objectives: The plan amendments would establish narrative and numeric flow objectives that would maintain flow conditions from the SJR Watershed to the Delta at Vernalis sufficient to support and maintain the natural production of viable native SJR fish populations migrating through the Delta. The plan amendments also include a program of implementation.

The program of implementation would implement the flow objectives by requiring a minimum base flow and a percent of unimpaired flow[6] from each of the Stanislaus, Tuolumne and Merced Rivers from February–June and allow for adaptive adjustments within the numeric water quality objective range. The program of implementation provides that the flow objectives would be implemented through water rights actions and water quality actions, including Federal Energy Regulatory Commission hydropower licensing processes. The program provides that the required percentage of unimpaired flow would cease to apply during periods when flows from that tributary could cause or contribute to flooding or other related public safety concerns, as determined by the State Water Board in consultation with other agencies or entities with expertise in flood management. The program of implementation allows for minimum reservoir carryover storage targets or other requirements to help ensure that providing flows to meet the flow objectives will not have adverse temperature or other impacts on fish and wildlife or, if feasible, on other beneficial uses.

The program of implementation, as summarized above (see Appendix K for the complete program), applies to the plan area and the extended plan area. Under the program of implementation for the extended plan area there could be changes to upstream reservoir

[6]*Unimpaired flow* represents the water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds. It differs from natural flow because unimpaired flow is the flow that occurs at a specific location under the current configuration of channels, levees, floodplain, wetlands, deforestation and urbanization.

levels and river flows, particularly in drier years. However, the increased frequency of lower reservoir levels and the related physical changes, in the extended plan area would be limited by the program of implementation, which states that the State Water Board will include minimum reservoir carryover storage targets or other requirements to help ensure that providing flows to meet the flow objectives will not have adverse temperature or other impacts on fish and wildlife or other beneficial uses. The program of implementation also states that the State Water Board will take actions as necessary to ensure that implementation of the flow objectives does not impact supplies of water for minimum health and safety needs, particularly during drought periods. Accordingly, when the State Water Board implements the flow requirements, it will consider impacts on fish, wildlife and other beneficial uses and health and safety needs, along with water right priority. Any project-level proceeding would require compliance with the California Environmental Quality Act (CEQA), and the State Water Board would consider project-specific impacts associated with lower reservoir levels, and mitigate any significant impacts.

Southern Delta Water Quality Objectives: The water quality objectives would set the numeric interior southern Delta compliance stations to either 1.0 deciSiemens per meter (dS/m) or 1.4 dS/m. The program of implementation for the water quality objectives includes the following requirements (see Appendix K for the complete program): continue to implement conditions of U.S. Bureau of Reclamation's water rights in compliance with the salinity objective at Vernalis; continue the operation of agricultural barriers at Grant Line Canal, Middle River, and Old River at Tracy or other measures to address the impacts of export operation on water levels and salinity; complete the monitoring special study, modeling improvement plan, and monitoring and reporting protocol; develop and implement a comprehensive operations plan; and Central Valley Regional Water Quality Control Board's (Central Valley Water Board's) discharge controls on in-Delta salt discharges.

The water quality objective for salinity for the three interior compliance stations is currently 0.7 dS/m April–August and 1.0 dS/m September–March (30-day average). Although these objectives have not always been met in the southern Delta, the historical salinity in the southern Delta generally ranges between 0.2 dS/m and 1.2 dS/m during all months of the year. There is a strong relationship between salinity measured at Vernalis and salinity measured in the southern Delta. Generally, the salinity in the southern Delta increases by a maximum of 0.2 dS/m above the Vernalis salinity. Thus, when the Vernalis meets the current water quality objective for salinity, the salinity in the southern Delta is maintained between 0.7 dS/m and 1.2 dS/m (based on the historical monthly EC[7] (salinity record). Because the program of implementation would maintain existing water quality objectives for salinity at Vernalis, it is expected that salinity levels in the southern Delta would remain within the general historical range (0.2 dS/m–1.2 dS/m), and there would be no change from baseline. Furthermore, the program of implementation for the water quality objectives would result in a continuation of maintaining water levels in the southern Delta. This could require continued operation of the temporary barriers in the southern Delta. Therefore, there is no expected change from baseline associated with the operation of the barriers.

[7] In this document, EC is *electrical conductivity*, which is generally expressed in deciSiemens per meter (dS/m). Measurement of EC is a widely accepted indirect method to determine the salinity of water, which is the concentration of dissolved salts (often expressed in parts per thousand or parts per million). EC and salinity are therefore used interchangeably in this document.

Other Indirect Actions, Additional Actions, and Methods of Compliance: Since the proposed water quality objectives could be considered performance standards under Public Resources Code (Pub. Resources Code) Section 21159, an evaluation of the environmental impacts related to reasonably foreseeable methods of compliance with the water quality objectives is required. The evaluation is based on the State Water Board's checklist and is in SED chapters, including Chapter 16, *Evaluation of Other Indirect and Additional Actions,* for the methods of compliance associated with the salinity water quality objectives.

6 **Evaluation of the Environmental Impacts in the Checklist:** The following presents the requirements of the State Water Board with respect to the checklist.

1. The State Water Board must complete an environmental checklist prior to the adoption of plans or policies for the Basin/208 Planning program as certified by the Secretary for Natural Resources. The Environmental Checklist may be modified as appropriate to meet the particular circumstances of a project. (23 CCR § 3777a(2).) The checklist becomes a part of the SED.
2. For each environmental category in the checklist, the State Water Board must determine whether the project will cause any adverse impact.
   - i "Potentially Significant Impact" applies if there is a fair argument that an impact, including those associated with the reasonably foreseeable methods of compliance with the water quality objectives, may be significant. If there are any "Potentially Significant Impact" entries on the checklist, they must be evaluated in the SED or other written documentation, including an analysis of reasonable alternatives and mitigation measures to avoid or reduce any significant or potentially significant adverse impact.
   - ii "Less than Significant with Mitigation Incorporated" applies if the State Water Board or another agency incorporates mitigation measures into the SED that will reduce an impact that is "Potentially Significant" to a "Less than Significant Impact." If the State Water Board does not require the specific mitigation measures itself, then they must be certain that the other agency will in fact incorporate those measures.
   - iii "Less than Significant" applies if the impact will be less than significant, and mitigation is therefore not required.
   - iv If there will be no impact, check the box under "No Impact."
3. The State Water Board must provide a brief explanation for each "Potentially Significant," "Less than Significant with Mitigation Incorporated," "Less than Significant'" or "No Impact" determination in the checklist. The explanation may be included in the written report described in Section 3777(a)(1) or in the checklist itself. The explanation of each issue should identify: (a) the significance criteria or threshold, if any, used to evaluate each question; and (b) the specific mitigation measure(s) identified, if any, to reduce the impact on less than significant. The State Water Board may determine the significance of the impact by considering factual evidence, agency standards, or thresholds. If the "No Impact" box is checked, the State Water Board should briefly provide the basis for that answer.

4. The State Water Board must include mandatory findings of significance if required by State CEQA Guidelines Section 15065.
5. The State Water Board should provide references used to identify potential impacts, including a list of any individuals contacted.

Issues

A significance determination for each environmental issue for the water quality objectives for flow (sometimes hereinafter referred to as the flow requirements) and salinity is provided based upon an assessment of impacts. Each environmental issue contains multiple thresholds, and a checkmark in the table indicates the significance determination under each threshold. An impact is not considered potentially significant if the magnitude and/or possibility of occurrence are below the applied threshold of significance or would be considered speculative. An impact also is not considered potentially significant if mitigation could reduce the impact to a less-than-significant level. Those impacts determined to be potentially significant for the water quality objectives are included for further analysis of the SED. As such, potential impacts described in Chapter 16, *Evaluation of Other Indirect and Additional Actions*, are not considered in this appendix. Resources evaluated in Chapter 16 include all of those on the checklist (i.e., aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology/soils, greenhouse gases, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utility and service systems).

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS[8] Would the project:				
a) Have a substantial adverse effect on a scenic vista?[9]	☑	❒	❒	❒

Discussion

Scenic vistas are areas which have aesthetic value based on their visual characteristics to the greater public and are generally designated by land use documents, such as county general plans. A general description of scenic vistas designated by county general plans within the proximity of the SJR and three eastside tributary rivers is provided for reference below. No specific scenic vistas are designated except for the Merced River and SJR corridors located in the foothills and mountains of the Sierra Nevada in the plan area and extended plan area. The counties in the plan area and extended plan area contain varying provisions in their general plans designating and protecting scenic vistas. Specific scenic vistas are not designated in the *County of Calaveras General Plan* (County of Calaveras 1996). However, the general plan does state that most of the county contains topographic variations and resources that contribute to the county's scenic quality and rural character. These resources include reservoirs, rivers and streams, rolling hills with oak habitat, ridgelines, and forests. Goal V-6 in the general plan calls for the preservation and protection of the scenic qualities of Calaveras County (County of Calaveras 1996). New Melones Reservoir is located in the incorporated city of Angels Camp in Calaveras County. The *General Plan of Angels Camp* does not designate specific scenic vistas (City of Angels Camp 2009). Policies included in the *San Joaquin County General Plan* provide for the protection of views of waterways and preservation of outstanding scenic vistas but do not designate specific scenic vistas (County of San Joaquin 2010). General plans for the counties of Tuolumne and Stanislaus do not designate specific scenic vistas (County of Tuolumne 1996; County of Stanislaus 2011). The *General Plan of the County of Mariposa* does not designate specific scenic vistas (County of Mariposa 2006a). However, the general plan contains policies that provide for the establishment of measures for the protection of large-scale views and viewsheds through comprehensive development standards (County of Mariposa 2006b). Standards must take into account the scenic aspect of the county to conserve designated views and viewsheds (County of Mariposa 2006b). Scenic vistas are generally identified in the *Merced County General Plan* (County of Merced 2012). These scenic vistas include the Merced River and SJR corridors. Goal NR-4 in the plan calls for the protection of scenic resources and vistas (County of Merced 2011). The *General Plan of the County of Madera* does not designate specific scenic vistas (Madera County 1995). The Alpine County General Plan does not designate specific scenic vistas, but

[8] The potentially significant aesthetic impacts are related to recreationalists and, therefore, are addressed in SED Chapter 10, *Recreational Resources and Aesthetics.*

[9] Unless expressly noted otherwise, the questions represent thresholds of significance for purposes of evaluating potential impacts.

does acknowledge the scenic resources of the county contribute to the overall value of the county (County of Alpine 2009).

In the extended plan area, 89 miles of the Tuolumne River and 122 miles of the Merced Rivers are classified as wild and scenic with the rivers contributing to the views of the surrounding landscape (National Wild and Scenic Rivers System 2016). The Stanislaus River is not classified as wild and scenic (National Wild and Scenic Rivers System 2016).

Flow: The flow requirements could change the volume of water in the three eastside tributaries and LSJR in the plan area. However, flows would generally remain within the range of historic levels with annual and interannual variation. Viewers of the river corridors in the plan area would be expected to experience views similar to the existing ones, with peak flows and full rivers during winter storms when reservoirs spill water and lower flows during the late summer and fall when water may be diverted for irrigation or other beneficial uses in the plan area. Therefore, the change in flows in the rivers in the plan area would not significantly alter or adversely change the baseline surrounding landscapes viewed from scenic vistas and are considered less than significant.

Flow in Merced and Tuolumne Rivers contribute to the wild and scenic designations on the Tuolumne and Merced. These rivers, along with the Stanislaus River, contribute to the intact, complete, and vivid views of natural landscapes in the extended plan area. These views generally comprise of expansive views of the natural landscape, including glaciated peaks, lakes, alpine and subalpine meadows, canyons and the rivers, depending on the location in the extended plan area. The Stanislaus and Tuolumne River flows are primarily controlled by numerous upstream reservoirs in the extended plan area, depending on different needs and the time of year (National Wild and Scenic Rivers System 2016). It is anticipated these rivers would continue to be controlled, as such, under the flow requirements; however, decreases in river flows that could occur under the flow requirements could have a substantial adverse effect on a scenic vista particularly on the Merced and Tuolumne, given the official designations. As such, impacts would be potentially significant and are addressed in SED Chapter 10, *Recreational Resources and Aesthetics.*

Surface water elevations at reservoirs may be modified by the flow requirements in the plan area and extended plan area. The surface water elevations currently experience wide fluctuations and no scenic vistas have been designated around the rim reservoirs. However, the reservoirs have been identified as contributing to the scenic quality of the landscapes in the various watersheds; therefore, changes in surface water elevation at the reservoirs that may substantially degrade visual character and quality will be addressed under Threshold I(c). Under baseline conditions, the reservoirs in the extended plan area experience substantial reductions in reservoir elevation level, depending on operational needs (USGS 2016 [Reservoir Gage Data]). However, because they are smaller than the rim reservoirs, substantial decreases in reservoir elevation could greatly affect sensitive viewers (i.e., recreationists). As such, substantial decrease reservoir elevations in the extended plan area could result in altering views associated with wild and scenic designations on the Tuolumne and Merced Rivers and could change the views on the Stanislaus River. Impacts would be potentially significant and are addressed in SED Chapter 10.

The flow requirements could result in a reduction in irrigation water to existing agricultural lands, primarily in the plan area, that could result in a change to agricultural production or the types of agricultural uses. However, agricultural land that is under active production is regularly modified throughout the year. The landscape and views of agricultural land are continually changing with the types of crops grown, which is dictated by numerous variables, such as the seasons and economy.

Therefore, any changes to agricultural crop type or production are not expected to have a substantial adverse effect on an existing scenic vista that may afford views of the agricultural areas, primarily in the plan area.

Southern Delta Water Quality: The existing salinity of the southern Delta would remain within the general historical range of salinity (i.e., 0.2 dS/m–1.2 dS/m). This is because the water quality objective at Vernalis would continue to be met through the program of implementation. The water quality objectives would have no potential to impact scenic vistas in the southern Delta because it is anticipated that baseline water quality conditions would meet the water quality objectives. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☑	❒	❒	❒

Discussion

One of the largest viewer groups affected by changes along a state scenic highway is the travelers along the roadways. Many of the roadways in close proximity to the reservoirs and along the rivers serve as commercial and commuter routes, as well as scenic routes used by recreationists. Viewers who frequently commute via these roadways generally have low visual sensitivity to their surroundings. The passing landscape becomes familiar, and their attention is typically focused elsewhere. At standard roadway speeds, views are fleeting, and travelers are more aware of surrounding traffic, road signs, the automobile's interior, and other visual features of the environment. However, these roadways also may be traveled for their scenic qualities, and recreational travelers on such roadways are likely to have moderate sensitivity because they seek out such routes for their aesthetic viewsheds. Therefore, viewers traveling along state designated scenic highways for recreational purposes are considered moderately sensitive to the views they experience because these views typically are comprised of specific aesthetic resources (e.g., landscapes with variable topography, trees, rocks, etc.). Existing designated state scenic highways in the plan area that could have their views affected as a result of implementing the flow requirements or water quality objectives are described below.

- State Route 49 is an eligible state scenic highway route within the plan area and extended plan area. It extends through Calaveras, Tuolumne, Mariposa, and Madera Counties within the general proximity of the Stanislaus River, New Melones Reservoir, and Tulloch Reservoir; the Tuolumne River and New Don Pedro Reservoir; and the Merced River, Lake McClure, and New Exchequer Dam (Caltrans 2011a). The eligible portion of State Route 49, traveling from north to south, begins in Calaveras County, crosses New Melones Reservoir, the Tuolumne County line, the Tuolumne River as the river enters New Don Pedro Reservoir, the Merced River as it enters Lake McClure, and extends to the southern Mariposa County line (Caltrans 2011a). Views available to viewers using the roadway generally consist of the eastern Sierra Nevada,

comprised of variable topography (mountains, hills, valleys, meadows), trees, rocks, etc. Some rural residential buildings are interspersed along this route along with small towns. The following reservoirs and rivers are visible as the road crosses them: New Melones Reservoir in Calaveras County, Tuolumne River in Tuolumne County, and the Merced River in Mariposa County. The Stanislaus River and Tulloch Reservoir are generally not visible from this route because of intervening landscape and topography (e.g., elevation changes associated with hills and trees). The surface water elevation in the reservoirs is influenced by seasonal changes and the seasonal operation of the dams and this seasonal variation creates an area of exposed sediment with no vegetation growing (also known as the fluctuation zone).

- The eligible portion of State Route 108 begins at the junction of State Route 49, east of New Melones and New Don Pedro in the extended plan area, and travels past Sonora to the northern Tuolumne County line (Caltrans 2011a).
- State Route 4 (also known as Ebbetts Pass Highway) is officially designated as a State Scenic Highway and a National Scenic Byway along the Stanislaus River in the extended plan area (Caltrans 2016; DOT 2016). It extends northward from Calaveras county, east of Arnold, to the Alpine County line and then to State Route 89.
- State Route 140 is officially designated as a State Scenic Highway along the Merced River in the extended plan area (Caltrans 2016). It extends northward from the Mariposa Town planning area to the west boundary of the El Portal town planning area.
- State Route 120 is officially designated as a Connecting Federal Highway and National Scenic Byway along the Merced River in the extended plan area (Caltrans 2016). This route is within Yosemite National Park and offers views of Merced River Canyon and the park.
- Interstate 5 is a state-designated highway route within general proximity of the LSJR. The interstate is designated in the following areas: approximately15 miles in Merced County from State Route 152 to the Stanislaus County line, approximately 28 miles in Stanislaus County from the Merced County line to the San Joaquin County line, and approximately 0.7 mile in San Joaquin County from the Stanislaus County line to Interstate 580 (Caltrans 2011b). This route is located in California's Central Valley, paralleling the Delta-Mendota Canal and the California Aqueduct (Caltrans 2011b).
- There is one state-designated scenic highway route in the southern Delta located in San Joaquin County (Caltrans 2011b). It consists of approximately 0.7 mile of Interstate 5 extending from the Stanislaus County line to Interstate 580 (Caltrans 2011b). Views in this area are comprised of flat agricultural lands and some foothills with interspersed suburban/urban development.

Flow: Viewers of the rim reservoirs traveling along eligible highway 49 currently view the fluctuation zone as water elevations in the reservoirs change due to release schedules. Flows in the rivers and reservoirs would not have the ability to substantially damage scenic resources such as trees, rock outcroppings, and historic buildings adjacent to the scenic road because it is expected water would remain within existing channels and existing rim reservoirs. Views currently are affected by the fluctuation zones and flows in the rivers continually adjust depending on release schedules and the time of year. Furthermore, the State Route 49 currently is only eligible as a scenic highway and not fully designated. The LSJR is generally located more than 5 miles to the east of Interstate 5 and generally is not visible to viewers traveling along the freeway as a result of distance and atmospheric conditions (e.g., weather or haze). Therefore, impacts would be less than significant.

However, in the extended plan area, the reservoirs are typically smaller than the rim reservoirs and greater fluctuations in elevation levels could result in a substantial change to views from designated

State Routes 4, 140 and 120 and eligible State Route 108. In addition, views of the different rivers from Routes 4, 140, 120, contribute greatly to the scenic quality of the routes. As such, impacts would be potentially significant. As such, they are discussed in SED Chapter 10, *Recreational Resources and Aesthetics.*

Southern Delta Water Quality: A change in the water quality objectives would not result in an impact on viewers using the designated section of Interstate 5. The existing salinity of the southern Delta would remain within the historical range of salinity under either objective. This is because the salinity objective at Vernalis would continue to be met under the program of implementation. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☑	❒	❒	❒

Discussion

The visual character and quality of an area is influenced by the different land uses within a view, the intactness (i.e., completeness) of a view, and the vividness (i.e., how the view stands out) of a view. Visual character and quality in relation to the plan area and extended plan area and the flow requirements and water quality objectives is discussed below.

Flow: The new flow requirements would apply to rivers currently located in the mountains and foothills of the eastern Sierra Nevada. The visual character and quality of these areas is generally characterized by intact and vivid views of mountains, foothills, trees, and other topographical features and natural resources. As the rivers leave the foothills and enter the valley, the visual character and quality is generally characterized by less intact and vivid views of flatter land that has less topographic and is interrupted by development along the rivers, such as business buildings and residential homes, as well as flat agricultural land. Due to the variability of rivers and the dynamic shoreline, viewers are generally less sensitive to changes in river height, and are affected only by severely high or low flows. Although the flow requirements would alter the flows in the river, and thus potentially the water level and appearance, these differences would not constitute a significant change in the visual quality of the plan area because flows would generally be higher when compared to baseline, in the plan area. Furthermore, given the existing variability of the volume and duration of river flows viewers would not be sensitive to these changes. Therefore, the flow requirements would not significantly degrade the visual character or quality of the rivers within the landscape, and impacts would be less than significant.

However, as discussed in Threshold I(a), the rivers in the extended plan area contribute to the expansive views of the natural landscape in the extended plan area. Substantial reductions of flow in the rivers could substantially degrade the existing visual character or quality of the reservoirs by recreationists. As such, impacts would be potentially significant and this impact is addressed in SED Chapter 10, *Recreational Resources and Aesthetics*.

The flow requirements could result in a decrease in reservoir surface water elevations, potentially during recreational periods in the plan area and extended plan area when sensitive viewers are most likely to be affected by changing views. This could substantially degrade the existing visual character or quality of the reservoirs experienced by recreationists using the reservoirs. Therefore, impacts would be potentially significant and this impact is addressed in SED Chapter 10.

As discussed above in Threshold I(a), the flow requirements could result in a change to the type of agricultural lands, primarily in the plan area, as a result of potential modifications to surface water diversions. However, agricultural land that is under active production is regularly modified throughout the year. The landscape and views of agricultural land is continually changing with the types of crops grown, which is dictated by numerous variables, such as the seasons and economy. Therefore, any changes to agricultural crop type or production are not expected to result in a substantial degradation of the existing visual character or quality of agricultural lands, primarily in the plan area, and the impact is therefore considered less than significant.

Southern Delta Water Quality: The water quality objectives would apply to salinity in the southern Delta. The southern Delta is comprised of relatively intact and vivid views of primarily rural land with vast areas of open space and flat agricultural land interspersed with the waterways and levees. Trees and other nonagricultural vegetation are also prevalent along waterways. Views become more suburban and urban around the city of Tracy and other smaller municipal areas with increasing commercial buildings, roads, and residential homes. A change to the water quality objectives would not result in a substantial degradation of the existing visual character and quality of the southern Delta. The existing salinity of the southern Delta would remain within the general historical range of salinity under the water quality objectives because the salinity objective at Vernalis would continue to be met under the program of implementation. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives would not produce light or glare. The flow requirements would alter the volume of water in existing rivers during different times of the year. The salinity of the southern Delta would remain within the general historical range of salinity under the water quality objectives. This is because the water quality objective for salinity at Vernalis would continue to be met. Neither would result in light or glare. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (California Department of Conservation 1997), prepared by the California Department of Conservation, as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on forest resources, such as timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and Forest Legacy Assessment Project, as well as forest carbon measurement methodology in forest protocols adopted by the California Air Resources Board (ARB).				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☑	❒	❒	❒

Discussion

Flow: The flow requirements on the three eastside tributaries, including the program of implementation (e.g., water rights proceeding), could result in a decrease in surface water diversions, many of which are used to supply irrigation water to agricultural lands within the plan area and extended plan area. The flow requirements could result in a potential loss of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as these types of agricultural land categories primarily rely on irrigation water. A loss of these types of agricultural lands could result by conversion to nonagricultural uses. Potentially significant impacts could occur; therefore, this issue is addressed in SED Chapter 11, *Agricultural Resources*.

Southern Delta Water Quality: Agricultural uses in the southern Delta currently use water diverted from existing waterways and rely on suitable water quality to irrigate existing crops. Historically, the salinity in the southern Delta ranges from approximately 0.2 dS/m to 1.2 dS/m. Therefore, generally the water quality in the southern Delta sometimes has higher salinity when compared to the current water quality objective. Southern Delta water quality is currently suitable for all crops being farmed in the southern Delta. Southern Delta salinity would remain within the general historical range of salinity because the water quality objective for salinity at Vernalis would continue to be met. Thus, salinity on the LSJR and the southern Delta is not expected to substantially

change. However, salt-sensitive crops, such as dry beans, could be affected. Potentially significant impacts could occur; therefore, this issue is addressed in SED Chapter 11, *Agricultural Resources*.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☑	❒	❒	❒

Discussion

Flow: The flow requirements on the three eastside tributaries, including the program of implementation (e.g., water rights proceeding), could result in a decrease in surface water diversions, many of which are used to supply irrigation water to agricultural lands within the plan area and extended plan area. Potentially significant impacts on agricultural lands under Williamson Act contract resulting from changes in flow requirements are addressed in SED Chapter 11, *Agricultural Resources*.

Southern Delta Water Quality: Agricultural uses in the southern Delta currently divert water from existing waterways and rely on suitable water quality to irrigate existing crops, including crops under Williamson Act contracts. Potentially significant impacts on agricultural lands under Williamson Act contract resulting from changes in water quality objectives for the southern Delta are addressed in SED Chapter 11.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives would not result in a conflict of existing zoning or cause the rezoning of forestland because they would not

change existing zoning. Furthermore, under the flow requirements forests would continue to experience precipitation as they do under baseline conditions in the extended plan area and as such receive the water needed to survive. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Result in the loss of forestland or conversion of forestland to nonforest use?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives would not result in a loss of forestland or conversion of forestland to nonforest use because forestland is not irrigated with water from the three eastside tributaries or LSJR, and there are no forests present in the southern Delta. Forests located in the extended plan area would continue to receive precipitation and experience hydrologic conditions as they do under baseline conditions. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forestland to nonforest use?	☑	❒	❒	❒

Discussion

Flow and Southern Delta Water Quality: As discussed in II(a), impacts on farmland would be potentially significant and this issue is addressed in SED Chapter 11, *Agricultural Resources*. As discussed in II(c) and II(d), there would be no impacts on forestland in the plan area or extended plan area.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	❒	❒	☑	❒

Discussion

Ambient air quality is affected by the climate, topography, and type and amount of pollutants emitted. The plan area is located partially in the San Joaquin Valley Air Basin (SJVAB) and partially in the Mountain Counties Air Basin (MCAB). The extended plan area is also located in the SJVAB and MCAB, as well as in the Great Basin Valleys Air Basin (GBVAB). The following discussion describes climatic and topographic characteristics of the SJVAB, GBVAB and the MCAB, a description of criteria pollutants, relevant air quality standards, and existing air quality conditions within the basins.

Climate and Topography: The plan area and extended plan area are partially located in the SJVAB. The mountain ranges bordering the air basin the Coast Ranges to the west and Sierra Nevada to the east influence wind directions and speeds and atmospheric inversion layers in the San Joaquin Valley. These mountain ranges channel winds through the valley, affecting both the climate and dispersion of air pollutants. Because of the mountain ranges bordering the air basin, temperature inversions occur frequently in the valley. Inversions occur when the upper air is warmer than the air beneath it, thereby trapping pollutant emissions near the surface and not allowing them to disperse upward. Inversions occur frequently throughout the year in the SJVAB, though they are more prevalent and of a greater magnitude in late summer and fall. As a result, of a combination of topographical and climatic factors that result in high potential for regional and local accumulation of pollutants in this area.

The plan area and extended plan area are partially located within the MCAB, and the extended plan area is also located in the GBVAB. The general climate of the region varies based on elevation and proximity to the Sierra Nevada. Due to the complex features of the terrain within the basin, it is possible for various climate types to exist in proximity to one another; the varying patterns of mountains and hills in the basin result in a wide variation of temperature, rainfall, and localized wind. Seasonal meteorology varies substantially, and precipitation generally is light in the summer and much heavier in the winter, with temperatures dropping below freezing at night and precipitation being a mixture of light rain and snow. The meteorology and topography combine so local conditions predominate in determining the effect of emissions in the basin. Inversion layers frequently occur in small valleys and trap pollutants (e.g., carbon monoxide) close to the ground in winter and summer, when longer daylight hours, high temperatures, and stagnant air conditions are suitable for the formation of some criteria pollutants (e.g., ozone).

Criteria Pollutants: The federal and state governments have established ambient air quality standards (AAQSs) for the following criteria pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (both particulate matter smaller than 10 microns or less in diameter [PM10] and particulate matter smaller than 2.5 microns or less in diameter [PM2.5]), and lead. Ozone, NO_2, and particulate matter are generally considered to be regional pollutants as these pollutants or their precursors affect air quality on a regional scale. Pollutants such as CO, SO_2, and lead are considered to be local pollutants. Particulate matter is considered to be both a local and a regional pollutant. In the plan area, PM2.5, PM10, and ozone are considered pollutants of concern. Brief descriptions follow below. Toxic air contaminants (TAC) are also discussed below, although no state or federal AAQSs exist for TACs.

Ozone: Ozone is a respiratory irritant that increases susceptibility to respiratory infections and is a severe eye, nose, and throat irritant. It is also an oxidant that can cause substantial damage to vegetation and other materials. Ozone causes extensive damage to plants by discoloring leaves and damaging cells. Ozone also attacks synthetic rubber, textiles, and other materials. Ozone is primarily a summer air pollution problem. The ozone precursors, reactive organic gases (ROGs) and oxides of nitrogen (NO_X), are mainly emitted by mobile sources and stationary combustion equipment.

Carbon Monoxide: CO is a public health concern because it combines readily with hemoglobin and reduces the amount of oxygen transported in the bloodstream. CO can cause health problems such as fatigue, headache, confusion, dizziness, and even death. Motor vehicles are the dominant source of CO emissions in most areas. Data indicate that local CO concentrations do not approach the state standards; however, CO concentrations in the vicinity of congested intersections and freeways would be expected to be higher than those recorded at the monitoring station. CO concentrations are expected to continue to decline in the SJVAB, MCAB, and GBVAB because of existing controls and programs and the continued retirement of older, more polluting vehicles.

Inhalable Particulates: Inhalable particulates (e.g. PM2.5 and PM10) can damage human health and retard plant growth. Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled. Particulates also reduce visibility and corrode materials. Particulate emissions are generated by a wide variety of sources, including agricultural activities, industrial emissions, dust suspended by vehicle traffic and construction equipment, and secondary aerosols formed by reactions in the atmosphere.

Toxic Air Contaminants: TACs are pollutants which may be expected to result in an increase in mortality or serious illness or which may pose other present or potential hazards to human health. Health effects include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases which lead to death. Although AAQSs exist for criteria pollutants, no standards exist for TACs. For TACs that are known or suspected carcinogens, ARB has consistently found that there are no levels or thresholds below which exposure is risk-free.

Sensitive Receptors: Air Pollution Control Districts have definitions of what a sensitive receptor is, which typically include specific population groups being exposed to certain pollutants for a period of time. Population groups that are more sensitive to air pollution than other groups include children, the elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases. For example, SJVAPCD generally defines a sensitive receptor as a facility that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants, and where there is a reasonable expectation of continuous human exposure according to the averaging period for the AAQSs (e.g., 24-hour, 8-hour, or 1-hour). There are known

sensitive receptors in the plan area and extended plan area. Sensitive receptors are primarily concentrated in urbanized areas, while scattered sensitive receptors are also located in rural areas within the plan area and extended plan area.

Air Quality Regulations: Air quality is regulated at the federal, state, and local levels. The federal government, primarily through the U.S. Environmental Protection Agency (USEPA), sets air quality standards and oversees state and local actions. The federal Clean Air Act requires states to directly regulate both stationary and mobile sources through a state implementation plan (SIP) to provide for implementation, maintenance, and enforcement of health-based national ambient air quality standards.

ARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIP provisions.

Responsibilities of local air districts include overseeing stationary source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by CEQA.

Each of the 35 air pollution control districts in California has its own new source review program and issues its own new source review or prevention of significant deterioration permits to construct and operate. To do so, each district has adopted its own rules and regulations to comply with state and federal laws. These regulations usually incorporate both the California and federal regulations into one or more rules. Depending on the quantity of air pollutants that will be emitted from the source and the area designation for that pollutant, the new or modified source may be required to install best available control technology (BACT). In addition, new and/or modified sources in California may be required, depending on the type and quantity of pollutants emitted, to mitigate or offset the increases in emissions resulting from installation of BACT/lowest achievable emission rate. Conversely, if a source shuts down a permitted emission unit or decreases emissions greater than what is required by any district, state, or federal rule, it may receive emission reduction credits that it may use at a later date to offset new emissions, or that it can sell to another facility that may be increasing its emissions. The cost of these emission-reduction credits is set by the owner of the credits and varies depending on type of pollutant and the district in which they are generated.

Areas are classified as either an attainment or nonattainment area with respect to state and federal air quality standards. These classifications are made by comparing actual monitored air pollutant concentrations to state and federal standards. If a pollutant concentration is lower than the state or federal standard, the area is classified as being in attainment of the standard for that pollutant. If a pollutant violates the standard, the area is considered a nonattainment area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated unclassified. Areas that were previously designated as nonattainment areas but have recently met the standard are called maintenance areas.

PM10, PM2.5, and ozone are of particular concern in the SJVAB. USEPA has classified SJVAB as an extreme nonattainment area for the federal 8-hour ozone standard and a nonattainment area for the federal PM2.5 standard. For the federal CO standard, USEPA has classified most major population centers of the SJVAB as maintenance areas and rural areas of the SJVAB as unclassified/attainment

areas. The SJVAB is classified as a serious maintenance area with regards to the federal PM10 standards.[10] ARB has classified the SJVAB as a severe nonattainment area for the state 1-hour ozone standard and a nonattainment area for the state 8-hour ozone, PM10, and PM2.5 standards. ARB has classified the SJVAB as an attainment area for the state CO standard. SJVAPCD has adopted an air quality improvement plan that addresses NO_X and ROGs, both of which are ozone precursors and contribute to the secondary formation of PM10 and PM2.5. The plan specifies that regional air quality standards for ozone and PM10 concentrations can be met through the use of additional source controls and trip reduction strategies. It also establishes emission budgets for transportation and stationary sources. Those budgets, developed through air quality modeling, reveal how much air pollution can be present in an area before national AAQSs are violated. USEPA has classified the MCAB as a nonattainment area for the federal 8-hour ozone standard in Calaveras and Mariposa Counties. The state has classified the MCAB as nonattainment for ozone and PM10 in Calaveras County and nonattainment for ozone in Mariposa and Tuolumne Counties. The state has classified the GBVAB as nonattainment for ozone and PM10 in Alpine County.

Emissions associated with typical construction activities include construction equipment exhaust, fugitive dust emissions, energy consumption emissions, and mobile source emissions associated with worker commute and material delivery activities. Emissions associated with typical operations include motor vehicle emissions and area source emissions, which often consist of the onsite combustion of natural gas for space and water heating, consumer products (cleaning supplies, kitchen aerosols, cosmetics, and toiletries), and the reapplication of architectural coatings. Approving the flow requirements and the water quality objectives, would neither result in construction activities nor result in increased operational elements (i.e., additional workers, operational and maintenance activities). Therefore, the analysis below evaluates impacts associated with approving the flow requirements or water quality objectives.

Flow: The flow requirements could result in decreased hydropower generation because of the reoperation of the reservoirs. This loss in hydropower generation may necessitate increased production from other power facilities to offset the loss. The lost hydropower generation would be replaced by facilities that currently generate power, such as other renewable generating sources or non-renewable sources. The generation of additional power could result in increased criteria pollutant emissions at other power facilities. However, these power facilities are already built and permitted to emit a maximum amount of criteria pollutants. These facilities are required to offset additional power generation by using pollution credit under existing regulations. Therefore, if additional emissions are generated as a result of a loss of hydropower from the flow requirements, these emissions would be generated by facilities that are permitted to do so. The permit requirements would ensure that there would be no net increase in pollutant emissions, and would be consistent with the air quality plans because there would be no net increase due to the facility's permit requirements.

The flow requirements may also result in additional groundwater pumping to offset the reduction of surface water diversions. This groundwater pumping is anticipated to be within irrigation service areas in the counties identified in the plan area and extended plan area. Additional groundwater pumping could require additional electrical use. Electric pumps are assumed as the flow

[10] The region was reclassified by the EPA from a nonattainment to attainment area for the federal PM10 standard. However, because of the region's previous nonattainment classification for PM10, it is actually a serious maintenance area for the federal PM10 standard.

requirements would be implemented over the long term; therefore, groundwater wells would likely be used continuously in the plan area if needed to replace a reduction in surface water diversions and would be expected to be electric. It is expected that additional groundwater pumping would be powered by electric pumps because they are cheaper and more efficient than diesel pumps over a long-term basis. As discussed above, additional energy would either come from a renewable or nonrenewable energy source that is already permitted, and thus no new operational air quality emissions would be expected. However, a small portion of groundwater pumping may be powered by diesel generators. While it is currently unknown what proportion of groundwater pumping would use electric- or diesel-powered pumps, the installation of additional diesel pumps would need to comply with air pollutant rules and requirements of SJVAPCD, Calaveras County Air Pollution Control District (CCAPCD), Great Basin Unified Air Pollution Control District (GBUAPCD), Mariposa County Air Pollution Control District (MCAPCD), and Tuolumne County Air Pollution Control District (TCAPCD) as part of the permit application. CCAPCD, MCAPCD, and TCAPCD are located within the MCAB and GBUAPCD is located within the GBVAB. SJVAPCD's, CCAPCD's, GBUAPCD's, MCAPCD's, and TCAPCD's air pollutant regulations reduce and control air emissions and risks to health from a variety of emitting sources, including groundwater pumps; therefore, these regulations would preclude the possibility of significant air quality and health risk impacts.

Furthermore, a project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in the applicable air quality plan, which, in turn, would generate emissions not accounted for in the applicable air quality plan emissions budget. Therefore, projects are evaluated to determine whether they would generate population and employment growth and, if so, whether that growth and associated emissions would exceed those included in the relevant air plans. It is not expected that the flow requirements would result in population or employment growth that would result in a conflict with or obstruct implementation of the applicable air quality plan because they would not require activities that are associated with population growth (e.g., housing development, business centers, etc.). Consequently, impacts would be less than significant.

Southern Delta Water Quality: The existing salinity of the southern Delta would remain within the general historical range of salinity under the water quality objectives. This is because the salinity objective at Vernalis would continue to be met. Water quality objectives would not result in emissions of criteria pollutants. Furthermore, a project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in the applicable air quality plan, which, in turn, would generate emissions not accounted for in the applicable air quality plan emissions budget. Therefore, projects are evaluated to determine whether they would generate population and employment growth and, if so, whether that growth and associated emissions would exceed those included in the relevant air plans. It is not expected that the water quality requirements would result in population or employment growth that would result in a conflict with or obstruct implementation of the applicable air quality plan because they would not require activities that are associated with population growth (e.g., housing development, business centers, etc.). Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	❒	❒	☑	❒

Discussion

Flow and Southern Delta Water Quality: As indicated above in Threshold III(a), impacts would be less than significant or would not occur. Air quality impacts would be similar to baseline in the SJVAB, GBVAB, and the MCAB and criteria pollutant emissions would not exceed any quantitative thresholds of significance established by applicable air pollution control districts in the plan area and extended plan area. The proposed objectives would not result in the violation of any air quality standard or contribute substantially to a project air quality violation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	❒	❒	☑	❒

Discussion

Flow and Southern Delta Water Quality: As discussed in Threshold III(a), the plan area and extended plan area are in non-attainment for certain criteria pollutants. However, the flow requirements or water quality objectives are not expected to result in a cumulatively considerable net increase of any criteria pollutant for which the plan area or extended plan area is non-attainment under an applicable federal or state ambient air quality standard because they would not result in new air pollutant emissions. As discussed in Threshold III(a), while generation of additional power could result in increased criteria pollutant emissions at other power facilities, these power facilities are already built and permitted to emit a maximum amount of criteria pollutants. These

facilities are required to offset additional power generation by using pollution credit under existing regulations. The permit requirements would ensure that there would be no net increase in pollutant emissions, and would be consistent with the air quality plans because there would be no net increase due to the facility's permit requirements. In addition, electric or diesel pumps would also need to comply with air pollutant rules and requirements of the various air quality boards identified in Threshold III(a). As such, cumulatively considerable net increase of any criteria pollutant would not occur.

Decreased surface water diversions associated with an increase in river flow has the potential to result in decreased water available for agricultural irrigation, potentially resulting in a reduction of acres in active agricultural production. Active agricultural production is a major source of fugitive dust emissions due to soil disturbance associated with soil tillage and the harvesting of crops. The use of off-road agricultural equipment associated with agricultural activities (e.g., soil tillage, crop harvesting, and pesticide and herbicide application) would also generate large quantities of criteria pollutant exhaust emissions because the equipment is often diesel powered. The agricultural activity of controlled burning of agricultural field wastes also creates smoke emissions.

It is anticipated some croplands could experience reduced irrigation and a potential change in agricultural production primarily within the plan area. If a reduction in irrigation water resulted in a reduction of agricultural acres actively farmed, air quality would potentially benefit (i.e., reduced smoke, fugitive dust, and equipment exhaust emissions) because there would be a reduction in controlled field burning, soil tilling, crop harvesting, and herbicide/pesticide application. In addition, some land would be expected to retain crop stubble cover, ultimately experience vegetative regrowth, or both. This root material and regrowth would stabilize soils and serve to reduce the potential for fugitive dust emissions. In the event that croplands were left unvegetated, fugitive dust emissions could increase from wind-blown dust. However, any potential fugitive dust emissions would be temporary and limited in occurrence on lands that would regain vegetative growth, thereby limiting the potential for long-term fugitive dust emissions from the land surface. In contrast, the current baseline of active agricultural activities and associated emissions occur on a permanent basis, as crop burning, soil tillage, crop harvesting, and pesticide and herbicide application occur seasonally, depending on the type of crop, over the long-term lifespan of the cropland. Therefore, it is anticipated that the limited amount of potential fugitive dust emissions associated unvegetated land would be significantly outweighed by the reduction in potential long-term emissions associated with active agricultural activities. Consequently, impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Expose sensitive receptors to substantial pollutant concentrations?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: As described above under Threshold III(a), air Pollution Control Districts have definitions of what a sensitive receptor is, which typically include specific

population groups being exposed to certain pollutants for a period of time. Population groups that are more sensitive to air pollution than other groups include children, the elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases. As described above under Threshold III(a), the flow requirements or water quality objectives would not result in a net increase in air pollutant emissions. Generally sensitive receptors would be exposed to air quality emissions if there was a net increase in emissions. Given that there would not be a net increase in air pollutant emissions, sensitive receptors within the plan area and extended plan area would not be exposed to substantial pollutant concentrations. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Create objectionable odors affecting a substantial number of people?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: Typically odors are generated with an increase in pollutant concentrations, particularly those related to diesel (e.g., particulate matter). As discussed in Threshold III(a), there would be no net increase in pollutant emissions. As such, a creation of objectionable odors is not expected related to increased pollutant emissions. Therefore, the flow requirements or water quality objectives would not create objectionable odors affecting a substantial number of people. There would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and	☑	❒	❒	❒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Game or U.S. Fish and Wildlife Service?				

Discussion

Flow: Potential impacts on aquatic biological resources and terrestrial biological resources in the plan area and extended plan area resulting from changes in river volume or rates or reservoir fluctuations associated with flow requirements are considered potentially significant and are addressed in SED Chapter 7, *Aquatic Biological Resources*, and SED Chapter 8, *Terrestrial Biological Resources*. In addition, indirect effects related to sensitive species resulting from a potential reduction in active agricultural production acreage associated with a decrease in irrigation water supply availability are addressed in SED Chapter 8.

Southern Delta Water Quality: Salinity in the southern Delta would not affect terrestrial biological resources in the plan area because salinity would be maintained relative to historic conditions. Fish species, terrestrial species, and habitats are tolerant beyond the historic levels of salinity in the southern Delta. Furthermore, salinity is expected to remain within general historical conditions because the salinity objective at Vernalis would continue to be met. As such, impacts would not occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☑	❒	❒	❒

Discussion

Flow: Potential impacts on terrestrial biological resources resulting from changes in river volume or rates or reservoir fluctuations in the plan area and extended plan area associated with flow requirements are considered potentially significant and are addressed in SED Chapter 8, *Terrestrial Biological Resources*.

Southern Delta Water Quality: Salinity in the southern Delta would not affect terrestrial or aquatic habitat in the plan area because salinity would be maintained relative to historic conditions. Fish species, terrestrial species, and habitats are tolerant beyond the historic levels of salinity in the southern Delta. Furthermore, salinity is expected to remain within general historical conditions because the salinity objective at Vernalis would continue to be met. As such, impacts would not occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☑	❒	❒	❒

Discussion

Flow: Potential impacts on terrestrial biological resources in the plan area or extended plan area resulting from changes in river volume or rates or reservoir fluctuations associated with flow requirements are considered potentially significant and are addressed in SED Chapter 8, *Terrestrial Biological Resources*.

Southern Delta Water Quality: Salinity in the southern Delta would not affect wetland resources in the plan area as salinity is expected to remain within general historical conditions because the salinity objective at Vernalis would continue to be met. As such, impacts would not occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☑	❒	❒	❒

Discussion

Flow: In *California Wildlife: Conservation Challenges,* California's 2007 Wildlife Action Plan, the California Department of Fish and Wildlife (formerly the California Department of Fish and Game) (CDFG 2007) documents the significant habitat fragmentation and loss of terrestrial wildlife corridors caused by land conversion for agricultural, residential, and urban land uses. However, implementation of hydrologic regimes have not been implicated in this loss of habitat connectivity, and the implementation of the flow requirements are not expected to cause a significant adverse change in habitat connectivity. The flow requirements would not result in the conversion of riparian habitat or other sensitive natural communities to land uses that would interfere with the movement of native resident or migratory terrestrial species. The flow requirements would generally provide sufficient water for waterfowl in along the LSJR and the three eastside tributaries, which are stopovers on the Pacific Flyway. Impacts would be less than significant.

The migratory corridors for fish are three eastside tributaries and the LSJR and the southern Delta. As such, effects to the migratory corridors as a result of changes in flow, temperature, and floodplain habitat during migration periods for fish could be potentially significant and are addressed in SED Chapter 7, *Aquatic Biological Resources.*

Southern Delta Water Quality: As discussed above, the loss of terrestrial wildlife corridors is typically not associated with a change in water quality. As such, impacts would be less than significant. The existing salinity of the southern Delta would remain within the general historical range of salinity under the water quality objective. This is because the salinity objective at Vernalis would continue to be met. Moreover, the fish species are tolerant beyond these levels of salinity. Therefore, impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☑	❒	❒	❒

Discussion

Flow: Potential impacts on terrestrial biological resources resulting from changes in river volume or rates,reservoir fluctuations, or a potential reduction in surface water associated with flow requirements are considered potentially significant and are addressed in SED Chapter 8, *Terrestrial Biological Resources*.

Southern Delta Water Quality: Salinity in the southern Delta would not affect terrestrial or aquatic habitat in the plan area because salinity would be maintained relative to historic conditions. Fish species, terrestrial species, and habitats are tolerant beyond the historic levels of salinity in the southern Delta. Furthermore, salinity is expected to remain within general historical conditions because the salinity objective at Vernalis would continue to be met. As such, conflicts with local policies or ordinances would not occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☑	❒	❒	❒

Discussion

Flow: Potential impacts on terrestrial biological resources resulting from changes in river volume,rates or reservoir fluctuations, or a potential reduction in surface water associated with flow requirements are considered potentially significant and are addressed in SED Chapter 8, *Terrestrial Biological Resources*.

Southern Delta Water Quality: Salinity in the southern Delta would not affect terrestrial or aquatic habitat in the plan area because salinity would be maintained relative to historic conditions. Fish

species, terrestrial species, and habitats are tolerant beyond the historic levels of salinity in the southern Delta. Furthermore, salinity is expected to remain within general historical conditions because the salinity objective at Vernalis would continue to be met. As such, conflicts with habitat conservation plans or other plans would not occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☑	❒	❒	❒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☑	❒	❒	❒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☑	❒	❒	❒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☑	❒	❒	❒

Discussion of a, b, c, and d

Flow: The flow requirements would change the volume of water within the three eastside tributaries, the reservoirs, and the LSJR. The flow requirements would generally increase the volume of water in the rivers; changes in flow could result in surface water elevation fluctuations at the reservoirs in the plan area and extended plan area. If there is a high potential for historical or archeological resources, unique paleontological resources, or human remains to exist in the reservoirs or within or along the rivers, these resources could be affected by changes in river flow and reservoir surface water elevation fluctuations. Therefore, impacts would be potentially significant and are addressed in SED Chapter 12, *Cultural Resources*.

Southern Delta Water Quality: The salinity in the southern Delta would remain within the general historical range of salinity under the water quality objectives because the water quality objective for salinity at Vernalis would continue to be met. The effect on water quality has no potential to impact the significant historical, archaeological, or paleontological resources or human remains in the southern Delta. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	❒	❒	❒	☑
ii) Strong seismic ground shaking?	❒	❒	❒	☑
iii) Seismic-related ground failure, including liquefaction?	❒	❒	❒	☑
iv) Landslides?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives would either alter the volume of water within rivers or reservoirs in the plan area and extended plan area or maintain the historical range of water quality in the southern Delta. There are no impact mechanisms associated with these actions that could result in an impact on, or be affected by: Alquist-Priolo faults, strong seismic shaking, or seismic-related ground failure or landslides. Furthermore, altering the volume of water in a river would not substantially increase the number of people exposed to the risk of earthquakes or geologic hazards because it would not draw people to earthquake areas or geologic hazard locations not already frequented. Therefore, the flow

requirements or water quality objectives would not have a substantial adverse effect on people or structures. There would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	❒	❒	☑	❒

Discussion

Flow: The flow requirements could result in soil erosion along river banks in the plan area and extended plan area. For the bank erosion impacts, see Threshold IX(c). In addition, increased instream flow requirements could decrease surface water diversions and potentially reduce active agricultural acreage. Thus, indirect soil erosion could also result. The most common type of farmland in the plan area and, thus, the most likely type of farmland to be affected by changes to irrigation practices is designated farmland (i.e., Prime, Unique or Farmland of Statewide Importance). However, the fact that these lands may no longer be irrigated at present levels of water use does not mean they would necessarily be fallowed in perpetuity or potentially converted to non-agricultural uses. Implementation of water conservation measures could allow less water to service more acres. In addition, other less-intensive uses, such as dryland farming, deficit-irrigation (i.e., reduction in irrigation), and grazing could take place on lands that are no longer regularly irrigated. For example, some crops (e.g., alfalfa and pasture) are able to survive under deficit irrigation where only a portion of the crop water demands are met (Putnam et al. 2015a, 2015b). While there could be a decline in yield for these types of crops or a reduction in the full use of pasture, if the full water requirements were continually restricted, they could still potentially remain in agricultural use (Putnam et al. 2015a, 2015b). Finally, even some fallowed lands would be expected to retain crop stubble cover, ultimately experience vegetative regrowth, or both. This root material and regrowth would stabilize soils and serve to reduce the potential for erosion.

Currently, there is active agriculture in all three watersheds of the Stanislaus, Tuolumne, and Merced Rivers and along the LSJR. While the level of connectivity of any specific active agricultural acreage to local drainages (i.e., the ability of loose soil to be delivered to a stream) is unknown, soil disturbance associated with active agriculture practices and irrigation practices currently results in disturbance of topsoil and leads to soil erosion, primarily in the plan area. Active agricultural production, such as soil disturbance resulting from soil tillage, the harvesting of crops, and other activities, is a source of erosion and sedimentation associated (Grismer et al. 2006; O'Geen 2006; Singer 2003). Furthermore, even when soil is not being disturbed, agriculture practices often result in bare soil during the rainy season, which is more susceptible to erosion than soil with vegetation. In contrast, if lands are subject to less intensive use due to a reduction in surface water irrigation (e.g., dryland farming, deficit irrigation, or grazing), there would be no change or potentially less sedimentation and erosion. If active agriculture is reduced, there may be an initial period of increased sedimentation or erosion; however, ultimately, it is expected that the reduced tillage and other activities would result in less sedimentation and erosion. As such, reducing existing levels of soil disturbance associated with active agricultural practices and irrigation could reduce erosion and

the loss of topsoil. Thus, the potential for soil erosion and sediment delivery to streams would be reduced overall. Consequently, impacts would be less than significant.

Southern Delta Water Quality: The water quality objectives would maintain the general historical range of salinity in the southern Delta and would not erode soil or loose topsoil. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☑	❒	❒	❒

Discussion

Flow and Southern Delta Water Quality: See Threshold VI(a) as impacts would be similar with respect to landslides, lateral spreading, liquefaction and collapse. The flow requirements or water quality objectives would not be located on a geologic unit or soil that is unstable or would become unstable, as such, there would be no impacts. However, groundwater overdraft is known to occur in the southern portion of the plan area as a result of groundwater pumping. Therefore, impacts would be potentially significant and land subsidence as it relates to groundwater is discussed in Chapter 9, *Groundwater Resources*.

Southern Delta Water Quality: See Threshold VI(a) as impacts would be similar; there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Threshold VI(a), as impacts would be similar. The flow requirements or water quality objectives would not result in an impact on, or be affected by, expansive soils. Accordingly, the flow requirements or water quality objectives would not create substantial risks to life or property as a result of expansive soil. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Threshold VI(a) as impacts would be similar. The flow requirements or water quality objectives would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☑	❒	❒	❒

Discussion

Flow: The flow requirements have the potential to change flows on existing rivers that generate hydroelectric power in the plan area and extended plan area. The flow requirements may reduce surface water diversions or may increase exports. A potential change in hydroelectric power generation, change in surface water diversions, or a potential increase in exports could result in a change to existing greenhouse gas generation. As discussed above in Threshold III, existing regulations for emitting criteria pollutants requires offsetting emissions based on the permit of the emitting source. However, greenhouse gases are not managed or regulated in this manner in California. Therefore, impacts would be potentially significant and are addressed in SED Chapter 14, *Energy and Greenhouse Gases*.

Southern Delta Water Quality: The general historical range of salinity in the southern Delta would remain unchanged under the water quality objectives. It would not result in emitting greenhouse gas emissions. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☑	❒	❒	❒

Discussion

Flow: See discussion in Threshold VII(a), as impacts would be similar. Impacts would be potentially significant and are addressed in SED Chapter 14, *Energy and Greenhouse Gases*.

Southern Delta Water Quality: See discussion in Threshold VII(a), as impacts would be similar; there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: Hazardous materials are generally the raw materials for industrial or commercial products or processes that may be classified as toxic, flammable, corrosive, or reactive. The flow requirements or water quality objectives would not involve the transport, use, or disposal of hazardous materials. The flow requirements would change the volume of water within existing rivers and reservoirs in the plan area and extended plan area. The water quality objectives for salinity would maintain the general historical range of salinity in the southern Delta. Neither of these actions involves hazardous materials. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Threshold VIII(a) as impacts would be similar; there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Threshold VIII(a) as impacts would be similar; there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	❒	❒	❒	☑

Discussion

Flow: A search was conducted to identify the presence of a Cortese Site (sites compiled as being hazardous materials sites under Government Code, § 65962) for the counties within the plan area and extended plan area (CalEPA 2016). There were no sites identified for Alpine, Calaveras, Tuolumne, or Mariposa Counties on the Hazardous Waste and Substance Site List compiled into the EnviroStor online database managed by the Department of Toxic Substances Control (DTSC) (CalEPA 2016). There were a total of 19 sites identified for Madera, Merced, San Joaquin, and Stanislaus Counties. Of these sites, only two were in proximity to the rivers, rim dams, or other reservoirs in the plan area or extended plan area. These two include sites at the Port of Stockton within close proximity to the LSJR (CalEPA 2016). The flow requirements would not have the potential to modify these sites given the flows would not occur outside of the channels of the river and the Port of Stockton regulates the flows of the river. In addition to these sites identified by the EnviroStor database, CalEPA also identifies leaking underground storage tank sites, sites that have received cease and desist orders (CDOs) or clean up abatement orders (CAOs), and hazardous waste facilities where DTSC has taken corrective action (CalEPA 2016). There are no hazardous waste

facility sites where DTSC has taken corrective action in the plan area or extended plan area (CalEPA 2016). As such, the flow requirements would not affect them. There are approximately 276 active open leaking underground storage tanks in the plan area and extended plan area (CalEPA 2016). There are approximately 60 facilities in the plan area and extended plan area have received CDOs/CAOs not identified as non-hazardous wastes, domestic wastewater or domestic sewage in the plan area and extended plan area (CalEPA 2016). The active and open leaking underground storage tank cases and the CDO/CAO facilities are located throughout the plan area and extended plan area. However, similar to the Hazardous Waste and Substance Sites, the flow requirements would not have the potential to modify these sites because the flows would not occur outside the channels of the river. Therefore, there would be no impacts.

Southern Delta Water Quality: The salinity of the southern Delta would remain within the general historical range of salinity under the water quality objectives because the water quality objective for salinity at Vernalis would continue to be met. Water quality does not have the potential to affect a site on the Cortese List. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements would result in a change in volume of water in existing reservoirs and rivers in the plan area and extended plan area. The water quality objectives would maintain the general historical range of salinity within in the southern Delta. Neither of these actions have the potential to result in an increased capacity at existing airports, a safety hazard to existing airports, or be in conflict with an airport land use plan. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: As described in Threshold VIII(e), the flow requirements or water quality objectives do not involve elements that could increase air traffic volumes or cause a conflict with existing private airstrips. Therefore, neither of these plan amendments has the potential to result in a safety hazard to private airstrips. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	❒	❒	❒	☑

Discussion

Flow: Under the National Dam Safety Program Act of 1996, dam owners are responsible for preparing and implementing emergency action plans (EAPs) for potential dam failures based on guidelines of the Federal Emergency Management Agency (FEMA) or the Federal Energy Regulatory Commission (FERC) for hydropower projects (FERC 2007) in the plan area and extended plan area. EAPs do the following: (1) specify preplanned actions to be taken by dam owners to moderate or alleviate problems at a dam, (2) contain procedures and information for issuing early warning and notification messages to responsible downstream emergency management authorities of an emergency situation, and (3) include inundation maps to show the emergency management authorities the critical areas that require action in case of an emergency. EAPs are periodically updated by dam owners based on changes, such as new contact personnel, and are required to be redistributed to all involved parties every 5 years. The flow requirements could shift the timing of reservoir operations (e.g., flows and storage levels), but the dams would continue to operate within their current design capabilities and specifications. Since the EAPs account for a wide variety of flow scenarios and are regularly updated, the flow requirements would not impair or physically interfere with these adopted emergency plans. Therefore, there would be no impacts.

Southern Delta Water Quality: The general historical salinity range in the southern Delta would be maintained under the water quality objectives because the water quality objective for the salinity objective at Vernalis would continue to be met. Because the salinity objective would continue to be

met without additional flows, the salinity objective would not impair or physically interfere with adopted emergency response or evacuation plans. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements would result in a change in volume of water in existing reservoirs and rivers in the plan area and extended plan area. The general historical salinity range in the southern Delta would be maintained under the water quality objectives because the water quality objective for salinity at Vernalis would continue to be met. The flow requirements and water quality objectives would not involve the construction or operation of housing or the intermixing of residences with wildlands and would not involve increasing the number of people who may be exposed to wildland fires. Therefore, there would be no impacts.

The flow requirements may result in a change in the type of agricultural lands in the plan area as a result of potential modifications to surface water diversions, resulting in fewer acres irrigated. However, agricultural land is typically located in areas with few people or structures and areas with very little wildfire potential (i.e., flat, non-wooded lands) and therefore, it is not expected that this would result in an increase in exposure of people or structures to loss involving wildfires. Therefore, there would be no impacts.

Heavily forested or vegetated areas exist in parts of the plan area and most of the extended plan area. These areas have experienced several forest fires within the past few years. Per Public Resources Code Section 4291 it is required that communities and residences located in State Responsibility Areas (SRAs) clear defensible space around homes and buildings to avoid loss associated with wildfires and follow the requirements of this defensible space (BOF 2006). The defensible space is not irrigated or watered, but rather is a complete clearing of vegetation from around structures to reduce or prevent the risk of damage during a fire. SRAs are areas where the State of California has the primary financial responsibility for the prevention and suppression of wildland fires (BOF 2012a). SRAs are identified parts of Calaveras, San Joaquin, Stanislaus, Tuolumne, Mariposa, and Madera Counties in the plan area and extended plan area (BOF 2012a). In addition, the State of California has identified Very High Fire Hazard Severity Zones the plan area or extended plan area of following counties Calaveras, Tuolumne, Mariposa, and Madera (CALFIRE 2007). These designations allow the State to make recommendations to the local jurisdictions and the government code (Sections 51175–51982) then provides direction for the local jurisdiction to take appropriate actions to help reduce and control the potential for fire (BOF 2012b). This includes the enforcement of the defensible space requirements (BOF 2012b). The flow requirements may

result in a change in reservoir storage in the extended plan area; however, these changes would not alter the requirements of the state and local agencies to enforce defensible space requirements and other requirements to reduce the potential for fire and control fires. Water would continue to be available in either reservoirs or rivers to fight potential forest fires. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY				
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☑	❒	❒	❒

Discussion

Flow: The flow requirements would result in a change in the volume of water in existing reservoirs and rivers in the plan area and extended plan area and would not result in a violation of existing waste discharge requirements. The flow requirements could change the number of exceedances of water quality standards currently experienced at the interior southern Delta compliance stations in the plan area. Further a change in reservoir elevations could potentially result in a violation of water quality standards in the extended plan area. Potentially significant impacts are addressed in SED Chapter 5, *Surface Hydrology and Water Quality*. In addition, potential impacts on drinking water quality are discussed in SED Chapter 13, *Service Providers*.

Southern Delta Water Quality: While the water quality objectives would establish salinity levels to protect agricultural beneficial uses in the southern Delta, potential exceedances of water quality standards may be possible when combined with the flow requirements. As such, impacts would be potentially significant and are addressed in SED Chapter 5, *Surface Hydrology and Water Quality*. In addition, potential impacts on drinking water quality are discussed in SED Chapter 13, *Service Providers*.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☑	❒	❒	❒

Discussion

Flow: The flow requirements could reduce the amount of surface water diversions on the three eastside tributaries in the plan area and extended plan area. This could result in a potential increase in groundwater use to accommodate any potential reduction in surface water diversions. Therefore, impacts would be potentially significant and are addressed in SED Chapter 9, *Groundwater Resources*.

Southern Delta Water Quality: Agricultural users in the southern Delta apply water to irrigate their crops. Some of the agricultural users apply additional water to reduce the salts in the root zone of the crops. However, this water comes primarily from surface water diversions (e.g., the southern Delta channels). Therefore, a change in groundwater pumping would not be expected because most of the irrigation water comes from surface water diversions and would continue to come from surface water diversion. There would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or offsite?	☑	❒		❒

Discussion

Flow: The potential changes in flow conditions under flow requirements could alter the existing drainage patterns of the rivers in the plan area or extended plan area, resulting in substantial erosion or siltation. Therefore, impacts would be potentially significant and are addressed in SED Chapter 6, *Flooding, Sediment and Erosion*.

Southern Delta Water Quality: The salinity of the southern Delta would remain within the general historical range of salinity under the salinity objectives because the water quality objective for salinity at Vernalis would continue to be met. Maintaining water quality would not substantially alter the existing drainage pattern of a site or area. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☑	❒	❒	❒

Discussion

Flow: The flow requirements could change the volume of water in existing reservoirs and rivers during different times of year, which could alter the drainage patterns of the rivers and potentially result in flooding in the plan area or extended plan area. Therefore, impacts would be potentially significant and are addressed in SED Chapter 6, *Flooding, Sediment and Erosion*.

Southern Delta Water Quality: The salinity of the southern Delta would remain within the general historical range of salinity under the water quality objectives because the water quality objective for

salinity at Vernalis would continue to be met. Maintaining water quality would not substantially alter the volume of water in the southern Delta and thus would not result in an increase in flooding. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	❒	❒	❒	☑

Discussion

Flow: The flow requirements could result in a change in the amount of surface water stored in the existing reservoirs or released to the rivers in the plan area and extended plan area. However, the amount of stormwater generated within the watersheds, collected, or discharged to surface waters would remain the same as baseline. Furthermore, the flow requirements would not modify the existing stormwater collection system (e.g., storm sewers or detention basins). Therefore, there would be no impacts.

Southern Delta Water Quality: The salinity of the southern Delta would remain within the general historical range of salinity under the water quality objectives because the water quality objective for salinity at Vernalis would continue to be met. Furthermore, agricultural users are expected to continue using surface water sources to irrigate agricultural crops. Thus, the water quality objectives would not create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial sources of polluted runoff. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Otherwise substantially degrade water quality?	☑	❒	❒	❒

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives could substantially change water quality in the southern Delta such that beneficial uses (i.e., agriculture) are impaired. In addition, the flow requirements could result in a change in contaminant concentrations in the plan area and extended plan area and, thus, substantially degrade water

quality. Therefore, impacts would be potentially significant and are addressed in SED Chapter 5, *Surface Hydrology and Water Quality*.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives would not result in the development of housing. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives would not result in the development of structures. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☑	❒	❒	❒

Discussion

Flow: As discussed in Threshold VIII(g), dams in the plan area and extended plan area would continue to operate as they currently do and within their current design capabilities and specifications. The flow requirements could shift the timing of reservoir operations (e.g., flows and storage levels) in the plan area and extended plan area, but the dams would continue to operate within their current design capabilities and specifications. EAPs, as discussed in Threshold VIII(g), are prepared to avoid potential dam failures, based on FEMA or FERC guidelines, and account for a wide variety of flow scenarios. Therefore the flow requirements would not result in flooding due to the failure of a levee or dam. However, flooding with respect to river levees and downstream river channel capacities and potentially exposing people to flooding is addressed in SED Chapter 6, *Flooding, Sediment and Erosion*, in conjunction with the discussion of Threshold IX(d).

Southern Delta Water Quality: As discussed in Threshold IX(d), the water quality objectives would not result in flooding. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
j) Inundation by seiche, tsunami, or mudflow	❒	❒	❒	☑

Discussion

Flow: The plan area and extended plan area are not located inland and not along the coast; therefore, it is not susceptible to tsunamis or inundation by tsunamis. A seiche is an oscillation of the surface of a landlocked body of water that varies in period from a few minutes to several hours that is caused by ground movement generated by meteorological effects (e.g., wind) or earthquakes. Currently, the existing reservoirs are susceptible to seiches. The flow requirements would not increase the risk of seiches at the rim reservoirs or reservoirs upstream in the extended plan area. Therefore, there would be no impacts. Mudflows generally occur in areas that have a steep relief with little vegetation and are generally caused by instances of high precipitation over short or long periods of time. Currently, the areas with steep slopes and little vegetation that experience heavy precipitation events within the watersheds of the plan area and extended plan area are already susceptible to mudflows. The flow requirements would not increase the risk of mudflows in these areas. Finally, the flow requirements would not result in bringing people to an area susceptible to seiches, tsunamis, or mudflows. In other words, people would not congregate or be located in an area exposed to these risks because of the new flow requirements. Therefore, there would be no impacts.

Southern Delta Water Quality: The salinity of the southern Delta would remain within the general historical range of salinity under the water quality objectives because the water quality objectives at Vernalis would continue to be met. Water quality does not affect the probability of or impact from of a seiche, tsunami, or mudflow. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING				
Would the project:				
a) Physically divide an established community?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The new flow requirements or water quality objectives could result in a change in the volume of water within existing reservoirs or rivers or a change in the chemical properties of existing water quality. Neither of these two changes would physically divide an established community. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☑	❒	❒	❒

Discussion

Flow and Southern Delta Water Quality: As discussed in Threshold II(a) the flow requirements could result in physical environmental effects associated with reducing surface water diversions that serve irrigated agricultural lands, primarily in the plan area. Salt-sensitive crops, such as dry beans, could be affected within the southern Delta in the plan area. Therefore there could be potentially significant impacts related to conflicts with land use plans or policies to protect or preserve agricultural lands. These issues, including potential impacts on salt-sensitive crops, are addressed in SED Chapter 11, *Agricultural Resources*.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☑	❒	❒	❒

Discussion

Flow and Southern Delta Water Quality: Similar to Threshold IV(f) the flow requirements have the potential to result in changes in water level fluctuations around the reservoirs and in the rivers, affecting existing sensitive or special status habitat, plants, or species. This impact would be potentially significant and is addressed in Chapter 8, *Terrestrial Biological Resources*.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES				
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	❒	❒	❒	☑

Discussion

Flow: Mineral resource recovery sites exist on the rivers in the plan area and the extended plan area (Clinkenbeard 1999; Clinkenbeard 2012; Higgins and Dupras 1993; Rapp, Loyd, and Silva 1977; Smith and Clinkenbeard 2012). The flow requirements may affect when existing mineral resources can be accessed, though the flows would not eliminate the availability of those known mineral resources that would be of value to the region or the residents of the state. Furthermore, any mineral resource recovery site on one of the rivers already experiences high peak flows, and the peak flows under the flow requirements would be similar to existing high peak flows. Thus, a change to the timing and frequency of higher flow events would not restrict the availability of a known mineral resource. Therefore, there would be no impacts.

Southern Delta Water Quality: The water quality objectives would maintain the general historical range of salinity in the southern Delta. There would be no activities that would result in the loss of availability of a mineral resource. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	❒	❒	❒	☑

Discussion

Flow: As discussed in Threshold XI(a) there are mineral resources sites (primarily gravel and aggregate) on the rivers within the plan area and extended plan area (Clinkenbeard 1999; Clinkenbeard 2012; Higgins and Dupras 1993; Rapp, Loyd, and Silva 1977; Smith and Clinkenbeard 2012). The California Surface Mining and Reclamation Act (SMARA) requires the State Geologist to classify land into Mineral Resource Zones, according to the known or inferred mineral potential of existing land. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision-makers and considered before land use decisions are made that could preclude mining. Local general plans, specific plans and other local plans refer to, and use the information produced by the State Geologist to identify mineral resources because they are specialized evaluations and because the California geologic survey is the designated agency to perform these surveys under SMARA. As such, impacts would be similar to those disclosed in Threshold XI(a); there would be no impacts.

Southern Delta Water Quality: See Threshold XI(a) as impacts would be similar; there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE				
Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements would result in a change in volume of water in existing reservoirs and rivers in the plan area and extended plan area. The water quality objectives would maintain the general historical range of salinity in the southern Delta. Neither plan amendments would generate noise. Therefore, they do not have the potential to expose people to noise levels in excess of existing noise standards. Thus, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements and water quality objectives would not expose people to groundborne vibrations or groundborne noise because they would adjust the amount of water in rivers and reservoirs and would maintain the general historical salinity in the southern Delta. Thus, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Threshold XII(a) for a discussion as impacts would be similar; there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Threshold XII(a) for a discussion as impacts would be similar; there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Thresholds VIII(e) and VIII(f) for a discussion as impacts would be similar. The flow requirements or water quality objectives do not involve elements that could affect airports and would not expose people to excessive noise levels. Thus, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Threshold VIII(f) for a discussion as impacts would be similar. The flow requirements or water quality objectives do not involve elements that could affect private airstrips and would not expose people to excessive noise levels. Thus, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements or salinity objectives would not involve the construction of new homes or businesses that may induce substantial property growth

in an area. Furthermore, the flow requirements or salinity objectives would not develop any amenities (e.g., malls, amusement parks, hotels) that would attract people to the plan area. Therefore, there would be no impacts.

However, as required by CEQA (State CEQA Guidelines § 15126.2, subd. (d)) growth-inducing effects are discussed in SED Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives would change the volume of water or maintain the existing historical range of salinity, neither of which would involve displacement of a substantial number of housing units or disrupt or divide an established community nor necessitate the construction of replacement housing elsewhere. The percent of unimpaired flow requirement would not apply in a tributary during periods when flows from that tributary could cause or contribute to flooding or other related public safety concern. Therefore, flood releases from the three reservoirs would continue as they currently do and would not increase the flood risk that may cause housing displacement. There would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Thresholds XIII(a) and (b) for a discussion as impacts are similar. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES				
Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of these public services:				
Fire protection?	❒	❒	❒	☑
Police protection?	❒	❒	❒	☑
Schools?	❒	❒	❒	☑
Parks?	❒	❒	❒	☑
Other public facilities?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: An increase in use of public services is generally associated with an increase in population. As a location's population increases, the need for additional or new public services and public service facilities generally increases. The flow requirements would result in a change in volume of water in existing reservoirs and rivers in the plan area and extended plan area. The salinity water quality objectives would maintain the general historical range of salinity in the southern Delta. The plan amendments would not include new structures, such as housing or businesses, or indirectly increase housing or businesses, and therefore would not result in an increase in population needing new or additional fire, police, or other public facilities. In addition, because the plan amendments do not include proposals for new housing, they would not generate students or increase demands for school services or facilities. Parks and other recreational facilities are discussed in Thresholds XV(a) and (b). The plan amendments would not generate increased demands for other public services, such as public transportation, hospitals, libraries, and waste management. There would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☑	❒	❒	❒

Discussion

Flow: An increase in use of existing recreational facilities is typically associated with a substantial increase in the population to accommodate new recreationists. The flow requirements would not result in a substantial increase in population because they would not result in the development of housing or other population-inducing development (e.g., job centers) in the plan area and extended plan area. Therefore, there would be no impacts. However, the potential changes in flow conditions may result in reservoir drawdown, which may in turn result in decreased recreational opportunities on the reservoirs, such as boating, fishing, and swimming in the plan area and extended plan area. Recreationists may also experience a substantial degradation of visual character and quality associated with the three rim reservoirs in the plan area or reservoirs in the extended plan area. In addition, recreational boating, which currently takes place on existing reservoirs and rivers, may be affected such that boating activities move to other areas. Therefore, potentially significant recreational and visual impacts are discussed in SED Chapter 10, *Recreational Resources and Aesthetics*.

Southern Delta Water Quality: The water quality objectives would maintain the general historical range of salinity of the southern Delta. Any existing fluctuations of salinity that would continue under the water quality objectives would be imperceptible to recreationalists who are using the southern Delta for on-water activities, such as boating or kayaking. Water quality would not physically deteriorate existing recreational facilities. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	❒	❒	☑	❒

Discussion

Flow: The flow requirements would not include the development or operation of recreational facilities. An expansion of recreational facilities is typically associated with a substantial increase in the population to accommodate new recreationists. The flow requirements would not result in substantial increase in population because they would not result in the development of housing or other population-inducing development (e.g., job centers) in the plan area and extended plan area. Therefore, the flow requirements are not expected to increase the population such that there would be an expansion of recreational facilities. Impacts would be less than significant.

Southern Delta Water Quality: See XV(a) for discussion as impacts would be similar; there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and nonmotorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The construction or operation of facilities that require use by people, such as commercial buildings, residential housing, military facilities, and industrial facilities, can result in increased use of the transportation system and thus produce traffic. The flow requirements or water quality objectives would not require new construction or the operation of facilities that require use by people. Furthermore, a change in the volume of water or maintaining the historical range of salinity in the southern Delta would not result in additional transit trips and thus would not produce traffic. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: As discussed in Threshold XVI(a), the flow requirements or water quality objectives would neither involve an increased use of the transportation system nor increase traffic conditions, and thus would not conflict with an applicable congestion management program. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, which results in substantial safety risks?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The construction or operation of facilities that require use by people, such as commercial buildings, residential housing, military facilities, and industrial facilities, can result in an increased need for air travel and thus affect air traffic patterns. Flow requirements and or water quality objectives would not involve new construction or operation of facilities used by people, and thus would not result in increased use of air transportation services, such as airplanes or helicopters. Furthermore, a change in the volume of water or maintaining the general historical range of salinity in the southern Delta would not result in additional plane trips and thus would not generate increased air traffic. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The construction or operation of infrastructure, such as roads or buildings, may result in increased hazards due to a design feature (e.g., sharp curve in the road) or incompatible use (e.g., use of roads by slow moving farm equipment). The flow requirements or water quality objectives would not involve the construction or operation of new roads and thus would not result in hazards associated with design features, nor would they create incompatible uses of existing roads. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Result in inadequate emergency access?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: Typically during construction projects, roads are blocked or altered, which can impede emergency access and result in inadequate emergency access. The flow requirements or water quality objectives would not involve construction and thus would not block or alter roads or open space that would be used for emergency access. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Threshold XVI(a) as impacts would be similar. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS				
Would the project:				
a) Exceed wastewater treatment requirements of the applicable regional water quality control board?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements and water quality objectives would not affect wastewater quality being discharged from existing wastewater treatment plants. Wastewater treatment plants would continue to discharge as they currently do. A potential change in the permit requirements of existing wastewater discharges is addressed in Threshold XVII(b). Applicable wastewater treatment requirements would not be exceeded. There would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☑	❒	❒	❒

Discussion

Flow: The flow requirements could result in a change in the volume of water in existing reservoirs or rivers in the plan area or extended plan area. A potential change in volume would not affect existing wastewater treatment facilities located along any of the existing rivers. However, the flow requirements could result in the need for new water facilities if surface water diversions to municipalities or irrigation districts are reduced. Therefore, the possible need to upgrade or expand water facilities and the potentially significant environmental effects of doing so are addressed in SED Chapter 13, *Service Providers*.

Southern Delta Water Quality: The Central Valley Water Board could modify National Pollution Discharge Elimination system permits they use to regulate wastewater treatment plant(s) point-source discharges to the southern Delta. A change to these permits could result in the need to upgrade or expand existing wastewater treatment plants, which could have potentially significant environmental effects. This possible permit change and its potential environmental effects are addressed in SED Chapter 13, *Service Providers*.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See Threshold IX(e) for discussion regarding stormwater drainage facilities as impacts would be similar. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	❒	❒	❒	☑

Discussion

Flow: The flow requirements do not influence or change the demand for water in the plan area or extended plan area. Further, the flow requirements do not need new or expanded entitlements in the plan area or extended plan area. Therefore, there would be no impacts.

Impacts associated with the potential for the flow requirements to reduce the water supply in the plan area and extended plan area available to municipalities or irrigation districts in relation to Threshold IX(b) above (groundwater depletion) and to Threshold XVII(b) above (the need for new water treatment facilities if surface water diversions are reduced), are addressed in SED Chapter 13, *Service Providers*.

Southern Delta Water Quality: The water quality objectives would not require an additional reduction in diversions in order to meet the water quality objectives. Therefore, they would not involve water quantity. The requirement to comply with the Vernalis water quality objective for salinity is included in the baseline; therefore, the salinity objectives for Vernalis would have no effect on water supplies upstream of Vernalis. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives would not generate wastewater beyond that which is currently generated under baseline. Therefore, the flow requirements or water quality objectives have no ability to affect the capacity of existing wastewater treatment facilities. There would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: The flow requirements could change the volume of water within existing reservoirs and rivers in the plan area and extended plan area. This activity would not generate solid waste. The salinity objectives would maintain the general historical range of salinity in the southern Delta and would not generate solid waste. Therefore, there would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Comply with federal, state, and local statutes and regulations related to solid waste?	❒	❒	❒	☑

Discussion

Flow and Southern Delta Water Quality: See XVII(f) for a discussion as impacts would be similar. There would be no impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the	☑	❒	❒	❒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?				

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives have the potential to degrade the quality of the environment. Therefore, impacts would be potentially significant and this is addressed in SED Chapters 5 through 17.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☑	❒	❒	❒

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives have the potential to result in cumulatively considerable effects. Therefore, cumulative effects are addressed in SED Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	☑	❒	❒	❒
c) Does the project have environmental effects which will cause substantial effects on human beings, either directly or indirectly?				

Discussion

Flow and Southern Delta Water Quality: The flow requirements or water quality objectives have the potential to result in some substantial effects on human beings as described above in the various resource area sections where potentially significant effects have been identified, and these are addressed in SED Chapters 5 through 17.

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