

Chapter 15

No Project Alternative

(LSJR Alternative 1 and SDWQ Alternative 1)

15.1 Introduction

The California Environmental Quality Act (CEQA) Guidelines require that the potential impacts of not approving a proposed project be evaluated under a No Project Alternative. “The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.” (Cal. Code Regs., tit. 14, § 15126.6(e)(1).) When the project is the revision of an existing regulatory plan, such as the 2006 *Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary* (2006 Bay-Delta Plan), the No Project Alternative will be the continuation of the existing plan as currently implemented into the future. (Cal. Code Regs., tit. 14, § 15126.6(e)(3)(A).) In general, the existing plan and the projects initiated under the existing plan would continue until the new plan amendments¹ are approved. The No Project Alternative analysis must discuss the existing conditions “as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.” (Cal. Code Regs., tit. 14, § 15126.6(e)(2).)

For the purposes of this analysis, the No Project Alternative is the continuation of the State Water Resources Control Board’s (State Water Board) 2006 Bay-Delta Plan, as implemented through the State Water Board’s Water Right Decision 1641 (D-1641), including implementation of the San Joaquin River (SJR) at Vernalis flow objectives (also referred to as the SJR flow objectives) and the southern Delta salinity (EC²) objectives (including the salinity objective on the SJR at Vernalis). Lower San Joaquin River (LSJR) Alternative 1 and Southern Delta Water Quality (SDWQ) Alternative 1 are referred to as the No Project Alternative in this recirculated substitute environmental document (SED).

This chapter describes the No Project Alternative and the environmental impacts of the alternative compared to impacts under the proposed plan amendments. The No Project Alternative is not baseline for determining whether the impacts of the proposed plan amendments are significant. Baseline is described in Chapter 4, *Introduction to Analysis*, and in the environmental setting section of each resource chapter. The environmental impacts of the other alternatives are described in Chapters 5–14. The cumulative impacts of the No Project Alternative are described in this chapter and the cumulative impacts of the other project alternatives are analyzed in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*. The impacts for all project alternatives, including the No Project Alternative, are summarized in Chapter 18, *Summary*

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

² 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.

of Impacts and Comparison of Alternatives. The No Project Alternative focuses on effects related to implementation of Vernalis flow and southern Delta salinity objectives because these objectives are the ones proposed to be amended. The environmental impacts of the No Project Alternative were evaluated by comparing the State Water Board's Water Supply Effects (WSE) modeling results for the No Project Alternative to baseline and the other alternatives (summarized in Table 15-1).

Appendix D, *Evaluation of the No Project Alternative (LSJR Alternative 1 and SDWQ Alternative 1)*, describes the assumptions used in the WSE modeling of the baseline and No Project Alternative and modeling results. This chapter uses the data and results presented in Appendix D to analyze and summarize the expected impacts associated with the No Project Alternative. Select Appendix D figures and tables are duplicated in this chapter.

The WSE model is discussed in further detail in Appendix F.1, *Hydrologic and Water Quality Modeling*.

15.2 Description of the No Project Alternative

The No Project Alternative assumes continued implementation of, and full compliance with, the 2006 Bay-Delta Plan, as implemented through D-1641. The No Project Alternative focuses on efforts related to the implementation of Vernalis flow and southern Delta salinity objectives because these objectives are the ones proposed to be amended. The Vernalis flow objectives were first established in the 1995 Bay-Delta Plan to protect fish and wildlife beneficial uses. These objectives include the minimum monthly flow rates for fish and wildlife beneficial uses during specific times of the year, as presented in Table 3 of the 2006 Bay-Delta Plan and implemented through D-1641. In D-1641, the State Water Board assigned compliance with these minimum flows on the SJR at Vernalis to the U.S. Bureau of Reclamation (USBR). When the State Water Board subsequently amended the Bay-Delta Plan in 2006, it approved an interim flow regime through the Vernalis Adaptive Management Program (VAMP) experiment, as proposed in the San Joaquin River Agreement (SJRA), in lieu of meeting the April–May pulse flow objective (as presented in Table 3 of the 2006 Bay-Delta Plan).

No Project Alternative conditions differ from the baseline because the Vernalis flow objectives in Table 3 of the 2006 Bay-Delta Plan have not been fully implemented and are not part of the baseline because of implementation of the SJRA and VAMP. The VAMP flows, which are generally lower than the Table 3 flows in the 2006 Bay-Delta Plan, are thus included in the baseline. During VAMP, a portion of the flows needed to comply with VAMP came from the three eastside tributaries³ even though the 2006 Bay-Delta Plan and D-1641 do not contain numeric or narrative flow requirements specific to these rivers. However, the No Project Alternative does not include VAMP flows because that experimental flow regime concluded in 2011. The No Project Alternative and the baseline both include the 2009 National Marine Fisheries Service (NMFS) Biological Opinion (BO) flow requirements on the Stanislaus River, Federal Energy Regulatory Commission (FERC) requirements on the Tuolumne and Merced Rivers, and the Davis-Grunsky requirements on the Merced River.

The No Project Alternative assumes that the flows would continue to be the responsibility of USBR and that the objectives would be met with additional releases from New Melones Reservoir on the Stanislaus River. There are other possible ways that compliance with the objectives could be achieved, but it is speculative to identify which other measures, or combination of measures, would be used. For example, the flow objective could be achieved by a combination of releases from New

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

Melones Reservoir and other actions (e.g., water purchases and transfers among different water users and other upstream SJR actions [such as SJR Restoration Program⁴ flows]). However, these other actions are difficult to predict or quantify. The analytical approach used here evaluates increased releases from New Melones Reservoir to meet the objectives, because such releases could be the primary method by which the Vernalis flow objectives and southern Delta salinity objectives would be achieved. Focusing the evaluation on New Melones Reservoir releases affords an evaluation of maximum potential water supply impacts compared to assuming that increases in Vernalis flow would be distributed among the tributaries.

The No Project Alternative also assumes the continuation of the southern Delta salinity objectives for agricultural beneficial uses, as identified in Table 2 of the 2006 Bay-Delta Plan, and full compliance with these objectives as implemented through D-1641. Under D-1641, compliance with the numeric salinity objectives on the SJR at Vernalis (station C-10) is the obligation of USBR. Compliance with the numeric salinity objectives at the three interior southern Delta compliance stations—SJR at Brandt Bridge (station C-6), Old River near Middle River (station C-8), and Old River at Tracy Road Bridge (station P-12)—are the combined obligation of USBR and the California Department of Water Resources (DWR).

15.3 Model Results

WSE model results for the No Project Alternative are compared to the baseline for the three eastside tributaries in Appendix D *Evaluation of the No Project Alternative (LSJR Alternative 1 and SDWQ Alternative 1)*. This chapter summarizes model results focused on flow, as presented in Appendix D. Figures 15-1a through 15-1c compare the annual baseline flows to the annual No Project Alternative flows for the Stanislaus, Tuolumne, and Merced Rivers, respectively. Table 15-1 compares the monthly cumulative distributions of baseline flow and differences from baseline for the No Project Alternative for the three eastside tributaries and the SJR. Figures 15-2 through 15-5 are exceedance plots for the three eastside tributaries and the SJR, which present the No Project Alternative, the baseline, and the LSJR alternative WSE model results for (a) February–June flow volumes, (b) end-of-September storage (i.e., carryover), (c) diversions, and (d) February–June flow as a percentage of the unimpaired flow⁵. The exceedance plots present the results for the LSJR alternatives to evaluate No Project Alternative impacts if the hydrologic effects of the No Project Alternative are within the range of hydrologic effects evaluated for the LSJR alternatives in Chapters 5–14.

15.3.1 Stanislaus River

The No Project Alternative would greatly affect flow, storage, and water supply diversions on the Stanislaus River. WSE model simulations for all LSJR alternatives and baseline assume Vernalis salinity objectives are met by increased New Melones Reservoir releases if necessary. As described in Appendix D, *Evaluation of the No Project Alternative (LSJR Alternative 1 and SDWQ Alternative 1)*, the No Project Alternative would result in additional New Melones Reservoir releases to meet

⁴ Implementation of the settlement and the Friant Dam release flows required by the San Joaquin River Restoration Program are expected to increase the existing SJR flows at Stevenson in the near future.

⁵ *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.

D-1641 Vernalis flow objectives and D-1641 salinity objectives for south Delta compliance locations downstream of Vernalis. As such, under the No Project Alternative, Stanislaus River February–June flow volumes are generally higher than they were under baseline (Table 15-1, Figure 15-1, and Figure 15-2a). The additional releases required under the No Project Alternative would reduce end-of-September storage (i.e., carryover) in New Melones Reservoir and the volume of water available for diversions along the Stanislaus River. The WSE model results show that New Melones Reservoir carryover storage under the No Project Alternative is lower than it is under baseline in almost all years (1922–2003) (Figure 15-2b). Additionally, the model shows that No Project Alternative diversions from the Stanislaus River are less than baseline diversions in approximately 50 percent of the years; No Project Alternative diversions are substantially reduced during approximately 15 percent of the years (Figure 15-2c).

No Project Alternative flow and storage volumes were also compared to the LSJR alternatives on the Stanislaus River (Figures 15-2a through 15-2d). Under the No Project Alternative, Stanislaus River February–June flow volumes are generally greater than LSJR Alternative 2 flow volumes, except in approximately 35 percent of the wetter years. No Project Alternative flow volumes are less than the LSJR Alternative 3 flow volumes in approximately 65 percent of years, and except under very dry conditions, the No Project Alternative flow volumes are generally much less than the LSJR Alternative 4 flow volumes (Figure 15-2a). New Melones Reservoir carryover storage is similar to or less than storage under LSJR Alternatives 2 and 3 in all years; storage is less than LSJR Alternative 4 storage in approximately half of the years (Figure 15-2b). Lastly, diversions are generally similar to or less than they are under LSJR Alternative 2, especially during drought years; however, the diversions under the No Project Alternative are usually much greater compared to LSJR Alternatives 3 and 4, except again in the driest years when diversions are close to zero (Figure 15-2c).

15.3.2 Tuolumne, Merced, and Lower San Joaquin Rivers

The No Project Alternative would affect the Tuolumne and Merced Rivers differently than it would affect the Stanislaus River. Under baseline, some of the Vernalis flow requirements would come from the Tuolumne and Merced Rivers as part of VAMP (Table D-3). Under the No Project Alternative, the VAMP flows would no longer be in effect; releases to satisfy Vernalis flow requirements would come entirely from the USBR through releases at New Melones Reservoir on the Stanislaus River (Table D-3).

As discussed in Appendix D, *Evaluation of the No Project Alternative (LSJR Alternative 1 and SDWQ Alternative 1)*, Tuolumne River February–June flows (Figures 15-3a and 15-3d), reservoir storage (Figure 15-3b), and diversions (Figure 15-3c) are similar under baseline and the No Project Alternative. The VAMP flows, which are included in the baseline, come primarily from the Stanislaus and Merced Rivers; therefore, replacing VAMP with the full implementation of D-1641, as called for under the No Project Alternative, has minimal effect on the Tuolumne River.

Under the No Project Alternative, February–June flows on the Merced River are lower than they are under baseline in more than 50 percent of years (Figure 15-4a); reduced flows occur during the VAMP months of April and May (Table 15-1). The lower flows under the No Project Alternative would increase the carryover storage in Lake McClure (Figure 15-4b), which is located on the Merced River..

Lastly, driven by the increases in flow on the Stanislaus River, total SJR February–June flows at Vernalis are slightly higher under the No Project Alternative than they are under baseline

(Table 15-1 and Figure 15-5a). In most years, total February–June flows experienced similar increases under LSJR Alternative 2 and the No Project Alternative. However, during the driest years, total February–June flows are slightly lower under LSJR Alternative 2 than they are under the No Project Alternative (Figure 15-5a). In addition, during July and August flows sometimes increase slightly under the No Project Alternative relative to baseline (Table 15-1).

Table 15-1. Monthly Cumulative Distributions of Baseline Flow and Differences from Baseline for the No Project Alternative for the 82-Year WSE Modeling Period

| Percentile | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|--|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|-------|-------|
| Stanislaus Flow at Ripon – Baseline | | | | | | | | | | | | |
| 10 | 729 | 248 | 224 | 270 | 230 | 308 | 573 | 525 | 292 | 293 | 302 | 311 |
| 50 | 889 | 319 | 288 | 337 | 385 | 486 | 1,556 | 1,422 | 629 | 437 | 416 | 419 |
| 90 | 1,116 | 454 | 421 | 576 | 1,285 | 1,911 | 1,997 | 2,107 | 1,655 | 705 | 632 | 667 |
| No Project – Percent Difference from Baseline | | | | | | | | | | | | |
| 10 | -3 | 0 | 1 | 9 | 5 | 1 | 82 | 66 | 121 | 98 | 47 | -8 |
| 50 | -4 | 0 | 7 | 3 | 32 | 31 | 10 | 12 | 49 | 73 | 47 | 0 |
| 90 | -1 | -1 | -3 | -1 | 0 | 0 | 14 | 11 | -8 | 44 | 43 | -6 |
| Tuolumne Flow at Modesto (cfs) – Baseline | | | | | | | | | | | | |
| 10 | 290 | 246 | 257 | 316 | 312 | 349 | 546 | 546 | 270 | 262 | 277 | 256 |
| 50 | 550 | 464 | 470 | 570 | 647 | 1,568 | 1,414 | 1,238 | 499 | 448 | 426 | 422 |
| 90 | 813 | 756 | 1,152 | 3,424 | 5,084 | 5,097 | 4,591 | 4,810 | 4,387 | 3,331 | 652 | 691 |
| No Project – Percent Difference from Baseline | | | | | | | | | | | | |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 | 0 | 0 | 1 | 2 | 11 | 0 | -6 | -12 | 0 | 0 | 0 | 0 |
| 90 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Merced Flow at Stevinson (cfs) – Baseline | | | | | | | | | | | | |
| 10 | 325 | 266 | 277 | 280 | 312 | 283 | 150 | 117 | 88 | 55 | 32 | 55 |
| 50 | 423 | 338 | 348 | 385 | 450 | 384 | 508 | 473 | 225 | 155 | 163 | 170 |
| 90 | 548 | 419 | 991 | 1,621 | 2,556 | 1,728 | 973 | 2,478 | 2,981 | 2,113 | 1,150 | 544 |
| No Project – Percent Difference from Baseline | | | | | | | | | | | | |
| 10 | 0 | 2 | 0 | 0 | 0 | 0 | -29 | -76 | 0 | 0 | 0 | 0 |
| 50 | 0 | 1 | 0 | 0 | 0 | 0 | -54 | -52 | 4 | 0 | 6 | 2 |
| 90 | 3 | 6 | 2 | 0 | 14 | 0 | -5 | 0 | 0 | 0 | 0 | 0 |
| San Joaquin River Flow at Vernalis (cfs) – Baseline | | | | | | | | | | | | |
| 10 | 2,000 | 1,566 | 1,513 | 1,481 | 1,856 | 1,614 | 1,616 | 1,543 | 1,009 | 959 | 1,055 | 1,488 |
| 50 | 2,598 | 1,981 | 1,941 | 2,200 | 3,489 | 3,502 | 4,640 | 4,600 | 2,280 | 1,620 | 1,544 | 2,024 |
| 90 | 3,331 | 2,724 | 4,264 | 10,926 | 15,228 | 13,821 | 12,538 | 13,327 | 11,586 | 6,902 | 2,983 | 2,940 |
| No Project – Percent Difference from Baseline | | | | | | | | | | | | |
| 10 | 0 | 0 | 8 | 5 | 17 | 21 | 42 | 22 | 64 | 71 | 50 | 0 |
| 50 | -1 | 0 | 1 | 1 | 1 | 1 | 0 | -3 | 0 | 18 | 10 | -1 |
| 90 | -1 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | -1 | -1 | -2 | -2 |

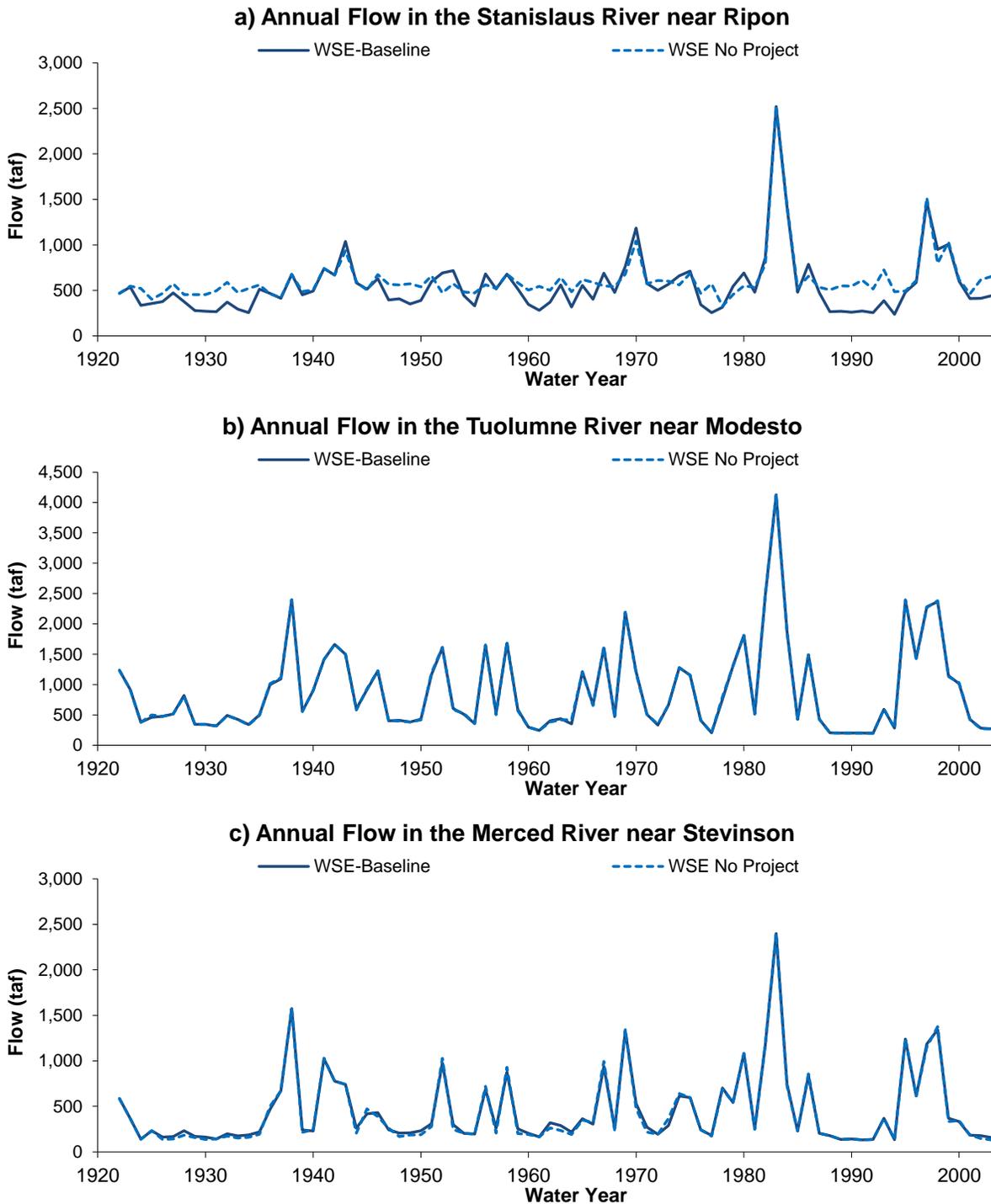


Figure 15-1. Comparison of Baseline and No Project Alternative Annual Flow Volume (TAF = thousand acre-feet) for the (a) Stanislaus, (b) Tuolumne, and (c) Merced Rivers near Their Confluences with the San Joaquin River from 1922–2003

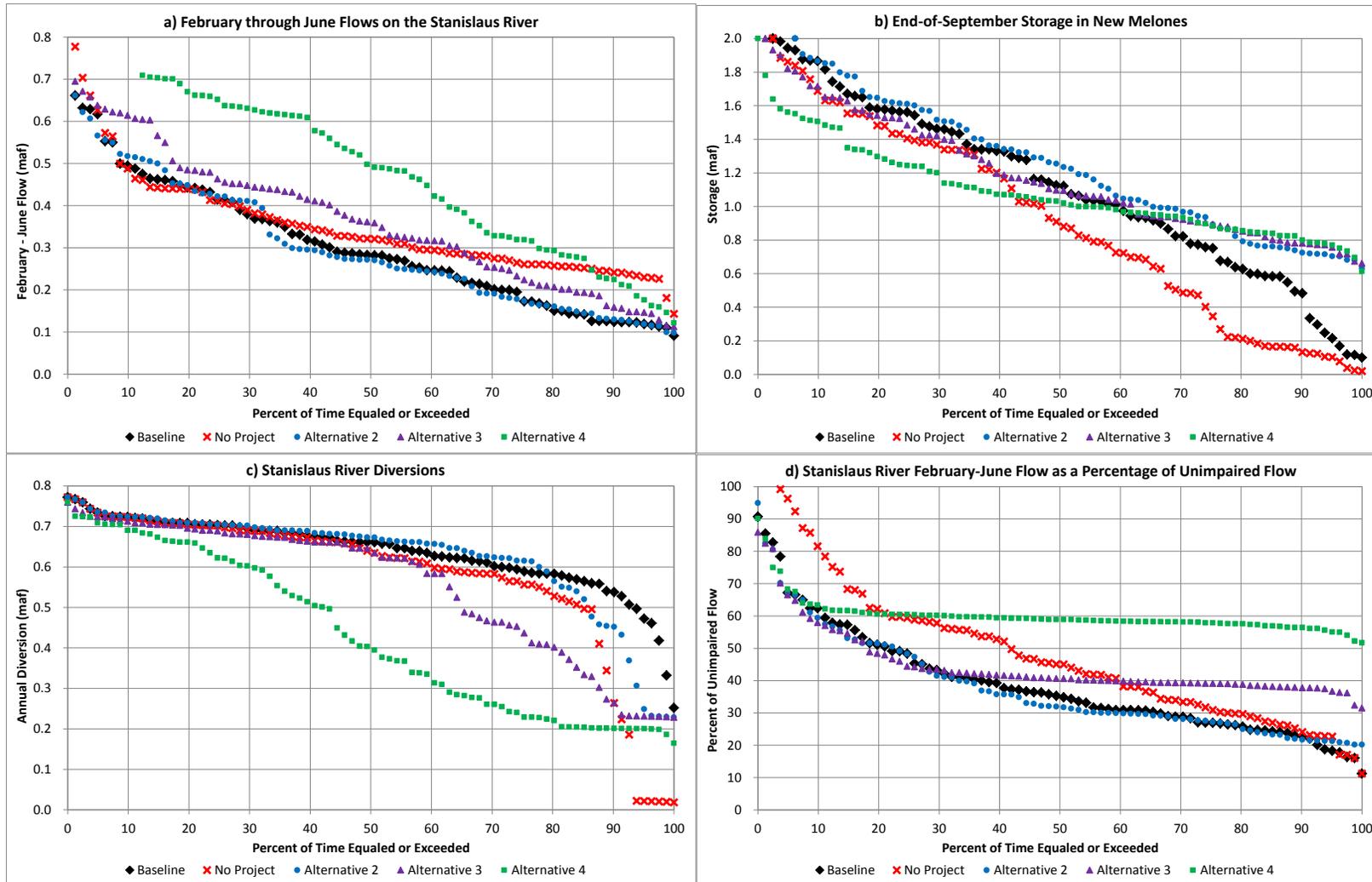


Figure 15-2. Stanislaus River (a) February–June Flow at Ripon, (b) End-of-September (i.e., Carryover) Storage in New Melones Reservoir, (c) Diversions, and (d) February–June Flow as a Percentage of Unimpaired Flow

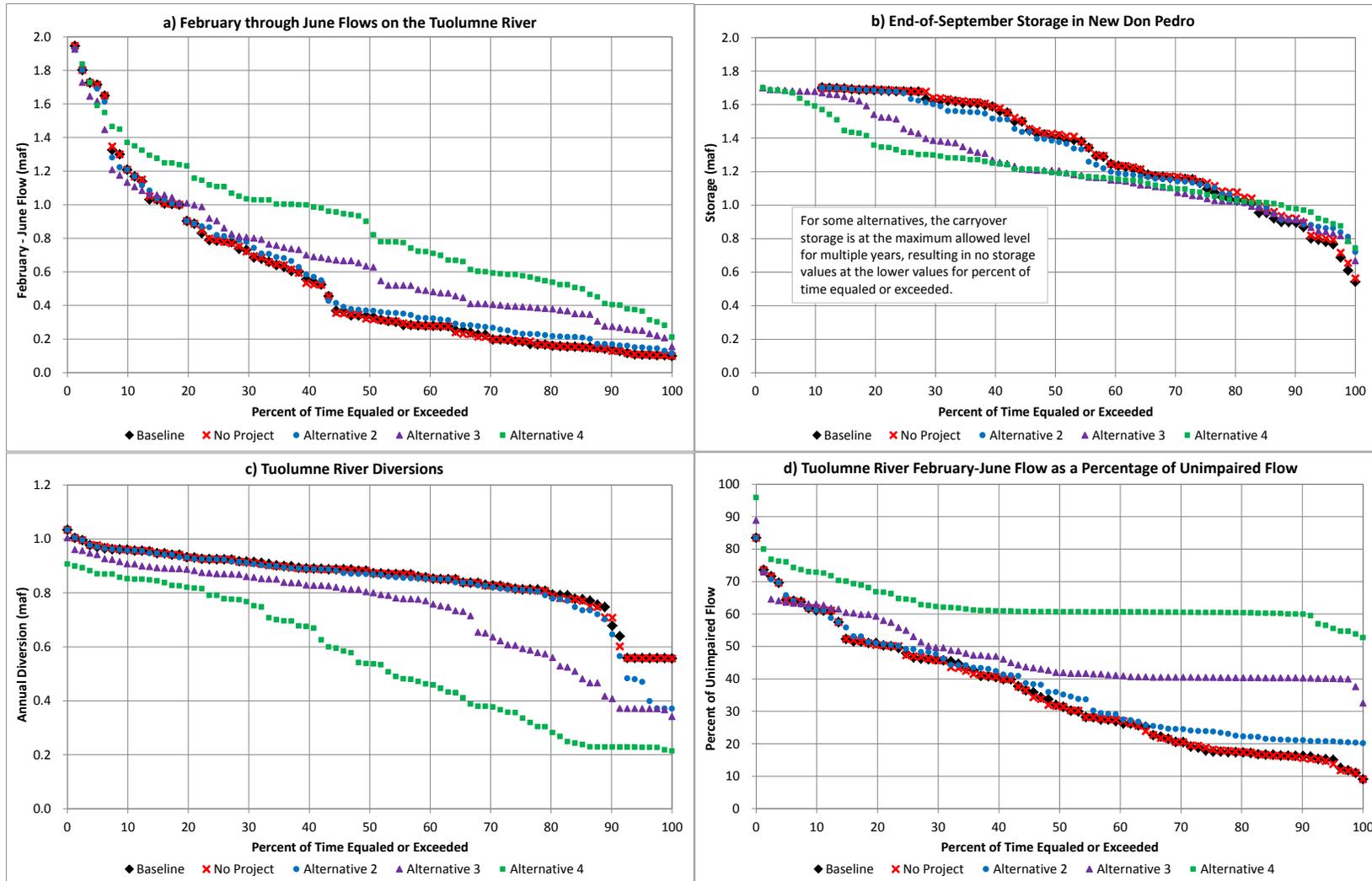


Figure 15-3. Tuolumne River (a) February–June Flow at Modesto, (b) End-of-September (i.e., Carryover) Storage in New Don Pedro Reservoir, (c) Diversions, and (d) February–June Flow as a Percentage of Unimpaired Flow

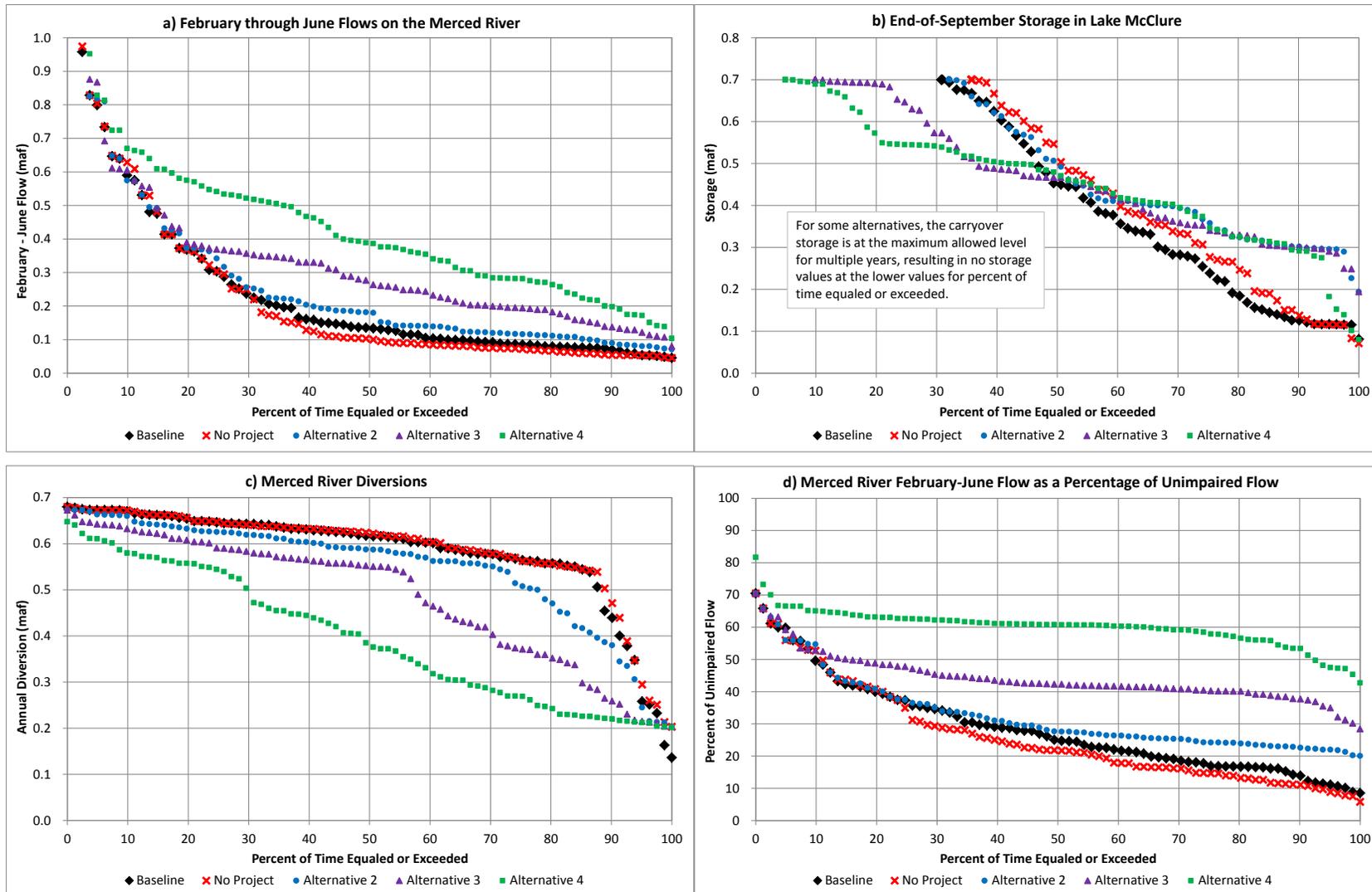


Figure 15-4. Merced River (a) February–June Flow at Stevinson, (b) End-of-September (i.e., Carryover) Storage in Lake McClure, (c) Diversions, and (d) February–June Flow as a Percentage of Unimpaired Flow

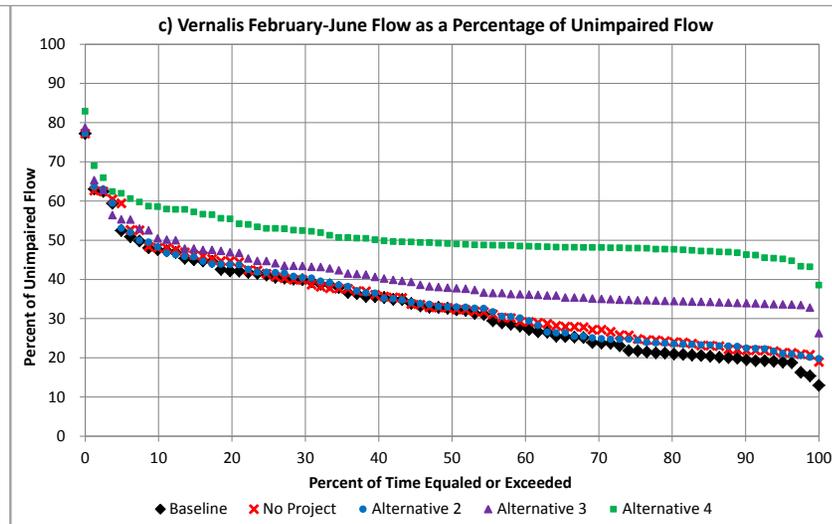
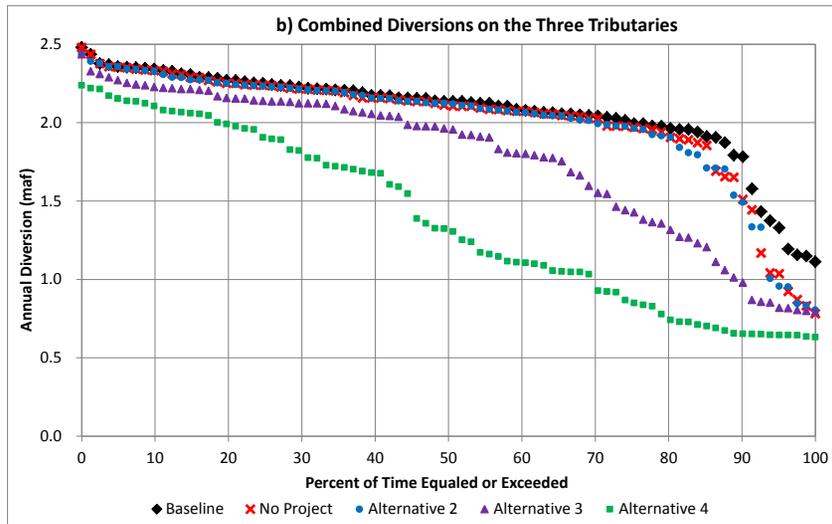
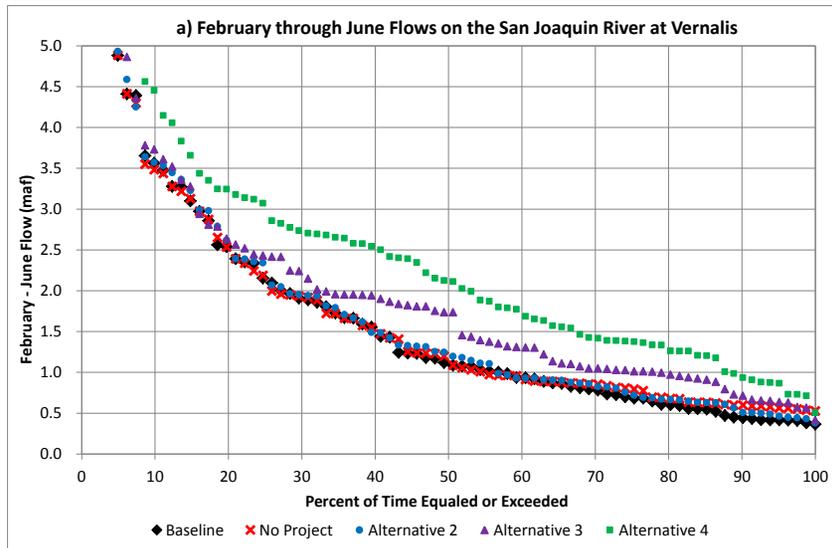


Figure 15-5. San Joaquin River (a) February–June Flow at Vernalis, (b) Combined Diversions from the Three Tributaries (Stanislaus, Tuolumne, and Merced Rivers), and (c) February–June Flow as a Percentage of Unimpaired Flow

15.4 Impacts of the No Project Alternative

The impacts of the No Project Alternative vary among the southern Delta and the three eastside tributaries and reservoirs. These impacts, including cumulative impacts, are summarized in Sections 15.4.1 through 15.4.4. Table 15-2 summarizes the impact determinations for the No Project Alternative.

As described above, the No Project Alternative is the continuation of the current 2006 Bay-Delta Plan as currently implemented into the future. No discretionary approvals would be required to continue operations under the current plan. Since no new project would be approved or carried out in association with the No Project Alternative, potential mitigation is not included in the discussion of impacts below.

15.4.1 Southern Delta

As described above in Section 15.2, *Description of the No Project Alternative*, and Appendix D, *Evaluation of the No Project Alternative (LSJR Alternative 1 and SDWQ Alternative 1)*, the WSE model includes the flows necessary to meet the Vernalis salinity objectives and the downstream salinity objectives. Because the Vernalis objective would continue to be maintained, water quality at Vernalis and in the southern Delta would not change from baseline. As explained below in Table 15-2, however, it is unlikely that service providers would be able to meet the current 2006 Bay-Delta Plan salinity objectives at all times and that to avoid exceedances of the objectives or permit requirements, they may construct new wastewater treatment facilities or other facilities, or expand such facilities, which could cause significant environmental effects.

15.4.2 Stanislaus River and New Melones Reservoir

The No Project Alternative February–June flows would be greater than baseline and LSJR Alternative 2 in approximately 65 percent of the years on the Stanislaus River. Furthermore, the No Project Alternative flows would be higher than LSJR Alternative 3 in the driest 35 percent of the years and higher than LSJR Alternative 4 in the driest 10 percent of the years (Figure 15-2a). As discussed in Chapters 5–14, the impacts on many flow-dependent resources (e.g., aquatic resources and terrestrial biological resources) associated with the No Project Alternative would generally be similar to those impacts associated with LSJR Alternative 3. However, New Melones Reservoir carryover storage levels would be lower under the No Project Alternative than they would be under baseline. The lower carryover under the No Project Alternative would increase the salmon and steelhead populations' exposure to stressful summer and fall water temperatures in the Stanislaus River relative to baseline.

Surface water diversions would also be lower under the No Project Alternative than under baseline or LSJR Alternative 2 conditions in approximately 50 to 65 percent of the years; diversions would be substantially reduced in approximately 15 percent of the years (Figure 15-2c). In all but the driest 10 percent of the years, more diversions could occur under the No Project Alternative than under LSJR Alternatives 3 and 4 (Figure 15-2c). Overall, the reductions to surface water diversions associated with the No Project Alternative would fall between the impacts associated with LSJR Alternatives 2 and 3.

Reductions in surface water supply deliveries under the No Project Alternative would result in resource impacts similar to those identified for LSJR Alternative 3 in Chapter 11, *Agricultural Resources*, and Chapter 9, *Groundwater Resources*. New Melones Reservoir elevation and carryover storage would be significantly lower under the No Project Alternative than under the baseline or LSJR Alternatives 2 or 3. Additionally, during years with low storage (i.e., storage less than median), New Melones Reservoir storage would be much lower under the No Project Alternative than it would be under LSJR Alternative 4 (Figure 15-2b). No Project Alternative conditions would result in much greater impacts on certain resources (e.g., recreation, cultural resources, and energy) than the conditions described for LSJR Alternatives 2, 3, or 4 in Chapters 5–14.

Impacts on aquatic resources resulting from the No Project Alternative on the Stanislaus River and at New Melones Reservoir were determined to be significant (Table 15-2). Although some of the impacts could be reduced or eliminated by allowing lower flows than those required in the 2006 Bay-Delta Plan the State Water Board is required to comply with adopted or approved water quality control plans (Water Code, § 13247). As such, the State Water Board cannot authorize lower flows than those required by the 2006 Bay-Delta Plan without amending the 2006 Bay-Delta Plan which would be inconsistent with the concept and definition of the No Project Alternative (i.e., continuation of the 2006 Bay-Delta Plan).

15.4.3 Tuolumne River and New Don Pedro Reservoir

The No Project Alternative February–June flows on the Tuolumne River would generally be the same as under baseline (Figure 15-3). Given the minimal difference between the No Project Alternative and baseline, flow impacts on the Tuolumne River would generally not occur. Furthermore, surface water diversions from the Tuolumne River and carryover storage in the New Don Pedro Reservoir (on the Tuolumne River) would be similar to baseline. Therefore, surface water diversion impacts and reservoir storage impacts under the No Project Alternative would not be substantially different from impacts under baseline (Figure 15-3). There would be no impact.

15.4.4 Merced River and Lake McClure

Under the No Project Alternative, carryover storage in Lake McClure on the Merced River would be greater than under baseline because of the reduction in flows otherwise released for VAMP under baseline (Figure 15-4b). Under the No Project Alternative, February–June flows on the Merced River would be less than baseline in more than 50 percent of years (Figure 15-4a), with all the reductions occurring during April and May (Table 15-1), as a result of no VAMP implementation..

Under LSJR Alternatives 2, 3, and 4, the Merced River flows would generally be increasingly higher than they would be under baseline. Therefore, impacts on resources requiring or relying on flows in the Merced River (e.g., aquatic resources) under the No Project Alternative would generally be more severe than those of the LSJR Alternatives 2, 3, and 4, as described in Chapters 5–14. Surface water diversions would be similar to baseline on the Merced River; therefore, surface water diversion impacts would not change substantially from baseline (Figure 15-4c).

In Table 15-2, impacts resulting from the No Project Alternative on the Merced River are determined to be significant

15.4.5 The Extended Plan Area

The State Water Board implemented the No Project Alternative through Decision 1641, and the responsibility for implementation does not extend to the extended plan area. Thus, there are no impacts in that area resulting from the No Project Alternative.

15.5 Cumulative Impacts of the No Project Alternative

Cumulative impacts are defined in the State CEQA Guidelines as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” (Cal. Code Regs., tit. 14, § 15355.) A cumulative impact from several projects is “the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” (Cal. Code Regs., tit. 14, § 15355, subd. (b).)

Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*, includes Table 17-1, a list of past, present, and reasonably foreseeable future projects considered for the cumulative analysis of the impacts of all the alternatives. Present and reasonably foreseeable future projects are projects that are currently under construction, approved for construction, have submitted a request for approval or review by an agency, or are in the final stages of formal planning. These projects were identified by reviewing available information and are summarized in Chapter 17. All past, present, and reasonably foreseeable future projects listed in Chapter 17 are considered, as appropriate, for the No Project Alternative cumulative analysis.

15.5.1 Summary of Potential Cumulative Impacts on Resource Areas

This section summarizes the potential cumulatively considerable effects of the No Project Alternative and potentially significant cumulative impacts. The cumulative impact determinations for the No Project Alternative are based on the changes to the environment described by region in Section 15.4 (more detailed descriptions of the environmental settings for various resources can be found in Chapters 5-14). Impacts resulting from the No Project Alternative, which are described in Table 15-2, are considered in combination with impacts resulting from projects listed in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*, Table 17-1, to determine if, in light of the other projects, the impacts of the No Project Alternative are cumulatively considerable or result in a significant cumulative effect. As discussed in Section 15.4, the No Project Alternative would have no impact on Tuolumne River resources or resources affected by New Don Pedro Reservoir operations. Because the No Project Alternative would have no impact on resources within the Tuolumne River Watershed, it would have no cumulative impact in that watershed. The relevant projects listed in Table 17-1 and the No Project Alternative could cause cumulative impacts primarily through changes to flows in the tributaries or in the LSJR, changes in groundwater pumping, or through changes to the operation of the primary rim reservoirs in the plan area.

15.5.1.1 Hydrology and Water Quality

The No Project Alternative, based on the 2006 Bay-Delta Plan, would generally increase flows on the Stanislaus River, have no change on the Tuolumne River, and reduce flows on the Merced River. Because the Vernalis objective would continue to be maintained, water quality at Vernalis and in the southern Delta would not change from baseline and in fact may improve due to increased flows from New Melones. Reduced flow on the Merced River would have a significant impact under the No Project Alternative (see Impact WQ-3 in Table 15-2). The No Project Alternative may result in a cumulatively considerable incremental contribution to a cumulative effect or in a potentially significant cumulative effect on hydrology and water quality in combination with other projects described in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*, that divert water from, or potentially add to or otherwise concentrate pollution in, the Merced River. The cumulative impact on hydrology and water quality is potentially significant.

15.5.1.2 Flooding, Sediment and Erosion

Under the No Project Alternative, flows would be lower than channel capacities on the three tributaries and LSJR as described in Chapter 6, *Flooding, Sediment, and Erosion*. Flows under the No Project Alternative would also not change reservoir flood storage capacity or violate U.S. Army Corps of Engineers flood reservation for the reservoirs in the plan area. Therefore the No Project Alternative would not result in a cumulatively considerable incremental contribution to cumulative impacts and there is no significant cumulative impact related to flooding, sediment, and erosion.

15.5.1.3 Aquatic Resources

The changes to the environment potentially caused by the No Project Alternative (see Table 15-2)—especially changes in flows to the three tributaries, changes in reservoir operations and storage levels, and changes to habitat within the plan area—are potentially similar to the impacts that may be caused by projects listed in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*, that affect hydrology and reservoir operations in the watershed. Therefore the No Project Alternative may result in a cumulatively considerable incremental contribution to a cumulative impact or in potentially significant cumulative impact on aquatic resources in combination with other projects. The cumulative impact on aquatic resources is potentially significant.

15.5.1.4 Terrestrial Biological Resources

The changes to the environment potentially caused by the No Project Alternative (see Table 15-2), especially a reduction in flow on the Merced River and changes to riparian habitat within the plan area, are potentially similar to the impacts that may be caused by several of the projects listed in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*. Therefore the No Project Alternative could result in cumulatively considerable incremental effects and may result in significant cumulative impacts on terrestrial biological resources.

15.5.1.5 Groundwater Resources

Surface water diversions on the Stanislaus River would be reduced by approximately 9 percent under the No Project Alternative (see Table 15-2). This reduction could lead to an increase in groundwater pumping and in subsidence, which is potentially similar to the impacts that may be

caused by several of the projects listed in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*. Although the impacts of the No Project Alternative to groundwater are not found to be significant, the No Project Alternative could result in a cumulatively considerable incremental effect on groundwater resources.

15.5.1.6 Recreational Resources and Aesthetics

The No Project Alternative could potentially result in reduced access to boat ramps and potentially degrade the visual quality or character of New Melones Reservoir. The potential reduction in the level of New Melones Reservoir caused by the No Project Alternative (see Table 15-2), is potentially similar to the impacts that may be caused by several of the projects listed in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*. Therefore the No Project Alternative could result in cumulatively considerable incremental effects in connection with the effects of other projects and potentially significant cumulative impacts on recreational resources and aesthetics.

15.5.1.7 Agricultural Resources

The No Project Alternative could result in conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses as a result of the reductions in surface water diversions on the Stanislaus River (see Table 15-2). A reduction in diversions on the Stanislaus River may also be caused by projects listed in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*. Therefore the No Project Alternative could result in cumulatively considerable incremental effects or in potentially significant cumulative impacts on agricultural resources.

15.5.1.8 Cultural Resources

The end-of-September storage at New Melones Reservoir, under the No Project Alternative, is anticipated to be greatly reduced in over half the years when compared to baseline. This would potentially expose cultural resources and raise the potential for adverse impacts (see Table 15-2). A reduction in storage at New Melones Reservoir may also be caused by several of the projects listed in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*. For example, compliance with BOs and salinity control related projects could add to a reduction in storage. Therefore the No Project Alternative could result in cumulatively considerable incremental effects or in a significant cumulative effect in combination with other projects on cultural resources.

15.5.1.9 Service Providers

Based on current effluent discharge concentrations and past exceedances, it is unlikely that existing service providers would be able to meet the current 2006 Bay-Delta Plan salinity objective of 0.7 dS/m from April to August as would be implemented under the No Project Alternative. Additionally, it is unlikely that the Cities of Tracy and Stockton meet the current 2006 Bay-Delta Plan salinity objective of 1.0 dS/m from September–March (see Table 15-2.) There are projects listed in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*, that potentially change flow paths and salinity in locations that could affect service providers' ability to comply with the southern Delta salinity objectives in the 2006 Bay-Delta Plan.

Therefore the No Project Alternative could result in cumulatively considerable and incremental effects or potentially significant cumulative impacts on service providers.

15.5.1.10 Energy and Greenhouse Gases

The reduction in diversions on the Stanislaus River could cause a shift to more groundwater pumping and a potential shift from hydropower to non-hydropower energy production. Changes in operations and storage levels at New Melones reservoir could result in reliability impacts on electrical production at the New Melones hydroelectric plant. See Table 15-2 for further details. Similar impacts involving a reduction in flows on the Stanislaus River or impacts on storage levels in New Melones Reservoir may be caused by several of the projects listed in Chapter 17, *Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources*. For example, compliance with BOs and salinity control related projects could add to a reduction in storage. Therefore the No Project Alternative could result in cumulatively considerable incremental effects or in potentially significant cumulative impacts on energy and greenhouse gases.

15.5.2 Additional Resource Areas Considered for Cumulative Impacts under the No Project Alternative

Resource areas were initially evaluated using Appendix B, *State Water Board's Environmental Checklist*. Resource areas that were determined to need further analysis (i.e., impacts are listed as "Potentially Significant Impacts") are evaluated in the resource chapters (Chapters 5–14). However, some resource areas determined to have "Less-than-Significant Impacts" and thus were only evaluated in Appendix B. These resource areas are discussed below to assess if their incremental impacts are cumulatively considerable when added to the potential impacts of the projects listed in Table 17-1. If an impact does not result in part from the No Project Alternative, it is not discussed.

15.5.2.1 Air Quality

Air quality impacts are discussed in Appendix B, *State Water Board's Environmental Checklist*, Section III, *Air Quality*. In summary, changes in operations at New Melones Reservoir could result in decreased hydropower generation. This loss in hydropower generation may necessitate increased production from other power facilities to offset the loss. Implementation of the No Project Alternative may also result in additional groundwater pumping to replace Stanislaus River diversions. This groundwater pumping is anticipated to be within irrigation service areas and could require additional electrical use. Electric pumps are assumed as the No Project Alternative would be implemented over the long term since they are cheaper and more efficient than diesel pumps over a long term. Reduction in surface diversions from the Stanislaus River could also result in removal of croplands from agricultural production. As discussed in Appendix B, Section III(c), the net effect of would not increase fugitive dust emissions. Implementation of air quality plans would not be affected. There would be no impacts on air quality related to SDWQ from implementation of the No Project Alternative.

The analysis in Appendix B, Section III, does not reveal potential for the No Project Alternative to have an cumulatively considerable incremental effect on air resources. There is no significant cumulative impact.

15.5.2.2 Geology and Soils

Impacts on geology and soils are initially discussed in Appendix B, , *State Water Board's Environmental Checklist*, Section VI, *Geology and Soils*. Detailed analysis of subsidence is included in Chapter 9, *Groundwater*, and erosion is analyzed in Chapter 6, *Flooding, Sediment, and Erosion*. Erosion impacts related to reduced irrigation of irrigated lands are not cumulatively considerable and are less than significant. As discussed in Chapter 11, *Agricultural Resources*, while some agricultural land could be taken out of irrigated agricultural use as a result of the LSJR alternatives (particularly LSJR Alternatives 3 and 4), many of these lands could remain in agricultural use, even if they are not irrigated. Further, they must remain in uses that are compatible with applicable local land use plans, policies or regulations. In addition, the implementation of agricultural practices to address dust control, weed abatement, and revegetation would result in an insubstantial amount of soil erosion or loss of topsoil. None of the other impact areas included in Section VI have impacts caused by any of the project alternatives, including the No Project Alternative. Any other potential cumulative impacts related to subsidence and erosion caused by the No Project Alternative are discussed in Section 15.5.1 under the two topics Flooding, Sediment and Erosion and Groundwater Resources. There would be no impacts on geology and soils specifically related to the SDWQ from implementation of the No Project Alternative.

Other than as discussed in Section 15.5.1 there are no cumulatively considerable impacts on geology and soils caused by the No Project Alternative.

15.5.2.3 Land Use and Planning

Impacts involving land use and planning are initially discussed in Appendix B, *State Water Board's Environmental Checklist*, Section X, *Land Use and Planning*. Two areas within Section X included potentially significant impacts and are analyzed in Chapter 8, *Terrestrial Biological Resources*, and Chapter 11, *Agricultural Resources*. Discussion of cumulative impacts on land use and planning for the No Project Alternative are covered under these two topics in Section 15.5.1. Other areas related to land use and planning do not result in significant cumulative effects.

15.5.2.4 Utilities and Service Systems

Impacts on utilities and service systems are initially discussed in Appendix B, *State Water Board's Environmental Checklist*, Section XVII, *Utilities and Service Systems*. Analysis of the potential for construction of new or expanded water, wastewater or drainage facilities, or any impact on water supplies is covered by Chapter 5, *Surface Hydrology and Water Quality*; Chapter 9, *Groundwater Resources*; and Chapter 13, *Service Providers*. Any cumulative impacts related to utilities and service systems caused by the No Project Alternative are discussed in Section 15.5.1 under the three topics of Chapters 5, 9, and 13. There would be no other impacts on utilities and service systems related to SDWQ from implementation of the No Project Alternative. No further areas related to utilities and service systems require discussion.

Table 15-2. Summary of Impact Determinations for the No Project Alternative (LSJR Alternative 1 and SDWQ Alternative 1)

| Impact Statement | Impact Determination | Discussion |
|---|-----------------------|--|
| Hydrology and Water Quality | | |
| Impact WQ-1: Violate water quality standards by increasing the number of months with EC above the water quality objectives for salinity at Vernalis or southern Delta compliance stations | Less than significant | The No Project Alternative is the continuation of the existing 2006 Bay-Delta Plan, which includes implementation measures to achieve water quality objectives (e.g., the Vernalis and southern Delta EC objectives). Under baseline, the southern Delta EC objectives are not always be attained. Evaluation of monthly flows (Table 15-1) shows that, although a few of the median No Project Alternative flows are less than baseline, Vernalis flows are generally higher under the No Project Alternative, especially during years with low flow (which would be more likely to have EC violations). Because higher flows generally reduce EC, the No Project Alternative would not be expected to cause an increase in the amount of time the water quality objectives for salinity are exceeded at Vernalis or southern Delta compliance stations. Therefore, increased exceedance of EC objectives at the Vernalis or southern Delta compliance stations would be unlikely to occur under the No Project Alternative. The impact is less than significant. |
| Impact WQ-2: Substantially degrade water quality by increasing Vernalis or southern Delta salinity (EC) such that agricultural beneficial uses are impaired | Less than significant | For the reasons described in the Impact WQ-1 discussion, the No Project Alternative would be unlikely to cause an increase in EC such that beneficial agricultural uses would be impaired. |
| Impact WQ-3: Substantially degrade water quality by increasing pollutant concentrations caused by reduced river flows | Significant | Under the No Project Alternative, flows would not be substantially reduced on the Stanislaus, Tuolumne, or LSJR such that contaminant concentrations would increase (Table 15-1). However, on the Merced River, flows under the No Project Alternative would be substantially reduced during April and May compared to baseline, which could result in a significant increase in contaminant concentrations above baseline. |
| Flooding, Sediment, and Erosion | | |
| Impact FLO-1: 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 that would result in substantial erosion or siltation on- or off-site | Less than significant | Under the No Project Alternative, flows would be lower than channel capacities on the Stanislaus, Tuolumne, and Merced Rivers, as described under LSJR Alternative 4 in Chapter 6, <i>Flooding, Sediment, and Erosion</i> . Sediment transport, bank erosion, or meander-bend migration issues and contributions to levee instability would not increase. It is expected that very occasional gravel transport and bank erosion would occur in the upper gravel-bedded reaches of the Stanislaus, Tuolumne, and Merced Rivers. The amount of bank erosion would be limited by flood action levels and existing bank armoring. Impacts would be less than significant. |

| Impact Statement | Impact Determination | Discussion |
|---|-----------------------|--|
| Impact FLO-2: 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 that would result in flooding on- or off-site | Less than significant | Flows would be much lower than channel capacities on the Stanislaus, Tuolumne, and Merced Rivers, as described under LSJR Alternative 4 in Chapter 6, <i>Flooding, Sediment, and Erosion</i> . Therefore, significant flooding impacts would not occur outside of floodways. The No Project Alternative would not change reservoir flood storage capacity and would not violate the U.S. Army Corps of Engineers flood reservation; thus, there would be no changes in flood control releases during major flood events. Impacts would be less than significant. |
| Aquatic Resources | | |
| Impact AQUA-1: Changes in spawning success and habitat availability for warmwater species resulting from changes in reservoir water levels | Significant | Under the No Project Alternative, month-to-month fluctuations in reservoir elevations at New Don Pedro Reservoir would remain similar to the baseline elevations during April-September (the primary spawning, incubation, and early rearing months). Therefore, the availability of warmwater reservoir species habitat and their spawning success would not change at the New Don Pedro Reservoir. However, month-to-month fluctuations at New Melones Reservoir and Lake McClure would increase under the No Project Alternative during April-September, as compared to baseline. Monthly fluctuations greater than or equal to 15 feet (ft) would increase by more than 10% during April-August at New Melones Reservoir and during April at Lake McClure. Therefore, warmwater reservoir species habitat would be significantly altered under the No Project Alternative, which would affect the spawning success of these species. |
| Impact AQUA-2: Changes in availability of coldwater species reservoir habitat resulting from changes in reservoir storage | Significant | Under the No Project Alternative, End-of-September storage at New Don Pedro and Lake McClure would remain similar to, or be greater than, the storage under baseline elevations. End-of-September storage is not expected to be significantly reduced when compared to baseline. Therefore, the availability of coldwater reservoir species habitat and their spawning success are not expected to change at these reservoirs. However, on average, end-of-September storage at New Melones Reservoir would be reduced by 27%. Therefore, coldwater reservoir species habitat would be significantly altered under the No Project Alternative, which would affect the spawning success of these species. |
| Impact AQUA-3: Changes in quantity/quality of physical habitat for spawning and rearing resulting from changes in flow | Less than significant | Under the No Project Alternative, flows on the Stanislaus River would increase, while flows on the Tuolumne River would be similar to baseline flows and thus would not reduce the quantity and quality of spawning and rearing habitat. Under the No Project Alternative, the Merced River would experience a relatively large percentage reduction in flows in April and May compared to baseline (Tables D-6). However, predicted changes in flow within this range correspond to only minor increases or decreases in weighted usable area (WUA) and no changes in floodplain inundation area. Therefore, they are not likely to substantially affect the amount of physical habitat for Chinook salmon juvenile rearing and steelhead fry rearing. |

| Impact Statement | Impact Determination | Discussion |
|---|-----------------------|---|
| Impact AQUA-4: Changes in exposure of fish to suboptimal water temperatures resulting from changes in reservoir storage and releases | Significant | Under the No Project Alternative, temperatures would not increase on the Tuolumne River because flows and end-of-September storage would be similar to baseline. However, reductions in April and May flows on the Merced River (Table 15-1) would very likely increase temperatures in the river in more than half the years (mostly below normal and dry years), which would increase the frequency of stressful temperatures for Chinook salmon and steelhead rearing and smolt life stages. On the Stanislaus River, higher summer and fall release temperatures associated with reduced storage in New Melones Reservoir are also expected to increase the frequency of stressful water temperatures for Chinook salmon and steelhead adult migration, Chinook salmon spawning and incubation, and steelhead rearing life stages, especially in dry years (Figure 15-2b). Flows and water temperatures in the LSJR would remain largely unchanged relative to baseline (Table 15-1 and Figure 15-5a), which would result in little or no change in exposure of migrating adults and juveniles to stressful water temperatures. |
| Impact AQUA-5: Changes in exposure to pollutants resulting from changes in flow | Significant | Under the No Project Alternative, the exposure to pollutants resulting from changes in flow would not increase on the Stanislaus or Tuolumne Rivers because flows in these rivers would generally be similar to, or greater than, baseline flows. However, on the Merced River, reductions in April and May flows under the No Project Alternative, especially during dry periods, would very likely increase pollutant exposure to fish compared to the baseline. |
| Impact AQUA-6: Changes in exposure to suspended sediment and turbidity resulting from changes in flow | Less than significant | As described for LSJR Alternative 4 in Chapter 7, <i>Aquatic Biological Resources</i> , and Chapter 6, <i>Flooding, Sediment and Erosion</i> , changes in the frequency, duration, and magnitude of increased suspended sediment and turbidity levels would be minor and within the range of historical levels experienced by native fishes and other aquatic species on the three eastside tributaries and the LSJR. Because the No Project Alternative flows during wet years would be less than those described in LSJR Alternative 4 on the Stanislaus River, impacts would be less than those described above. Similar but fewer impacts than those described above would occur on the Tuolumne and Merced Rivers because flows under the No Project Alternative would be similar to or less than baseline flows on these rivers. Therefore, the change in flows would not mobilize more suspended sediment. |
| Impact AQUA-7: Changes in redd dewatering resulting from flow fluctuations | Less than significant | Under the No Project Alternative, changes in the frequency and magnitude of flow fluctuations resulting in redd dewatering would not occur on the Stanislaus, Tuolumne, and Merced Rivers compared to baseline. Therefore, redd dewatering impacts on Chinook salmon and steelhead populations in the Stanislaus, Tuolumne, and Merced Rivers would be less than significant. |
| Impact AQUA-8: Changes in spawning and rearing habitat quality resulting from changes in peak flows | Less than significant | Under the No Project Alternative, substantial changes in the frequency and magnitude of peak flows would not occur compared to LSJR Alternatives 2, 3, and 4 (because the February–June flows at the zero to 10% exceedance level are between those for LSJR Alternatives 2 and 4 [Figure 15-2a]). Therefore, changes in peak flows would not deleteriously affect the frequency and magnitude of gravel mobilization events in the Stanislaus, Tuolumne, and Merced Rivers, and long-term changes in geomorphic conditions significantly affecting spawning and rearing habitat quality would not occur. |

| Impact Statement | Impact Determination | Discussion |
|---|-----------------------|---|
| Impact AQUA-9: Changes in food availability resulting from changes in flow and floodplain inundation | Less than significant | Under the No Project Alternative, no substantial changes in frequency and magnitude of floodplain inundation and associated food web conditions would occur on the Stanislaus, Tuolumne, and Merced Rivers and the LSJR (because there would be no substantial decreases in the highest flows [Table 15-1]). Therefore, no significant impacts on food availability would occur. |
| Impact AQUA-10: Changes in predation risk resulting from changes in flow and water temperature | Significant | Under the No Project Alternative, predation risk would be unlikely to change on the Tuolumne River because flow, storage, and water temperature would be similar to baseline. However, reductions in flow and associated higher temperatures on the Merced River in April and May would very likely increase predation risk for Chinook salmon and steelhead during rearing and smolt life stages. On the Stanislaus River, higher summer and fall release temperatures associated with reduced storage in New Melones Reservoir would also increase predation risk for juvenile steelhead, especially in dry years (Figure 15-2b). Flows and water temperatures on the LSJR would remain largely unchanged relative to baseline (Table 15-1 and Figure 15-5a), which would result in little or no change in predation risk. |
| Impact AQUA-11: Changes in disease risk resulting from changes in water temperature | Significant | Under the No Project Alternative, higher summer and fall release temperatures on the Stanislaus River associated with reduced storage in New Melones Reservoir would increase disease risk for Chinook salmon and steelhead adult migration, Chinook salmon spawning and incubation, and steelhead-rearing life stages, especially in dry years (Figure 15-2b). On the Tuolumne River, disease risk would be unlikely to change under the No Project Alternative because flow, storage, and water temperature would be very similar to baseline. However, reductions in flow and associated higher temperatures on the Merced River in April and May would very likely increase disease risk for Chinook salmon and steelhead-rearing and smolt life stages. Flows and water temperatures on the LSJR would remain largely unchanged relative to baseline (Table 15-1 and Figure 15-5a), which would result in little or no change in disease risk. |
| Impact AQUA-12: Changes in southern Delta and estuarine habitat resulting from changes in SJR inflows and export effects | Less than significant | Under the No Project Alternative, Delta operations would continue to be governed by current restrictions on export pumping rates, inflow/export ratios, and Old Middle River flows to protect listed fish species from direct and indirect impacts of southern Delta operations. Furthermore, during the primary months of concern for fish using the Delta (December–June), changes in exports would be relatively small and less than the changes under LSJR Alternatives 3 and 4, while average monthly Delta outflow would either be similar to or slightly greater than baseline outflow. Therefore, no significant changes in southern Delta and estuarine habitat would occur under the No Project Alternative. |

| Impact Statement | Impact Determination | Discussion |
|---|-----------------------|---|
| Terrestrial Biological Resources | | |
| Impact BIO-1: Have a substantial adverse effect on any riparian habitat or other sensitive natural terrestrial communities identified in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS) | Significant | <p>Fluctuations in reservoir elevations would not be substantially different than those that currently occur. Therefore, the No Project Alternative would not have adverse effects on riparian or other sensitive natural terrestrial communities around the reservoirs.</p> <p>Under the No Project Alternative, flow on the Stanislaus and Tuolumne Rivers and LSJR would not substantially alter riparian habitat or other sensitive natural terrestrial communities because flows on these rivers would be similar to, or greater than, baseline. However, the reduced flow on the Merced River under the No Project Alternative compared to the baseline (Table 15-1) would very likely result in a substantial alteration of riparian habitat or other sensitive natural terrestrial communities on this river, especially during moderate to dry years in the spring growing season (April and May).</p> |
| Impact BIO-2: 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, hydrologic interruption, or other means | Significant | See Impact BIO-1 discussion. |
| Impact BIO-3: Facilitate a substantial increase in distribution and abundance of invasive plants or nonnative wildlife that would have a substantial adverse effect on native terrestrial species | Less than significant | As described in Chapter 8, <i>Terrestrial Biological Resources</i> , invasive plants and animals already exist throughout the watersheds of the Stanislaus, Tuolumne, and Merced Rivers and the LSJR. Although the No Project Alternative could alter vegetation patterns at specific locations, there is no information available to suggest that increased flows on the Stanislaus River or decreased flows on the Merced River would substantially increase the distribution or abundance of invasive plant or nonnative wildlife in a manner that would substantially native terrestrial species |
| Impact BIO-4: Have a substantial adverse effect, either directly or through habitat modifications, on any terrestrial animal species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS | Significant | Impacts on special-status animal species dependent on riparian habitat and impacts on riparian habitat would be similar to those in the ImpactBIO-1 discussion. Under the No Project Alternative, flows on the Stanislaus and Tuolumne Rivers and LSJR would be similar to or greater than baseline. Therefore, the special-status animal species on these rivers would not be substantially affected. However, the reduced flow on the Merced River under the No Project Alternative compared to the baseline (Table 15-1) could result in substantial effects on special-status species reliant on riparian habitat on this river. Therefore, it is expected that special-status animal species on the Merced River would be adversely affected. |

| Impact Statement | Impact Determination | Discussion |
|--|-----------------------|--|
| Impact BIO-5: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan or conflict with any local policies or ordinances protecting biological resources | Significant | Under the No Project Alternative, flow on the Stanislaus and Tuolumne Rivers and LSJR would not substantially affect riparian habitat or special-status species. Therefore, the No Project Alternative would not conflict with habitat conservation plans or natural community conservation plans for these rivers. However, the reduced flow on the Merced River under the No Project Alternative compared to baseline could reduce habitat value, which could result in conflicts with habitat conservation plans or natural community plans, which are discussed in Chapter 8, <i>Terrestrial Biological Resources</i> . |
| Groundwater Resources | | |
| Impact GW-1: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge | Less than significant | Groundwater pumping would increase under reduced surface water diversions (i.e., reduced surface water availability); therefore, impacts on groundwater would increase as the percent of reduction in surface water diversions increases. Surface water diversions on the Tuolumne and Merced Rivers would be similar under the No Project Alternative and baseline. Because there would be no change in surface water availability, the groundwater subbasins (Modesto, Turlock, and Extended Merced) served by these rivers would not be affected by the No Project Alternative. However, surface water diversions on the Stanislaus River would be reduced by approximately 9% under the No Project Alternative. As such, the Eastern San Joaquin Subbasin, which is served by the Stanislaus River, would be affected by the reduced surface water diversions. However, as discussed in Chapter 9, <i>Groundwater Resources</i> , diversions would be reduced under LSJR Alternative 3 approximately on average by 12%, but the groundwater impacts associated with LSJR Alternative 3 would be less than significant. Because surface water diversions reductions under No Project Alternative (9%) would be less than surface water diversion reductions under LSJR Alternative 3 (12%), the groundwater affects associated with the No Project Alternative would also be less than significant. |
| Impact GW-2: Cause subsidence as a result of groundwater depletion | Less than significant | As described above for Impact GW-1, the effect of the No Project Alternative on groundwater supplies is expected to be less than significant. As a result, subsidence resulting from the No Project Alternative is also expected to be less than significant. |
| Recreational Resources and Aesthetics | | |
| Impact REC-1: Substantially physically deteriorate existing recreational facilities on the rivers or at reservoirs | Significant | During the primary recreation months of May–September, the No Project Alternative could slightly shift recreational activities on the Stanislaus River between May and August. Activities suited to higher flows would be slightly shifted to different months and activities suited to lower flows on the Merced River during May would be slightly shifted to other times. (Table 15-1). These shifts would be unlikely to cause significant recreational impacts. Under the No Project Alternative, reservoir elevations at New Don Pedro and Lake McClure would remain similar to baseline. Therefore, substantial physical deterioration at existing recreational facilities at these reservoirs would not occur. However, end-of-September reservoir elevations at New Melones |

| Impact Statement | Impact Determination | Discussion |
|--|----------------------|---|
| <p>Impact REC-2: Substantially degrade the existing visual character or quality of the reservoirs</p> | <p>Significant</p> | <p>would be greatly reduced compared to baseline, especially during the years with lowest storage (Figure 15-2b). At New Melones Reservoir, boat launches are inoperable when the reservoir elevation is below 850 ft; under the No Project Alternative, the surface of New Melones Reservoir would be below 850 ft approximately 30% of the time in September, which is when recreationists use the reservoir. Therefore, it is anticipated that the No Project Alternative would interfere with the operation of boat ramps which could potentially result in a substantial physical deterioration of facilities at New Melones Reservoir, and thus reduce the use of existing recreation facilities.</p> <p>Under the No Project Alternative, reservoir elevations at New Don Pedro and Lake McClure would remain relatively constant and would not be substantially reduced compared to baseline. Therefore, substantial degradation of the visual character and quality of area surrounding these reservoirs would not occur. However, summer elevations at New Melones Reservoir would be reduced compared to baseline, especially during years with lowest storage. At the 30% cumulative distribution level, the May–September seasonal average No Project Alternative elevation would be reduced by more than 50 ft, well above the 10-foot level identified in Chapter 10, <i>Recreational Resources and Aesthetics</i>, as the criterion for significance. This reduction would substantially degrade the existing visual character or quality of the New Melones Reservoir.</p> |
| <p>Agricultural Resources</p> | | |
| <p>Impact AG-1: Potentially convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use</p> | <p>Significant</p> | <p>Under the No Project Alternative, in areas that receive surface water from the Tuolumne and Merced Rivers, a conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses would not be expected because surface water diversions on the Tuolumne and Merced Rivers would not be significantly reduced. Therefore, it is anticipated that a substantial reduction in crop acreage would not occur in these watersheds, and a conversion of these types of farmland to nonagricultural uses would not occur.</p> <p>The No Project Alternative would result in conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses as a result of the reductions in surface water diversions on the Stanislaus River. The average reduction in surface water diversions of 9% would be slightly greater than the reduction that would occur under LSJR Alternative 2 with adaptive implementation (average reduction of 5% with implementation of adaptive implementation method 1 [i.e., 30% unimpaired flow]) and slightly less than the reduction described for LSJR Alternative 3 (average reduction of 12% at 40% unimpaired flow requirement). As described in Chapter 11, <i>Agricultural Resources</i>, LSJR Alternative 3 would result in significant impacts on agricultural resources of the irrigation districts that receive water from the Stanislaus River. Although reductions in surface water supply under the No Project Alternative would be slightly less than those expected under LSJR Alternative 3, significant impacts could occur.</p> |

| Impact Statement | Impact Determination | Discussion |
|---|-----------------------|--|
| Impact AG-2: Involve other changes in the existing environment which, due to their location or nature, could result in a conversion of farmland to nonagricultural use | Less than significant | Flows on the Stanislaus River would be increased, which may result in seepage; however, given the small amount of acreage for crops that could be affected, impacts would be less than significant. Similar to conditions under the LSJR alternatives, given the cost of feed input compared to other dairy inputs and the availability of the feed input, the value of dairy production in the LSJR area of potential effects, and the potential use of equitable distributions from local water suppliers, it is unlikely that dairies, as an agricultural use, would be converted to nonagricultural uses. Impacts would be less than significant. |
| Impact AG-3: Conflict with existing zoning for agricultural use or a Williamson Act contract | Less than significant | The No Project Alternative would not conflict with existing zoning for agricultural use or Williamson Act contracts because the No Project Alternative would not change zoning. Lands that are under Williamson Act contracts must be maintained in the compatible uses specified in those contracts until non-renewed, canceled, or otherwise withdrawn from contract. Lands that experience a reduction in surface water supply could be dry farmed, rotated, or fallowed, all of which are agricultural activities that are consistent with agricultural zoning and Williamson Act contracts. |
| Impact AG-4: Conflict with any applicable land use plan, policy, or regulation related to agriculture of an agency with jurisdiction over a 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 | Less than significant | The No Project Alternative would not conflict with applicable land use plans, policies, or regulations because while some agricultural land could be taken out of irrigated agricultural use as a result of the No Project Alternative, many of these lands could actually remain in agricultural use, even if they are not irrigated. Furthermore, local agencies have accommodated the conversion and preservation or protection of agricultural lands through various means, including agricultural mitigation programs, agricultural preservation easements, or general plan policies that protect and preserve agricultural land (described in Chapter 11, <i>Agricultural Resources</i>). |
| Cultural Resources | | |
| Impact CUL-1: Cause a substantial, adverse change in the significance of a historical or archaeological resource | Significant | As discussed in Chapter 12, <i>Cultural Resources</i> , changes in river flows are not expected to alter the low potential for significant cultural resources to exist along rivers due to previous natural and anthropogenic disturbances. Given the low potential, impacts would be less than significant on the three eastside tributaries and the LSJR. Reservoir elevations at New Don Pedro and Lake McClure would remain relatively constant when compared to baseline. Therefore, substantial adverse changes in the significance of historical or archeological resources are not expected at these reservoirs. However, the end-of-September storage at New Melones Reservoir is anticipated to be greatly reduced in over half the years when compared to baseline; this would most likely regularly expose cultural resources, which could result in a substantial adverse change to the significance of existing cultural resources if they were disturbed by people or disturbed by another physical method (e.g., light, exposure). |

| Impact Statement | Impact Determination | Discussion |
|--|-----------------------|---|
| Impact CUL-2: Disturb any human remains, including those interred outside formal cemeteries | Less than significant | As discussed in Chapter 12, <i>Cultural Resources</i> , the potential for human remains to exist within the fluctuation zone of the reservoirs is low. As a result, the changes in New Melones Reservoir elevations under the No Project Alternative would be unlikely to result in the disturbance of human remains. In addition, considering the prior disturbance by agriculture, irrigation practices, mining activities, and development within the riverine floodplains, the change in flows under the No Project Alternative would have an extremely low potential to disturb documented or currently undocumented human remains, including those interred outside formal cemeteries. |
| Impact CUL-3: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature | Significant | As described in Chapter 12, <i>Cultural Resources</i> , the potential for paleontological resources within and adjacent to the LSJR and the Stanislaus, Tuolumne, and Merced Rivers is considered low due to the depth of occurrence of rock units with high paleontological potential below reworked surficial sediments and Holocene-age floodplain and channel deposits. Buried paleontological resources would be found at soil and rock depth too deep for the rivers to modify or change. Reservoir elevations at New Don Pedro and Lake McClure would remain relatively constant or generally greater, not significantly reduced, when compared to baseline. Therefore, disturbance of unique paleontological resources is not expected at these reservoirs. However, the end-of-September storage at New Melones is anticipated to be greatly reduced in more than half the years compared to baseline, and this could lead to the disturbance of paleontological resources, such as caves. |

| Service Providers | | |
|-------------------|--|--|
|-------------------|--|--|

| | | |
|---|-------------|---|
| Impact SP-1: Require or result in the construction of new water supply facilities or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects | Significant | Under existing conditions, existing wastewater treatment plant dischargers (i.e., Cities of Tracy, Stockton, and Manteca, and Mountain House CSD) are required to comply with National Pollution Discharge Elimination System (NPDES) permit requirements and waste discharge requirements, as described in Section 13.2.3, <i>Southern Delta</i> , of Chapter 13, <i>Service Providers</i> . However, the southern Delta salinity water quality objectives do not currently apply to the City of Tracy and other municipal dischargers. If the southern Delta salinity objectives are not applied to the municipal dischargers, then the No Project Alternative would not result in a change to the NPDES permit or other discharger requirements; the No Project Alternative would not result in the need to expand existing facilities or infrastructure and would not result in significant environmental effects. However, it is reasonable to expect that the litigation in <i>City of Tracy v. California State Water Resources Control Board</i> (discussed in Section 13.2.3) will be resolved in the foreseeable future in a manner that will allow for the application of the Delta salinity objectives to municipal wastewater dischargers. The increase in flow expected under the No Project Alternative would reduce the salinity in the southern Delta at the interior compliance stations and help achieve compliance at these stations. However, based on current effluent discharge concentrations and past violations, it is unlikely that service providers would be able to meet the current 2006 Bay-Delta Plan salinity objective of 0.7 dS/m from April to August. Additionally, it is unlikely that the Cities of Tracy and Stockton would meet the current 2006 Bay-Delta Plan salinity objective of 1.0 dS/m from September–March. Therefore, these service providers, to avoid |
|---|-------------|---|

| Impact Statement | Impact Determination | Discussion |
|--|-----------------------|--|
| Impact SP-2a: Violate any water quality standards or waste discharge requirements such that drinking water for public wells would be affected | Less than significant | <p>exceedances of the objectives or permit requirements during some parts of the year may construct new wastewater treatment facilities, or expand existing facilities or infrastructure; construction or operation of the facilities could cause significant environmental effects.</p> <p>The No Project Alternative could affect drinking water quality in one of two ways. First, the No Project Alternative could cause a reduction in the quality of surface water; however, the No Project Alternative is unlikely to reduce surface drinking water quality because flows at Vernalis would be higher than baseline at the lower flow levels (Table 15-1). In addition, a higher flow at Vernalis is generally associated with better water quality. The reduction in flow and associated potential for increased contaminants along the Lower Merced River is unlikely to cause a substantial reduction in drinking water quality because the baseline Merced River water quality is high enough that degradation would not cause violation of drinking water standards. Second, the No Project Alternative could affect drinking water by causing a reduction in quality of groundwater that is used for drinking water. Reduced groundwater quality could occur if aquifer drawdown causes low-quality water to move toward wells. However, a reduction in the quality of groundwater drinking supply is not expected because the effect of the No Project Alternative on groundwater supplies is expected to be less than significant (as shown in Impact GW-1 under the No Project Alternative).</p> |
| Impact SP-2b: Violate any water quality standards or waste discharge requirements such that drinking water for domestic wells would be affected | Less than significant | See above. |
| Impact SP-3: Result in substantial changes to SJR inflows to the Delta such that insufficient water supplies would be available to service providers relying on Central Valley Project (CVP)/State Water Project (SWP) exports | Less than significant | Because average annual inflows to the Delta at Vernalis would increase slightly relative to baseline as a result of the No Project Alternative, exports may also increase. Average annual exports could increase slightly, by 26 TAF/year. Consequently, service providers relying on CVP/SWP exports are unlikely to be negatively affected by the No Project Alternative. |
| Energy Resources and Greenhouse Gases | | |
| Impact EG-1: Adversely affect the reliability of California's electric grid | Less than significant | Under the No Project Alternative, a moderate reduction in the capacity of the New Melones hydroelectric plant in July and August during dry years could result in minor reliability violations. However, the New Melones hydroelectric plant is located in a Sacramento Municipal Utility District (SMUD) region; SMUD's 2013 Ten-year Transmission Assessment Plan indicates that there are adequate generating resources in the SMUD region to meet load demands and planning reserve margin obligations until 2018. This means that it is likely that minor violations could |

| Impact Statement | Impact Determination | Discussion |
|---|------------------------------|--|
| | | <p>be alleviated by re-dispatching electrical power from other generating resources available either in a local region or neighboring regions. Therefore, the No Project Alternative would not adversely affect the reliability of California's electric grid, and the impact of New Melones' reduced capacity would be less than significant.</p> |
| <p>Impact EG-2: Result in inefficient, wasteful, and unnecessary energy consumption</p> | <p>Less than significant</p> | <p>The No Project Alternative could result in additional energy consumption by groundwater pumping. However, because groundwater pumping may be necessary to maintain the water supply irrigation demand, the No Project Alternative would not result in inefficient, wasteful, and unnecessary consumption of energy. Furthermore, it is anticipated that if new groundwater wells were to be installed, they would be energy efficient. The No Project Alternative could result in additional energy generation at other facilities to compensate for a potential loss of hydropower. However, this increased electricity generation is not considered inefficient, wasteful, and unnecessary, as it is energy that would be generated to maintain the energy supply level that is currently supplied by hydropower.</p> |
| <p>Impact EG-3: Generate greenhouse gas (GHG) emissions, either directly or indirectly, that have a significant impact on the environment</p> | <p>Significant</p> | <p>The No Project Alternative could result in an increase in groundwater pumping and a potential shift from hydropower to non-hydropower energy production as a result of the expected reduction in surface water diversions and changes to flow on the Stanislaus River. These changes would be expected to generate GHG emissions greater than the threshold of 10,000 metric tons (MT) of GHGs, as described for LSJR Alternative 3 and 4 in Chapter 14, <i>Energy and Greenhouse Gases</i>.</p> |
| <p>Impact EG-4: Conflict with an applicable plan, policy, or Impact regulation adopted for the purposes of reducing the GHG emissions</p> | <p>Significant</p> | <p>Since the No Project Alternative would exceed the 10,000 MT GHG threshold, it would conflict with existing applicable plans, policies or regulations adopted for the purposes of reducing GHG emissions, such as Assembly Bill 32, the California Global Warming Solutions Act.</p> |
| <p>Impact EG-5: Effect of global climate change on the LSJR and SDWQ alternatives</p> | <p>Less than significant</p> | <p>The State Water Board is required to prepare Water Quality Control Plans (WQCPs). The WQCPs are regularly reviewed to update water quality standards. As a result, the planning process continually accounts for changing conditions related to water quality and water planning, such as climate change. Therefore, the effect of global climate change under the No Project Alternative would be less than significant.</p> |