16. Staff-Initiated Text Changes

CHAPTER 16
Staff-Initiated Text Changes

16.1 Introduction

This chapter presents changes to the text of the Draft PEIR made in response to comments (as presented in Chapters 14 and 15) or to clarify and provide applicable updates of the text in the Draft PEIR. The text revisions in this chapter represent four main categories of changes: (1) clarifications/refinements made in response to comments; (2) updated information due to WSIP revisions; (3) clarification/refinement due to updated information; and (4) clarifications/corrections made due to editorial errors. Text changes are prefaced by a brief explanation, including where appropriate, reference to the master response in Chapter 14 or comment number in Chapter 15. In each change, new language is underlined, while deleted text is shown in ~~strikethrough~~, except where the text is indicated as entirely new, in which case no underlining is used for easier reading.

16.2 Text Revisions

Volume 1, Glossary

Conversion Factors section, Page xxxviii: The following conversion factor is added to the list of conversion factors in response to a comment (see **Response L_ACFCWCD-01**).

Temperature

Degrees Celsius (°C) = 5/9 x (°F – 32)

Degrees Fahrenheit (°F) = 9/5 x (°C) + 32

Volume 1, Summary

Section S.2, page S-4, Figure S.2: This revision is the same as that described below under Volume 1, Chapter 3, Section 3.3, page 3-6, Figure 3.2.

Section S.2, page S-5, Figure S.3: This revision is the same as that described below under Volume 3, Chapter 5, Section 5.1.3, page 5.1-6, Figure 5.1-2.

Section S.2, page S-12, Table S.2: The revisions to projects SV-1 and SV-2 are the same as that described below under Volume 1, Chapter 3, Section 3.8, page 3-50, Table 3.10.

Section S.2, page S-16, Table S.2: This revision to project PN-4 is the same as that described below under Volume 1, Chapter 3, Section 3.8, page 3-54, Table 3.10.

Section S.3, page S-37, Table S.4: Measure 4.8-1a in this table is revised as follows in response to a comment (see **Response L_Fremont-02**).

TABLE S.4
SUMMARY OF FACILITY MITIGATION MEASURES BY IMPACT

Impact	Mitigation Measure(s)
Impact 4.8-1: Temporary reduction in roadway capacity and increased traffic delays.	**Measure 4.8-1a, Traffic Control Plan Measures:** Elements of the traffic control plan could include: circulation and detour plans, designated truck routes, sufficient staging area, access to driveways, use of standard construction specifications for controlling construction vehicle movements, restrictions on truck trips during peak morning and evening commute hours, lane closure restrictions, maintenance of alternate one-way traffic flow, detour signing, pedestrian and bicycle access and circulation, equipment and materials storage, construction worker parking, roadside safety protocols, considerations for sensitive land uses, coordination with local transit service providers, roadway repair, conformance with the ~~state's *Manual of Traffic Controls for Construction and Maintenance Work Areas*~~ *California Manual on Uniform Traffic Control Devices for Streets and Highways: Part 6 Temporary Traffic Control* and *Caltrans' 2006 Standard Plans*.
	Measure 4.8-1b, Coordination of Individual Traffic Control Plans: In the event that more than one construction contract is issued for work along existing or new pipelines, and where construction could occur within and/or across multiple streets in the same vicinity, coordinate the traffic control plans in order to mitigate the impact of traffic disruption by including measures that address overlapping construction schedules and activities, truck arrivals and departures, lane closures and detours, and the adequacy of on-street staging requirements.

Section S.3, pages S-48 through S-60, Tables S.5, S.6, S.7, and S.8: The following footnote is added below each of these tables.

[a] Mitigation measure text is summarized; please see Chapter 6 for details.

Section S.3, page S-50, Table S.5: Measure 5.3.6-4b is revised as shown on the following page to correct an editorial error.

Section S.3, page S-52, Table S.6, Impact 5.4.2-2: This impact is revised as follows in response to a comment (see **Response L_ACWD-13**).

Impact 5.4.2-2: Effect on channel formation and sediment transport along Alameda Creek downstream of the diversion dam and downstream of the San Antonio Creek confluence.

TABLE S.5
SUMMARY OF WATER SUPPLY IMPACTS AND MITIGATION MEASURES – TUOLUMNE RIVER SYSTEM AND DOWNSTREAM WATER BODIES

Impact	Significance Determination					Mitigation Measures
	All Impacts (except Biological Resources)	Biological Resource Impacts				
		Sensitive Habitats	Key Special-Status Species	Other Species of Concern	Common Habitats and Species	
FISHERIES (cont.)						
Impact 5.3.6-4 (cont.)						**Measure 5.3.6-4b, Fishery Habitat Enhancement:** The SFPUC will implement or fund one of two fishery habitat enhancement projects that are consistent with the Lower Tuolumne River Restoration Plan; augmentation of spawning gravel at ~~five~~ three selected sites or the filling or isolation from the river of one of the existing inactive quarry pits.

Section S.3, page S-55, Table S.6, Impact 5.4.7-1 and Impact 5.4.7-2: These impacts are revised as shown on the following page to reflect the change in project description of the Calaveras Dam (SV-2) project.

Section S.3, pages S-56 and S-57, Table S.7: Mitigation measures for Impacts 5.5.3-2, 5.5.5-4, and 5.5.5-5 are revised as shown on pages 16-6 through 16-8 to refine the fishery analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Section S.3, page S-58, Table S.7: Mitigation measures for Impacts 5.5.6-4 and 5.5.6-5, and the impact conclusion for Impact 5.5.6-5 are revised as shown on page 16-9 to refine the fishery analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Section S.3, page S-62: The second to last sentence of the last full paragraph is revised as follows in response to a comment (see **Response L_Milpts-14**).

> In some jurisdictions (Foster City, Half Moon Bay, Milpitas, and Burlingame), the WSIP could support more population growth than is forecasted in adopted general plans.

Section S.3, page S-63: In first paragraph, under Indirect Effects of Growth Supported by the WSIP, the first sentence is revised as follows to clarify the potential growth inducing impact identified for the WSIP.

> As identified in Impact 7-1, ~~T~~the WSIP would indirectly contribute to environmental impacts caused by growth; some of these impacts would be unavoidable.

Section S.4, page S-67: The last paragraph is revised as follows to reflect augmented impact discussions based on updated information and revisions to WSIP project descriptions.

> While this restoration planning is in progress, because steelhead access does not currently exist and there is no current steelhead migration above the BART weir, there would be no impact on steelhead migration, spawning, or juvenile rearing upstream of the BART weir as a direct result of WSIP implementation compared to the existing condition~~. Further, since a number of steps are required before steelhead migration further upstream can occur, it is speculative to assess the specific impacts that system operation under the WSIP might have on the potential future restoration of steelhead. Thus, no impact analysis or conclusion is developed in this PEIR. If and when steelhead are restored, the SFPUC will be required to conform its system operations to comply with the applicable Endangered Species Act requirements.~~ However, to address the potential that steelhead could regain access to the upper Alameda Creek watershed in the event that planned and proposed projects and actions designed to restore steelhead in Alameda Creek are successfully implemented, a cumulative impact assessment for potential future-occurring steelhead was conducted.

TABLE S.6
SUMMARY OF WATER SUPPLY IMPACTS AND MITIGATION MEASURES – ALAMEDA CREEK WATERSHED

Impact	Significance Determination					Mitigation Measures
	All Impacts (except Biological Resources)	Biological Resource Impacts				
		Sensitive Habitats	Key Special Status-Species	Other Species of Concern	Common Habitats and Species	
RECREATION AND VISUAL						
Impact 5.4.7-1: Effects on recreational facilities and/or activities.	~~PSM~~ LS					~~**Measure 5.4.1-2, Diversion Tunnel Operation** – see description above.~~ None required.
Impact 5.4.7-2: Visual effects on scenic resources or visual character of the water bodies.	~~PSM~~ LS					~~**Measure 5.4.1-2, Diversion Tunnel Operation** – see description above.~~ None required.

TABLE S.7
SUMMARY OF WATER SUPPLY IMPACTS AND MITIGATION MEASURES – PENINSULA WATERSHEDS

Impact	Significance Determination					Mitigation Measures
	All Impacts (except Biological Resources)	Biological Resource Impacts				
		Sensitive Habitats	Key Special-Status Species	Other Species of Concern	Common Habitats and Species	
STREAM FLOW						
Impact 5.5.1-1: Effects on flow along San Mateo Creek.	LS					None required.
Impact 5.5.1-2: Effects on flow along Pilarcitos Creek.	LS					None required.
GEOMORPHOLOGY						
Impact 5.5.2-1: Changes in sediment transport and channel morphology in the Peninsula watershed.	LS					None required.
WATER QUALITY						
Impact 5.5.3-1: Effects on water quality in Crystal Springs Reservoir, San Andreas Reservoir, and San Mateo Creek.	LS					None required.
Impact 5.5.3-2: Effects on water quality in Pilarcitos Reservoir and along Pilarcitos Creek.	PSM					~~**Measure 5.5.3-2, Revised Operations Plan for Pilarcitos Watershed Facilities:** The SFPUC will develop and implement an operations plan for Pilarcitos Reservoir, Stone Dam, and associated diversions that will mimic current operations and will result in reservoir water levels, stream flows, water quality, and conditions for fisheries and terrestrial biological resources that are similar to the current condition.~~ **Measure 5.5.3-2a, Low-head Pumping Station at Pilarcitos Reservoir:** The SFPUC will install a permanent low-head pumping station at Pilarcitos Reservoir which would enable the SFPUC to access and use an additional 350 acre-feet of water from Pilarcitos Reservoir. In years when the WSIP would cause releases from Pilarcitos Reservoir to Pilarcitos Creek to be reduced to reservoir inflow earlier in the summer than under the existing condition (about 25 percent of years in the hydrologic record), the SFPUC will use the pumping station to augment flow in Pilarcitos Creek with water from the reservoir. The pumping station will draw water from the cool pool of water below the thermocline during times when the reservoir is stratified. The pumping station outlet will be designed to ensure that water discharged to the creek is adequately aerated. **Measure 5.5.3-2b, Aeration System at Pilarcitos Reservoir:** The SFPUC will install a permanent aeration system at Pilarcitos Reservoir. The SFPUC will operate the aeration system as necessary to avoid anoxic conditions and maintain good water quality conditions at the reservoir.

TABLE S.7 (Continued)
SUMMARY OF WATER SUPPLY IMPACTS AND MITIGATION MEASURES – PENINSULA WATERSHEDS

Impact	Significance Determination					Mitigation Measures
	All Impacts (except Biological Resources)	Biological Resource Impacts				
		Sensitive Habitats	Key Special-Status Species	Other Species of Concern	Common Habitats and Species	
GROUNDWATER						
Impact 5.5.4-1: Alteration of stream flows along Pilarcitos Creek, which could affect groundwater levels and water quality.	LS					None required.
FISHERIES						
Impact 5.5.5-1: Effects on fishery resources in Crystal Springs Reservoir (Upper and Lower).	PSU					**Measure 5.5.5-1, Create New Spawning Habitat Above Crystal Springs Reservoir:** The SFPUC will survey the extent and quality of fish spawning habitat lost due to inundation and, if feasible, create new spawning habitat at a higher elevation. The specifics of this mitigation measure will be determined as part of project-level CEQA review.
Impact 5.5.5-2: Effects on fishery resources in San Andreas Reservoir.	LS					None required.
Impact 5.5.5-3: Effects on fishery resources along San Mateo Creek.	LS					None required.
Impact 5.5.5-4: Effects on fishery resources in Pilarcitos Reservoir.	PSM					~~**Measure 5.5.3-2, Revised Operations Plan for Pilarcitos Watershed Facilities**~~ **Measure 5.5.3-2b, Aeration System at Pilarcitos Reservoir –** see description above.
Impact 5.5.5-5: Effects on fishery resources along Pilarcitos Creek below Pilarcitos Reservoir.	PSM					~~**Measure 5.5.3-2, Revised Operations Plan for Pilarcitos Watershed Facilities**~~ **Measure 5.5.3-2a, Low-head Pumping Station at Pilarcitos Reservoir** – see description above. **Measure 5.5.5-5 Establish Flow Criteria, Monitor and Augment Flow –** The SFPUC will develop a monitoring and operations plan for Stone Dam to ensure WSIP-related flow reductions downstream of Stone Dam do not impair steelhead passage and spawning during the winter months of normal and wetter hydrologic years.

TABLE S.7 (Continued)
SUMMARY OF WATER SUPPLY IMPACTS AND MITIGATION MEASURES – PENINSULA WATERSHEDS

Impact	Significance Determination					Mitigation Measures
	All Impacts (except Biological Resources)	Biological Resource Impacts				
		Sensitive Habitats	Key Special-Status Species	Other Species of Concern	Common Habitats and Species	
TERRESTRIAL BIOLOGY						
Impact 5.5.6-1: Impacts on biological resources in Upper and Lower Crystal Springs Reservoirs.		PSM	PSM	PSM	PSM	The SFPUC will implement Measures 5.5.6-1a and 5.5.6-1b to reduce adverse impacts on sensitive habitats, key special-status species, other species of concern, and common habitats and species to a less-than-significant level. In addition, the SFPUC will implement Measure 5.5.6-1c to mitigate adverse impacts to key special-status plant species (i.e., fountain thistle) adapted to serpentine seeps. **Measure 5.5.6-1a, Adaptive Management of Freshwater Marsh and Wetlands at Upper and Lower Crystal Springs Reservoirs:** The SFPUC will develop an adaptive management plan to minimize adverse effects of the WSIP-induced rise in average water levels, and periodic drawdown of reservoir water levels for maintenance, on San Francisco garter snakes and red-legged frogs. **Measure 5.5.6-1b, Compensation for Impacts on Terrestrial Biological Resources:** The SFPUC will protect, restore, and enhance existing wetland and upland habitat and/or create new habitat that compensates for WSIP-induced habitat losses at Crystal Springs Reservoir. Compensatory habitat may be provided as part of the SFPUC's Habitat Reserve Program. **Measure 5.5.6-1c, Compensation for Serpentine Seep-Related Special-Status Plants:** The SFPUC will protect, restore, and enhance existing habitat and/or create new habitat that compensates for WSIP-induced habitat losses for plant species adapted to serpentine seeps.

TABLE S.7 (Continued)
SUMMARY OF WATER SUPPLY IMPACTS AND MITIGATION MEASURES – PENINSULA WATERSHEDS

Impact	Significance Determination					Mitigation Measures
	All Impacts (except Biological Resources)	Biological Resource Impacts				
		Sensitive Habitats	Key Special-Status Species	Other Species of Concern	Common Habitats and Species	
TERRESTRIAL BIOLOGY (Cont.)						
Impact 5.5.6-4: Impacts on biological resources in Pilarcitos Reservoir.		LS	PSM	LS	LS	~~The SFPUC will implement Measure 5.5.3-2 to reduce adverse impacts on key special-status species to a less-than-significant level.~~ ~~**Measure 5.5.3-2, Revised Operations Plan for Pilarcitos Watershed Facilities** – see description above.~~ **Measure 5.5.3-2c, Habitat monitoring and Compensation** - The SFPUC will protect, restore, and enhance existing habitat and/or create new habitat that compensates for WSIP-induced habitat losses at Pilarcitos Reservoir. Compensatory habitat may be provided as part of the SFPUC's Habitat Reserve Program.
Impact 5.5.6-5: Impacts on biological resources along Pilarcitos Creek below Pilarcitos Reservoir.		~~PSM~~ LS	LS	LS	LS	~~The SFPUC will implement Measure 5.5.3-2 to reduce adverse impacts on sensitive habitats to a less-than-significant level.~~ ~~**Measure 5.5.3-2, Revised Operations Plan for Pilarcitos Watershed Facilities** – see description above.~~ None required.

Section S.6,page S-71: The first sentence of the last paragraph is revised as follows to reflect an updated request from the SFPUC.

> The SFPUC requested that the PEIR also include environmental assessment of ~~three~~ four variants to the WSIP.

Section S.6, page S-73: The following text is inserted after the first partial paragraph on page S-73 to reflect an updated request from the SFPUC.

Variant 4 – Phased WSIP

Variant 4 – Phased WSIP would generally be the same as the WSIP, except that an interim mid-term planning horizon of 2018 would be used instead of the WSIP 2030 planning horizon. Under this variant, all facility improvement projects would be implemented, and the SFPUC would make a decision about future water supply to its customers through 2018 only and defer a decision regarding long-term water supply until after 2018. Variant 4 would limit deliveries from SFPUC watersheds to an annual average of 265 mgd through 2018 and would promote development and implementation of 10 to 20 mgd of additional local conservation, water recycling, and groundwater projects. The environmental impacts of Variant 4 would be essentially the same as those for the WSIP or Modified WSIP Alternative, except for a reduction in impacts on Tuolumne River resources. However, it would result in additional impacts associated with construction and operation of recycled water and groundwater facilities similar to those of the Modified WSIP Alternative.

Volume 1, Chapter 1

Section 1.3.5, page 1-8: The second to last bullet is revised as follows to correct an editorial error.

- City of Redwood City, *Downtown Precise Plan Draft Environmental Impact Report* (October 2006) and *Final Environmental Impact Report,* State Clearinghouse #200650~~5~~2027 certified March 2007a.

Volume 1, Chapter 2

Section 2.2.1, page 2-6, Table 2.2: On row 6, under "Major Storage Facilities," the capacity of Crystal Springs Reservoir is revised to reflect updated information from recent SFPUC studies.

TABLE 2.2
EXISTING CAPACITY OF MAJOR FACILITIES IN THE REGIONAL WATER SYSTEM

Facility	Capacity	Notes
Crystal Springs Reservoir[b]	~~58,400~~ 56,800 acre-feet (interim conditions as required by the Division of Safety of Dams) ~~69,300~~ 68,000 acre-feet (normal conditions)	~~19.0~~ 18.5 billion gallons ~~22.6~~ 22.2 billion gallons

Section 2.3.4, page 2-24: The second to last sentence of the fourth paragraph is revised as follows in response to a comment (see **Response L_CoastsideCWD-07**).

> In the summer months, when Coastside CWD's water demand is at its seasonal maximum, its water supply from Pilarcitos Creek ~~is supplemented by water pumped from Crystal Springs Reservoir.~~ becomes insufficient to meet its needs. At that point, Coastside CWD ceases diversions from Pilarcitos Creek and obtains its water by pumping from Crystal Springs Reservoir.

Section 2.5.6, page 2-46, Table 2.3: The following row is added at the end of Table 2.3 in response to a comment (see **Response SI_ACA1-17**).

TABLE 2.3
SFPUC WATER RESOURCES POLICIES RELATED TO THE WSIP

Date	Resolution Number	Description
June 2006	06-0105	*Water Enterprise Environmental Stewardship Policy* The Environmental Stewardship Policy will be integrated into SFPUC Water Enterprise planning and decision-making processes and also directly implemented through a number of efforts, including: • Implementation and updating of the existing Alameda and Peninsula Watershed Management Plans • Development of Habitat Conservation Plans for the Alameda and Peninsula Watersheds • Development and implementation of the Watershed and Environmental Improvement Program, which will cover the Tuolumne River, Alameda Creek, and Peninsula watersheds • Development of the Lake Merced Watershed Plan • Active participation in local forums, including coordination with Yosemite National Park Service and Stanislaus National Forest in the Tuolumne River watershed, the Tuolumne River Technical Advisory Committee, the Alameda Creek Fisheries Restoration Workgroup, the Pilarcitos Creek Restoration Workgroup, and the Lake Merced Task Force • Integration of the policy into the WSIP and individual infrastructure projects (i.e., repair and replacement programs) • Reliance on the policy to guide the development of project descriptions, alternatives and mitigation for all SFPUC projects during the environmental review process under CEQA and/or NEPA • Providing support for and encouragement to all employees to integrate environmental stewardship into daily operations through communication and training

SOURCES: SFPUC, 1993a to 1993f; 2000c; 2000d; 2006b.

Section 2.6, page 2-49: The following reference is added after (SFPUC, 2006a) in response to a comment (see **Response SI_ACA1-17**).

> San Francisco Public Utilities Commission (SFPUC), Water Enterprise Environmental Stewardship Policy, June 27, 2006b.

Volume 1, Chapter 3

Section 3.3, page 3-6, Figure 3.2: An asterisk is placed next to the labels to these noncontinguous areas and the following footnote is added in response to a comment (see **Response L_CoastsideCWD-02**). The revised figure is shown on the following page.

> * Portions of Coastside County Water District not served by the SFPUC regional water system.

Section 3.3, page 3-7: Table 3.1 is revised as shown below in response to a comment (see **Response L_Menlo1-08**).

TABLE 3.1
SFPUC REGIONAL WATER SYSTEM CUSTOMERS

Wholesale Regional Customers[a] (BAWSCA Members)		
Peninsula	**South Bay**	**Other Major Customers**
	City of Menlo Park *[b]	

* Indicates customers that currently receive additional water supplies from sources other than the SFPUC.

[a] Not shown on the table because they are not a BAWSCA member, the Cordilleras Mutual Water Association is also a wholesale customer receiving water from the SFPUC. It is a small water association serving 18 single-family homes located in San Mateo County.

[b] Menlo Park receives all of its water supply from the SFPUC; however, a portion of the supply is obtained indirectly from the SFPUC through purchases from East Palo Alto (BAWSCA, 2006).

SOURCES: CDM, 2005; URS, 2004a.

Section 3.4.4, page 3-19: Table 3.4 is revised as shown below in response to a comment (see **Response L_Menlo1-08**).

TABLE 3.4
SUMMARY OF SFPUC 2030 PURCHASE ESTIMATES

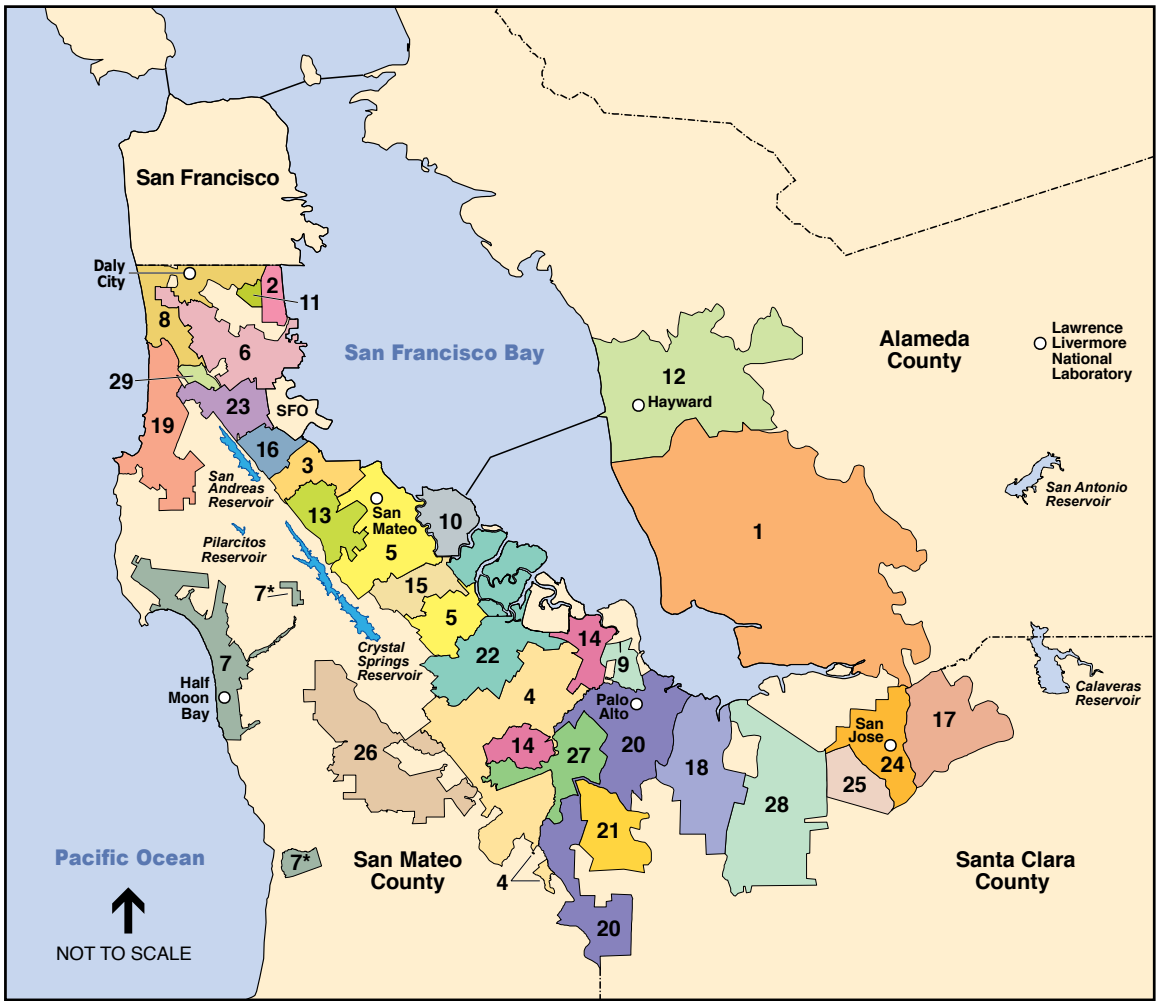
SFPUC Customer	Fiscal Year 2001/2002 Purchases from the SFPUC (mgd)	2030 Purchase Estimates (mgd)	Change in Water Purchases from the SFPUC (mgd)
Wholesale Customers			
City of Menlo Park[a,c g]	3.57	4.54	0.97

[a] Wholesale customer that currently receives water supplies from sources other than the SFPUC, including local groundwater, local surface water, recycled water, and other sources of supply.

[c] Wholesale customer that currently receive water supplies from other sources but projects receiving only SFPUC water by 2030

[g] Menlo Park purchased 96 percent of its 2001/2002 supply directly from the SFPUC; the balance of its 2001/2002 purchases also came from the SFPUC regional system, but was purchased from East Palo Alto. Menlo Park projects that it will purchase all of its 2030 supply directly from the SFPUC.

SOURCES: URS, 2004c; City of Redwood City, 2005; Westborough Water District, 2007.



Legend

(Wholesale customers and members of Bay Area Water Supply and Conservation Agency)

1 Alameda County Water District
2 City of Brisbane
3 City of Burlingame
4 CWS – Bear Gulch
5 CWS – Mid-Peninsula
6 CWS – South San Francisco
7 Coastside County Water District
8 City of Daly City
9 City of East Palo Alto
10 Estero Municipal Improvement District
11 Guadalupe Valley Municipal Improvement District
12 City of Hayward
13 Town of Hillsborough
14 City of Menlo Park
15 Mid-Peninsula Water District
16 City of Millbrae
17 City of Milpitas
18 City of Mountain View
19 North Coast County Water District
20 City of Palo Alto
21 Purissima Hills Water District
22 City of Redwood City
23 City of San Bruno
24 City of San Jose (North)
25 City of Santa Clara
26 Skyline County Water District
27 Stanford University
28 City of Sunnyvale
29 Westborough Water District

* Portions of Coastside County Water District not served by the SFPUC regional water system.

NOTE: For the purposes of this PEIR, the California Water Service (CWS) Company is a single wholesale customer with three different water service districts.

SOURCE: BAWSCA, 2006a

SFPUC Water System Improvement Program . 203287

Figure 3.2 (Revised)
SFPUC Water Service Area -
San Francisco and SFPUC Wholesale Customers

Section 3.4.4, page 3-22: The first paragraph is revised as follows to incorporate information from recent planning efforts.

Recycled Water Potential

The SFPUC evaluated recycled water potential by considering existing recycled water programs, plans to expand uses in the future, and the amount of potable water that could potentially be offset by future recycled water uses. The studies indicated that there is a range of about 47 to 53 mgd in potential for recycled water use in the wholesale and retail service areas, including current plus additional uses through 2020 (RMC, 2004). The *Recycled Water Master Plan* (RMC, 2006) assesses the technical feasibility of recycled water projects in the westside area of San Francisco; it identifies projects with the potential to provide approximately 6.2 mgd of recycled water to irrigate Golden Gate Park, Lincoln Park, Harding Park, the San Francisco Zoo, San Francisco State University, and other locations, as well as provide a supplemental water supply for Lake Merced. The first phase of projects identified in the report would provide 4.1 mgd of recycled water to this area (RMC, 2006). These San Francisco projects are included in the total SFPUC service area recycled water potential of 47 to 53 mgd in 2020 (RMC, 2004). It should be noted, however, that during the project planning and design phase of recycled water projects, the recycled water potential of specific users will be refined and could potentially be reduced. As such, it is assumed that 100 percent of these specific users' demand represents an offset in potable surface water supplies and that could be met by other appropriate sources of alternative water supply such as groundwater and/or stormwater if recycled water is deemed inappropriate for the specified use (SFPUC, 2008a).

Section 3.4.6, page 3-24: The text following the list under the heading "B. Regional Projects" is revised as follows to reflect the determination made by the San Francisco Planning Department in March 2008 regarding the independent utility of certain WSIP projects.

In September 2005, the Notice of Preparation (NOP) on the WSIP PEIR identified most of the projects listed above as projects that might undergo environmental review independent of and possibly in advance of the PEIR (refer to the NOP in Appendix A of this PEIR for brief descriptions of these projects). As a result of reclassification of projects and program refinement since the issuance of the NOP, the San Francisco Planning Department has determined that three other projects not listed in the NOP as such are appropriate for environmental review separate from the PEIR: Alameda Siphons (previously classified as part of the Irvington Tunnel project), San Antonio Pump Station Upgrade and Capuchino Valve Lot Improvements. The Planning Department is preparing or has completed environmental review for all of the projects listed above separate from the PEIR, and the SFPUC has already implemented some of the projects. The Planning Department has determined that these projects may appropriately proceed with environmental review in advance of completion of the WSIP PEIR for several reasons: (1) these projects are necessary irrespective of whether the SFPUC approves the overall WSIP goals and objectives or any other WSIP facility project; (2) construction of the particular project will not increase the normal operating or delivery capacity of the SFPUC's regional system, change the manner in which water is dispersed, increase the storage capacity of the system, or increase or alter the

nature of any treatment capacity of the system; (3) these projects do not commit the SFPUC to any other WSIP project; and (4) any cumulative impacts associated with the individual project can be and are adequately addressed by the analysis in the individual environmental review documents. Although the independent utility projects may contribute to the overall reliability of the regional water system, the primary purpose of these projects is to rehabilitate existing facilities and provide flexibility for maintenance and emergency response.

Subsequent to Draft PEIR publication in June 2007 and based on more detailed project information, the San Francisco Planning Department determined that five additional regional WSIP projects, previously identified as Key Regional Projects in category A above, could appropriately proceed with environmental review independent of the WSIP PEIR: Rehabilitation of Existing San Joaquin Pipelines, BDPL Nos. 3 and 4 Crossovers, Seismic Upgrade of BDPL Nos. 3 and 4 at Hayward Fault, Baden and San Pedro Valve Lots Improvements, and Pulgas Balancing Reservoir Rehabilitation (all phases). Thus, these five additional projects have been determined to have independent utility from the overall program analyzed in the WSIP PEIR (SFPUC, 2008b) and can undergo environmental review independent of and possibly in advance of the PEIR.

Section 3.4.6, page 3-25: Item E is revised as follows in response to a comment (see **Response L_BAWSCA1-70**).

E. **Regional Recycled Water Projects** (note that these are different than the project #22, Recycled Water Projects, listed above under A). The SFPUC expects ~~to consider and develop~~ that some recycled water projects that would be located outside of San Francisco will be developed in coordination with other jurisdictions. As these projects are developed and designed, they will be reviewed to determine the appropriate lead agency and level of environmental review.

Section 3.5.1, page 3-27: The following text is inserted as the new last paragraph of Section 3.5.1 in response to a comment (see **Response L_BAWSCA1-71**).

Other water quality regulations of significance to the SFPUC could include the Stage 2 Disinfectants and Disinfection Byproducts Rule, Candidate Contaminant List, California Action Levels, and California Public Health Goals. The SFPUC will address these regulations as appropriate as part of its ongoing operations as well as to ensure consistency with the WSIP water quality levels of service.

Section 3.6.1, page 3-34: The second bullet under the second full paragraph is revised as follows to incorporate information from recent planning efforts.

- *Recycled Water Projects*. One of the WSIP facility improvement projects described in Section 3.8 includes treatment, storage, and distribution facilities to provide about 4 mgd of recycled water to irrigation users on the west side of San Francisco based on preliminary estimates of recycled water demand. However, due to ongoing planning efforts and demand projection refinements, the project sizes may be reduced to match the refined demands (SFPUC, 2008a).

Section 3.6.2, page 3-36: The first bullet under the first paragraph in this section is revised as follows to incorporate information from updated modeling efforts. As described in Section 13.3 of this document, this revision does not result in any increase of average annual diversions from the Tuolumne River or in any change in the impact analysis presented in Volume 3, Chapter 5 of the Draft PEIR. The increase in magnitude of dry-year water transfers is a reflection of updated modeling input to assumptions for both the existing condition and WSIP and better reflects the modeled estimate for dry-year water transfers needed to achieve the WSIP level of service objectives over the design drought.

- *Water transfers*. Utilize up to an equivalent of ~~23~~ 26 mgd (annual average over 8.5-year design drought) of supplemental Tuolumne River water through water transfer agreements with TID and MID.

Section 3.7.1, page 3-42: The last sentence of the first full paragraph is revised as follows in response to a comment (see **Response L_DalyCty-31**).

> In exchange, those customers would increase groundwater pumping during drought periods, thereby reducing the amount of their purchase requests during a drought and ~~creating a temporary reduction system demand~~ making more water available for serving regional water system demand.

Section 3.8, pages 3-50 and 3-54, Table 3.10: The following text in the fourth and fifth columns in **Table 3.10** is revised as shown on the following page to reflect the change in project description of the Calaveras Dam (SV-2) and Alameda Creek Fishery (SV-1) projects and to reflect updated information from SFPUC studies.

Section 3.8, page 3-60, Table 3.11: The entry located in the third to last row, second to last column in Table 3.11 is deleted as shown on page 16-19 in response to a comment (see **Response L_Brisbane-03**).

Section 3.8, page 3-60, Table 3.11: The entry located in the second to last row, last column to the right in Table 3.11 is revised as shown on page 16-19 in response to a comment (see **Response L_DalyCty-33**).

Section 3.8, page 3-60, Table 3.11: The entry located in the 15th row, 8th column of Table 3.11 is revised as shown on page 16-19 in response to a comment (see **Response L_Milpts-10**).

Section 3.8, page 3-63, Table 3.12: The first region listed in the first row of Table 3.12 is revised as follows to correct an editorial error.

> ~~Sunol~~ San Joaquin Region

Section 3.10, page 3-82: The third paragraph is revised as follows to correct an editorial error.

> In addition, the SFPUC is committed to the following GHG reduction actions as part of the WSIP program. The SFPUC will include the first two ~~following~~ measures in all WSIP contractor specifications and implement the third measure during project planning and

TABLE 3.10 (same as **TABLE S.2)**
WSIP FACILITY IMPROVEMENT PROJECTS

No.	Project Title	Principal Type of Facility/ Objectives[b]	Location of Preferred Project[c]	Project Description
SV-1	Alameda Creek Fishery Enhancement	Other / Water Supply, Sustainability	Structural Alternatives: Alameda Creek in Sunol Valley, downstream of Calaveras Dam	This project would recapture the water released as part of the Calaveras Dam project (SV-2) and return it back to the regional system for use. A number of structural and non-structural recovery alternatives are under consideration for this project, including: a water recapture facility downstream of the Sunol Valley WTP, conjunctive groundwater use, horizontal collector wells, or other groundwater recovery systems yet to be defined. Other alternative designs for this project could be developed. If a structural alternative involving construction of a recapture facility is selected, the recapture facility would be located at the downstream end of the reach of Alameda Creek between the lower Sunol Valley and the confluence with Arroyo de la Laguna. As an alternative to the recapture facility, the SFPUC may coordinate with other water agencies to develop and implement other means of recapturing fishery enhancement flows consistent with the 1997 CDFG MOU.
SV-2	Calaveras Dam Replacement	Storage / Water Supply, Delivery and Seismic Reliability	Sunol Valley, immediately downstream of existing dam and at the Alameda Creek Diversion Dam	This project would provide for the planning, design, and construction of a replacement dam at Calaveras Reservoir to meet seismic safety requirements. The new dam would provide for a reservoir with the same storage capacity as the original reservoir (96,800 acre-feet), but the replacement dam would be designed to accommodate enlargement of the dam in the future. The preferred project would include construction of: • New earthfill dam • New intake tower and new outlet valve for water releases for instream flow requirements • New or rehabilitated outlet works for seismic safety and improved operations and maintenance • New bypass structure at the Alameda Creek Diversion Dam As part of this project, Calaveras Reservoir and the proposed bypass structure at the diversion dam would be operated to release up to 6,300 acre-feet per year (5.5 mgd) of water to Alameda Creek in support of fisheries in compliance with the 1997 CDFG MOU. When flow is available in Alameda Creek, releases would be made through the proposed bypass structure at the Alameda Creek Diversion Dam and would be supplemented as necessary with releases from Calaveras Dam.
PN-4	Lower Crystal Springs Dam Improvements	Storage / Water Supply and Delivery Reliability	Lower Crystal Springs Dam	This project would consist of major repairs and improvements to Lower Crystal Springs Dam to provide adequate protection of the dam and downstream areas from the probable maximum flood, as defined by the DSOD. DSOD has placed operational restrictions on the dam, and the capacity of the reservoir is limited to ~~58,400~~ 56,800 acre-feet. The project would restore the historical reservoir capacity of ~~69,300~~ 68,000 acre-feet. The project would be coordinated with San Mateo County, which is concurrently planning the replacement of the existing county bridge built above the crest of the dam. Project elements would include: • Lowering the existing parapet wall on either side of the existing spillway to lengthen the overflow weir (central spillway) from the reservoir • Raising the remaining parapet walls and adding two new spillway bays, one on each side of the existing central spillway • Enlarging the spillway stilling basin to accommodated the probable maximum flood • Installing four gates (with control building) or installing a fixed weir within the spillway to restore the historical storage capacity

design, which in addition to having other environmental benefits, would also help reduce GHG emissions.

Section 3.11, page 3-82: The third sentence of the last paragraph is revised as follows in response to a comment (see **Response L_BAWSCA1-86**).

As the preliminary schedule indicates, construction of projects is expected ~~to begin in 2008 and~~ to be completed by the end of 2014; there would be an intense period of construction from 2009 to 2010, when 18 of the 22 projects would be under construction ~~constructed~~ concurrently.

Section 3.13, page 3-86: The fourth full paragraph on the page is revised as follows in response to comments described in **Section 14.4, Master Response on Appropriate Level of Analysis**.

Each of the individual WSIP facility improvement projects will undergo project-level CEQA review, and CEQA documents developed through those reviews will identify needed approvals by local, state, and federal agencies for individual projects. Table C.6 of Appendix C presents the specific permits and approvals that could be required for individual projects as well as interested agencies that have requested early consultation and coordination with the SFPUC. Several projects are expected to require U.S. Department of the Army permits to comply with the Clean Water Act, which, in turn, will require compliance with the Federal Endangered Species Act, the Clean Water Act Section 401, and the National Historic Preservation Act. Several projects are expected to require Streambed Alteration Agreements from the California Department of Fish and Game and compliance with the California Endangered Species Act. When individual projects undergo CEQA review, the project's environmental documentation will provide more detailed and up-to-date information on the required approvals and need for consultation with interested agencies. The approval and adoption of the overall WSIP as a program and policy are distinct actions from the approvals for individual facility improvement projects.

Section 3.14, page 3-88: The following reference is added before (CDFG, 1997) in response to a comment (see **Response L_Menlo1-08**).

Bay Area Water Supply and Conservation Agency (BAWSCA), *Bay Area Water Supply and Conservation Agency Annual Survey FY2004-05*, April 2006.

Section 3.14, page 3-90: The following references are added after (SFPUC, 2007b) to support updated information.

SFPUC, *Demand Estimates for Recycled Water and Water Conservation Application*, addressed to Kelley Capone, Bureau of Environmental Management, from Ellen Levin, Water Enterprise. February 27, 2008a.

SFPUC, *Memo Supporting Project Independent Utility*, submitted by Irina Torrey, March 20, 2008b.

TABLE 3.11
WSIP IMPROVEMENT PROJECTS – AFFECTED JURISDICTIONS

Affected County and City Jurisdictions	Advanced Disinfection	Lawrence Livermore Supply Improvements	San Joaquin Pipeline System	Rehabilitation of Existing San Joaquin Pipelines	Tesla Portal Disinfection Station	Alameda Creek Fishery Enhancement	Calaveras Dam Replacement	Additional 40-mgd Treated Water Supply	New Irvington Tunnel	SVWTP – Treated Water Reservoirs	San Antonio Backup Pipeline	Bay Division Pipeline Reliability Upgrade	BDPL Nos. 3 and 4 Crossovers	Seismic Upgrade of BDPL Nos. 3 and 4 at Hayward Fault	Baden and San Pedro Valve Lots Improvements	Crystal Springs/San Andreas Transmission Upgrade	HTWTP Long-Term Improvements	Lower Crystal Springs Dam Improvements	Pulgas Balancing Reservoir Rehabilitation	San Andreas Pipeline No. 3 Installation	Groundwater Projects	Recycled Water Projects
	SJ-1	SJ-2	SJ-3	SJ-4	SJ-5	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	BD-1	BD-2	BD-3	PN-1	PN-2	PN-3	PN-4	PN-5	SF-1	SF-2	SF-3
Tuolumne County																						
Unincorporated Areas			X	X																		
Stanislaus County																						
Unincorporated Areas			X	X																		
Riverbank				X																		
Modesto				X																		
San Joaquin County																						
Unincorporated Areas	X	X	X	X	X																	
Alameda County																						
Unincorporated Areas (including Sunol and Castro Valley)						X	X	X	X	X	X											
Newark												X										
Fremont									X			X		X								
Santa Clara County																						
Unincorporated Areas							X															
Milpitas							A						A									
San Jose													X									
Santa Clara													X									
Sunnyvale													A									
Mountain View													A									
Los Altos													A									
Palo Alto													X									
San Mateo County																						
Unincorporated Areas												X				X	X	X	X		X	
East Palo Alto												X										
Menlo Park												X										
Atherton													X									
Redwood City												X	A									
Woodside													A									
San Mateo																						
Hillsborough																C						
Burlingame																C					X	
Millbrae																C	C				X	
San Bruno																C	C				X	
South San Francisco															X						X	
Colma																					X	
Brisbane																					~~X~~	
Daly City															X					X	X	X
City and County San Francisco																				X	X	X

NOTES: X = Indicates a preferred project location, but an alternative site may also be present in this jurisdiction.
A = Alternative sites under consideration.
C = Not located in the city, but very close to the city limits.

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Volume 2, Chapter 4

4.2 Plans and Policies

Section 4.2.2, page 4.2-4: The following text is added after the discussion of the San Francisco Sustainability Plan to incorporate recent planning efforts applicable to the WSIP.

San Francisco Municipal Green Building Program

San Francisco's Green Building Program was founded in 1999 when the CCSF adopted the Resource Efficient Building Ordinance, which established green building standards for municipal buildings to increase energy efficiency, conserve CCSF finances, reduce the environmental impacts of demolition, construction, and operation of buildings, and create safe workplaces for CCSF employees and visitors. The ordinance created the inter-departmental Resource Efficient Building (REB) Task Force and charged the San Francisco Department of Environment with implementing the ordinance in partnership with the Department of Public Works and other REB Task Force departments. In 2004, amendments to Chapter 7 of the Environment Code set LEED (Leadership in Energy and Environmental Design) Silver Certification by the U.S. Building Council as the minimum environmental performance requirement for all municipal projects over 5,000 square feet. The REB Task Force assists City departments in compliance with the LEED Silver Certification requirement and helps to determine which projects are applicable for LEED ratings. For all municipal construction projects, including those projects that do not involve buildings and are not required to obtain LEED Silver Certification, the REB Task Force provides recommended best practices and sample specifications for building materials (e.g. recycled content of steel and concrete) (SF Dept of Environment, 2004-2007).

Section 4.2.2, page 4.2-7: The first paragraph is revised as follows in response to a comment (see **Response F_NPS-GGNRA-01**).

In 1969, the CCSF granted two easements over the vast majority of the Peninsula watershed to the Department of the Interior. The easements were granted to the federal government in order to obtain a change in the route of Interstate 280 (I-280) (and an increase in the federal share of costs) to a less environmentally damaging location further east of Crystal Springs Reservoir. The approximately 19,000-acre Scenic Easement covers the lands west of Crystal Springs and San Andreas Reservoirs. The approximately 4,000-acre Scenic and Recreation Easement applies to lands in the vicinity of I-280. ~~Cañada Road demarcates these easements: t~~The CS/SA Transmission project (PN-2), Lower Crystal Springs Dam project (PN-4), and the Pulgas Channel and sediment catch basin components of the Pulgas Balancing Reservoir project (PN-5) are within the Scenic Easement, while the Pulgas Balancing Reservoir itself is within the Scenic and Recreation Easement. The easements cover nearly all of the CCSF-owned Peninsula watershed lands and place restrictive covenants on use of the lands that are unrelated to the SFPUC's overall management of the land for utility purposes. The provisions of the easement include:

Section 4.2.2, page 4.2-8: The second paragraph is revised as follows in response to a comment (see **Response L_BCDC-02**).

San Francisco Bay Conservation and Development Commission, San Francisco Bay Plan

The San Francisco Bay Plan (SF Bay Plan), prepared by the San Francisco Bay Conservation and Development Commission (BCDC) in 1968 in accordance with the McAteer-Petris Act of 1965, is an enforceable plan that guides the protection and use of San Francisco Bay and its shoreline (BCDC, 2005). Under the McAteer-Petris Act, BCDC has the authority to issue or deny permit applications for placing fill, extracting materials, or changing the use of any land, water, or structure within the area of its jurisdiction and to enforce policies aimed at protecting the bay and its shoreline.[3a] The SF Bay Plan designates shoreline areas that should be reserved for water-related purposes like ports, industry, public recreation, airports, and wildlife refugees. Since its adoption by BCDC in 1968, the SF Bay Plan has been amended periodically to keep pace with changing conditions and to incorporate new information concerning the bay. The new Bay Division Pipeline Tunnel No. 5 proposed under the BDPL Reliability Upgrade project (BD-1) includes approximately five miles of tunnel under the Don Edwards San Francisco Bay Wildlife Refuge, Newark Slough, and San Francisco Bay. The pipeline would be buried between 100 and 150 feet below mean sea level and result in approximately 355,000 cubic yards of bay mud excavation/spoils. As a result, this project could be subject to ~~certain provisions~~ SF Bay Plan policies concerning the placement of fill in the bay, dredging, public access, and other policies and provisions contained in the SF Bay Plan (BCDC, 2005), depending on the final siting, construction, and operation of the BDPL Reliability Upgrade project.

[3a] BCDC has jurisdiction over all of San Francisco Bay up to mean high tide, areas of marsh up to 5 feet above mean sea level, a shoreline band lying 100 feet inland from the bay, as well as salt ponds, managed wetlands, and certain waterways.

Section 4.2.3, page 4.2-15: The following text is added after the discussion of WSIP consistency with the San Francisco Sustainability Plan, the first full paragraph on the page, to address recent planning efforts applicable to the WSIP.

San Francisco Municipal Green Building Program

The San Francisco Municipal Green Building Program was developed for the purpose of improving the environmental performance of municipal buildings. The WSIP facility improvement projects would be consistent with the San Francisco Municipal Green Building Program, since all applicable facility improvement projects constructed under the WSIP would be designed, constructed, and operated in accordance with the City's Green Building requirements. The SFPUC would complete and submit LEED checklists to the REB Task Force on all applicable WSIP projects.

Section 4.2.3, page 4.2-16: The fourth full paragraph is revised as follows in response to a comment (see **Response L_BCDC-02**).

San Francisco Bay Plan

Implementation of the Bay Division Pipeline Reliability Upgrade project (BD-1) includes construction of a tunnel to replace aboveground pipelines located in San Francisco Bay. Depending on the final scope of work undertaken with respect to this project, SF Bay Plan policies could be relevant to the project. The proposed five-mile tunnel under Don Edwards San Francisco Bay Wildlife Refuge, Newark Slough, and San Francisco Bay is generally straight, which provides for ease in constructability, but is also designed to minimize environmental disruption, particularly with respect to protected species. Programmatic mitigation measures described in Chapter 6, if determined to be applicable, identify measures to protect and restore natural resources and habitats, including special-status species. Compliance with BCDC permitting requirements and consideration of applicable SF Bay Plan policies would also ensure that relevant policies of the SF Bay Plan are addressed and carried out to minimize environmental effects on the bay. The WSIP would, on the whole, be consistent with policies contained in the SF Bay Plan.

Section 4.2.5, page 4.2-18: The following reference is added after (BCDC, 2005) to support updated information.

San Francisco Department of Environment, *San Francisco Municipal Green Building Report 2004-2007.*

Section 4.2, page 4.2-19: The following reference is added after (Tuolumne County, 1996) in response to a comment (see **Response L_Tuol2-06**).

USDA Forest Service, *Sierra Nevada Forest Plan Amendment Final Supplemental Environmental Impact Statement*, January 2004.

4.5 Hydrology and Water Quality

Section 4.5.1, page 4.5-9: The last sentence of the first paragraph is revised as follows in response to a comment (see **Response S_RWQCBCV-01**).

These agencies also implement the Waste Discharge Requirements (WDR) Program, which regulates discharges of waste to land under the California Water Code as well as discharges of waste into waters of the state that are outside federal jurisdiction, as defined under the Clean Water Act.

Section 4.5.1, page 4.5-9: The end of the second full paragraph is revised as follows in response to a comment (see **Response S_RWQCBCV-01**).

The San Francisco Bay RWQCB adopted its Basin Plan in 1995, and most recently revised the plan in December 2006. ~~November 2004. A general update to the plan was approved by the San Francisco Bay RWQCB in 2005 and by the SWRCB in April 2006. The update is undergoing review by the Office of Administrative Law.~~ The Central Valley RWQCB (Region#5) has regulatory authority over water bodies in the San Joaquin Region. The Central Valley RWQCB adopted its Basin Plan in 1998, and most recently revised the plan in October 2007~~September 2004~~.

Section 4.5.1, page 4.5-9: The third full paragraph is revised as follows in response to a comment (see **Response S_RWQCBCV_02**).

> Beneficial uses ~~of surface waters~~ serve as a basis for establishing water quality objectives and discharge prohibitions to attain ~~beneficial use goals~~ the goal of achieving the highest water quality consistent with the maximum benefit to the people of the state. Beneficial uses are designated in Basin Plans for surface waters and groundwater basins, and in the case of the San Francisco Bay Basin, wetlands. **Table 4.5-1** lists the designated beneficial uses for those water bodies that could be affected by the WSIP. ~~project activities, as defined in the Basin Plans.~~ The beneficial uses of the water bodies generally apply to all tributaries.

Section 4.5.1, page 4.5-10: Table 4.5-1 is revised as follows in response to a comment (see **Response S_RWQCBSF-02**).

TABLE 4.5-1
DESIGNATED BENEFICIAL USES

Water Body	Designated Beneficial Uses
San Joaquin Region	
San Joaquin River	MUN (potential), AGR, IND, MIGR, REC-1, REC-2, WARM, SPWN, WILD
California Aqueduct	MUN, AGR, IND, REC-1, REC-2, WILD
Delta-Mendota Canal	MUN, AGR, REC-1, REC-2, WARM, WILD
Sunol Valley Region	
Alameda Creek	AGR, COLD, GWR, MIGR, REC-1, REC-2, SPWN, WARM, WILD
Arroyo Hondo	COLD, FRSH, MUN, REC-1, REC-2, SPWN, WARM, WILD
Calaveras Reservoir	COLD, MUN, REC-1 (limited), REC-2, SPWN, WARM, WILD
San Antonio Reservoir	COLD, MUN, REC-1 (limited), REC-2, SPWN, WARM, WILD
Niles Cone Groundwater	MUN, PROC, IND, AGR
Bay Division Region	
Guadalupe River	COLD, MIGR (potential), REC-1 (potential), REC-2, SPWN (potential), WARM, WILD
Santa Clara Valley Groundwater	MUN, PROC, IND, AGR (potential)
Peninsula Region	
San Mateo Creek	COLD (potential), FRSH, RARE, REC-1 (potential), REC-2 (potential), SPWN, WILD
Crystal Springs Reservoir	COLD, MUN, RARE, REC-2, SPWN, WARM, WILD
San Andreas Reservoir	COLD, MUN, RARE, REC-1 (limited), REC-2, SPWN, WARM, WILD
San Mateo Plain Groundwater	MUN, PROC, IND, AGR (potential)
San Francisco Region	
Lake Merced	COLD, MUN (potential), REC-1, REC-2, SPWN, WARM, WILD
Westside Groundwater	MUN, PROC (potential), IND (potential), AGR
San Francisco Bay	
San Francisco Bay, Lower	COMM, EST, IND, MIGR, NAV, RARE, REC-1, REC-2, SHELL, SPWN (potential), WILD
San Francisco Bay, South	COMM, EST, IND, MIGR, NAV, RARE, REC-1, REC-2, SHELL, SPWN (potential), WILD

Beneficial Uses Key:

MUN (Municipal and Domestic Supply); AGR (Agriculture); REC-1 (Body Contact Recreation); REC-2 (Noncontact Recreation); WARM (Warm Freshwater Habitat); COLD (Cold Freshwater Habitat); MIGR (Fish Migration); SPWN (Fish Spawning); WILD (Wildlife Habitat); NAV (Navigation); GWR (Groundwater Recharge); FRSH (Freshwater Replenishment); RARE (Preservation of Rare and Endangered Species); SHELL (Shellfish Harvesting); COMM (Ocean, Commercial, and Sport Fishing); EST (Estuarine Habitat); IND (Industrial Service Supply); PROC (Industrial Process).

Note: Beneficial uses for specific wetland sites affected by the WSIP facility improvement projects in the San Francisco Bay region will be determined as needed based on the process described in the San Francisco Bay Basin Plan.

Section 4.5.1, page 4.5-12: The following paragraph is inserted as the first paragraph under the heading "Construction in Waters of the State and of the United States" in response to a comment (see **Response S_RWQCBCV-03**).

> The Regional Water Quality Control Board (RWQCB) has regulatory authority over construction in waters of the United States and waters of the state, including activities in wetlands, under both the Clean Water Act and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the Clean Water Act, the RWQCB has regulatory authority over actions in waters of the United States through the issuance of water quality certifications under Section 401 of the Clean Water Act, which are issued in conjunction with permits issued by the Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act. When the RWQCB issues a Section 401 certification for a project, the project is also regulated under State Water Resources Control Board Order No. 2003-0017-DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State Water Quality Certification," which requires compliance with all conditions of the water quality certification. Activities in areas that are outside the jurisdiction of the Corps (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high water mark) are regulated by the RWQCB under the authority of the Porter-Cologne Act. Activities that lie outside of Corps jurisdiction may require the issuance of either individual or general waste discharge permits.

Section 4.5.1, page 4.5-13: The second full paragraph is revised as follows in response to a comment (see **Response S_RWQCBSF-04**).

> The C.3 requirements are similar for all counties. However, local municipalities are phasing in these requirements, and specific procedures and application requirements may differ from one municipality to another. Reconstruction projects located within ~~Projects completed in~~ a public street or road right-of-way, such as some pipeline projects proposed as part of the WSIP, are exempt from the C.3 requirements where ~~when~~ both sides of the right-of-way are developed.

Section 4.5.2, page 4.5-31: The last paragraph is revised as follows in response to a comment (see **Response S_RWQCBSF-07**).

> For projects that are subject to the Construction General Permit (described in Impact 4.5-1, above), the discharges could possibly be made in accordance with this permit, provided it could be demonstrated that the water is uncontaminated. … Discharges to a local sanitary sewer system would comply with the requirement of the local permitting agency. Other General Permits in the San Francisco Region under which dewatered groundwater may be discharged include the following General NPDES Permits:
>
> - General NPDES Permit for VOC Cleanups (Order No. R2-2004-0055)
> - General NPDES Permit for Fuel Cleanups (Order No. R2-2006-0075)
> - General NPDES Permit for Groundwater Dewatering (Order No. R2-2006-0075)

Before discharging under any general permit, the SFPUC must submit a completed Notice of Intent that includes a dewatering plan with appropriate treatment and monitoring specifications. The SFPUC should also allow at least 60 days for the RWQCB review and acceptance of the Notice of Intent and dewatering plans.

Section 4.5.2, page 4.5-39: The third full paragraph is revised as follows to correct an editorial error.

The Calaveras Dam (SV-2), 40-mgd Treated Water (SV-3), and Treated Water Reservoirs (SV-5) projects would not be located within a mapped 100-year floodplain. Therefore, flooding impacts would *not apply* to these projects.

Section 4.5.2, page 4.5-50: The first and second full paragraphs are revised as follows in response to a comment (see **Response S_RWQCBSF-09**).

With the exception of San Francisco and San Joaquin County, the municipal stormwater permits for the counties within the WSIP study area require new development and redevelopment projects that involve the creation or replacement of impervious surfaces to incorporate treatment measures and other appropriate source control and site design features to reduce the pollutant load in stormwater discharges and to manage runoff flows; the applicability of countywide MS4 stormwater management controls to the WSIP will be determined on a project-by-project basis as part of project-level review of individual WSIP projects. In each county, projects subject to these controls that involve the creation or replacement of one or more acres of impervious surfaces were required to comply with the new development and redevelopment requirements as of February 15, 2005. Projects subject to countywide MS4 stormwater management controls that involve the creation or replacement of 10,000 square feet or more of impervious surfaces were required to comply with the requirements by August 15, 2006. These thresholds apply to individual projects and are not applied to a cumulative set of projects if the locations of the cumulative set of projects under a single program are noncontiguous and/or are not part of a single common plan of development. To the extent that projects subject to countywide MS4 stormwater management controls are part of a single common plan of development that cumulatively exceeds 10,000 square feet of new or replaced impervious surface, the smaller amount of impervious surface from each sub-project would require appropriately sized stormwater treatment BMPs. ~~such as the WSIP. The applicability of the municipal stormwater permit requirements to specific projects would depend on the amount of impervious surface that would be created or replaced.~~

In addition, projects subject to countywide MS4 stormwater management controls that involve land disturbance of more than one acre would be required to include post-construction erosion and sediment control BMPs in the SWPPP prepared for the project (Described in the Setting and in Impact 4.5-1). For projects subject to countywide MS4 stormwater management controls, the post-construction erosion and sediment control BMPs for projects located in Alameda, Santa Clara, and San Mateo Counties and creating or replacing more than one acre of impervious surface must also comply with requirements

in the Hydrograph Modification Management Plans for those counties. Post-construction BMPs could include minimizing land disturbance or the amount of impervious surfaces; treating stormwater runoff using infiltration, detention/retention, or biofilters; using efficient irrigation systems; ensuring that interior drains are not connected to a storm sewer system; and using appropriately designed and constructed energy dissipation devices. These measures would be designed to ensure that drainage patterns are not changed in a way that results in offsite erosion or flooding, and must be consistent with all local post-construction stormwater management requirements, policies, and guidelines. Coverage under the General Construction Permit cannot be terminated until the site is in compliance with all local stormwater management requirements and a post-construction stormwater management plan is in place, as described in the SWPPP.

4.6 Biological Resources

Section 4.6.1, page 4.6-22: The third full paragraph is revised as follows to correct an editorial error. The footnote in this paragraph remains unchanged and is not shown below.

Program Area Occurrence. ~~A~~ Two adult San Joaquin kit fox were~~was~~ sighted recently on another SFPUC project site in the Sunol Valley. Despite this sighting of ~~Since this was a single sighting,~~ apparently ~~of~~ a pair of ~~single~~ transient animals, this species is not otherwise considered present in the Sunol Region. Salt marsh harvest mouse occurs most frequently in suitable habitat that lies generally south of a line between Redwood City and Hayward (Goals Project, 2000).

Section 4.6.1, page 4.6-32: The fourth full paragraph is revised as follows in response to a comment (see **Response S_RWQCBCV-03**).

The state's authority to regulate activities in wetlands and water at the project sites resides primarily with the ~~State Water Resources Control Board (SWRCB)~~ California Regional Water Quality Control Board (RWQCB), which regulates construction in waters of the United States and waters of the state, including activities in wetlands, under both the Clean Water Act and the State of California's Porter-Cologne Water Quality Control Act. .... The RWQCB ~~SWRCB, acting through the nine Regional Water Quality Control Boards,~~ must certify that a Corps permit action meets state water quality objectives (Section 401, Clean Water Act).

Section 4.6.1, page 4.6-33: The following text is added before the second full paragraph on the page in response to a comment (see **Response L_BCDC-03**).

Local Laws, Regulations, and Policies Applying to Natural Resource Protection

The San Francisco Bay Conservation and Development Commission (BCDC) was formed in 1969 under the McAteer-Petris Act to regulate development in and around San Francisco Bay. BCDC developed the San Francisco Bay Plan to guide the wise use of the bay's water and shorelines. In reviewing permit applications for projects within its jurisdiction, BCDC relies on its Bay Plan policies to ensure the protection of habitats and biological resources,

including fish, other aquatic organisms, and wildlife, and water quality; as well as policies on uses of the bay and shoreline.

Section 4.6.2, page 4.6-37: The third bullet is revised as follows in response to a comment (see **Response S_RWQCBCV-05**).

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act and as protected under the Porter-Cologne Water Quality Control Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Evaluated in this section)

Section 4.6.2, page 4.6-47: The first sentence in the first full paragraph is revised as follows to be consistent with the updated project description of the Calaveras Dam Replacement project (SV-2).

The Calaveras Dam project (SV-2) would affect about 100 acres of habitat in the ~~dam~~ construction area, including portions of Calaveras Creek downstream from the existing dam and portions of Alameda Creek in the vicinity of the Alameda Creek Diversion Dam.

Section 4.6.2, page 4.6-55: The sixth sentence in the third full paragraph (starting on line 13 of this paragraph) is revised as follows to be consistent with the updated project description of the Calaveras Dam Replacement project (SV-2).

Established critical habitat in the Sunol Valley includes the area between Arroyo Hondo and Calaveras Reservoir (for California tiger salamander) and the area between the Alameda Creek Diversion Dam, Calaveras Reservoir and San Antonio Reservoir (for Alameda whipsnake).

4.7 Cultural Resources

Section 4.7.1, page 4.7-24: The following text is added after the first partial paragraph on the page in response to a comment (see **Response L_SFLandmarks-04**).

Opposition to construction of the Hetch Hetchy project came from a variety of interests. Understandably, the Spring Valley Water Company opposed this project, which effectively ended the company's role as the utility company supplying San Francisco with its municipal and domestic water.[21a] The Hetch Hetchy project was designed to transmit electrical power to San Francisco from a power plant at Moccasin. A politically charged conflict over this electric power and associated revenue pitted public power advocates against the privately financed electric power industry. Opposition came from electrical power generating companies like Pacific Gas and Electric Company (PG&E) and Great Western Power Company (GWP), two utilities that served San Francisco and the Bay Area. These private power companies opposed the competing generation and sale of electricity by public agencies, which was a provision of the Raker Act. The CCSF planned to acquire PG&E and GWP's distribution systems within its service area, but between 1927 and 1941 the public consistently rejected bond issues required to fund their acquisition; allegedly,

this opposition to the bond measures was largely funded by PG&E.[21b] The CCSF's agreements to have PG&E (which had acquired GWP in the 1930s) wheel its power through the company's existing transmission and distribution systems for delivery to San Francisco agencies, and its purchase of city power for resale, caused a longstanding controversy between the federal government, public power advocates, and the CCSF.[21c]

Section 4.7.1, page 4.7-24: The following text is added after the third full paragraph in response to a comment (see **Response L_SFLandmarks-06**).

Multi-purpose dam and water conveyance projects proliferated within river basins throughout America in the early decades of the 20th century. The projects were built for a variety of purposes: municipal water supplies, federal land reclamation, irrigation, and electric power generation. Thousands of workers contributed to this construction work, often under tight schedules and difficult, even dangerous, conditions. Hetch Hetchy water project contract workers and wage laborers consisted of a varied group of individuals stratified by skill, race, and ethnicity. The largest proportion was low-paid, unskilled laborers, both native-born and immigrants. Above them were the better-paid skilled workers and craftsmen, and at the top was a smaller group consisting of managers, supervisors, administrative personnel, and skilled professionals such as civil and electrical engineers, hydrographers, and surveyors. Over more than 25 years of construction activity, the Hetch Hetchy project provided employment to many thousands of workers in many fields of industrial labor; these workers built everything from mountain roads, railroads, labor camps, buildings, bridges, and trestles that served as project infrastructure, to dams, tunnels, pipelines, siphons, and penstocks that stored and conveyed municipal water. Many of the lesser-skilled construction laborers were highly migratory, non-unionized workers whose employment was seasonal, with peak employment coming during the summer and autumn and minimal opportunities in winter and spring.

While some workers were more sedentary and lived in towns or work camps with their families, the majority of the workers—who were predominantly unmarried, mobile, and male—resided in boardinghouses or labor camps near their work sites. The ethnic makeup of the workingmen's boarding houses was often quite diverse, according to 1920 census records. For example, one lumber camp near Groveland was operated by an American civil engineer whose wife kept house with the assistance of one cook. Twenty-five boarders lived there, including painters, carpenters, contractors, lumberjacks, millwrights, and the lumberyard foreman. While the nationality of the boarders was predominately native-born, there were also Hungarians, Poles, Swedes, Germans, and Italians represented among the lodgers. Similarly, a tunnel camp in Groveland Precinct in 1920 contained boarding houses operated by a Swedish immigrant and a Canadian-born mine superintendent. While the Swedish-run operation catered mostly to about 20 Swedish, Norwegian, and native-born tunnel workers, the Canadian establishment lodged a diverse clientele of 22 workers, including tunnel miners and laborers, blacksmiths, foremen, and electricians. They were a diverse lot by nationality, including Canadians, native-born Americans, Spanish, German, Swedish, Italian, Irish, and Austrian workers. This pattern of boarding house occupation by

workers of various nationalities was borne out at other tunnel camps and dam construction camps located outside the town of Groveland and at Lake Eleanor.[21d]

Unsafe working conditions and inadequate wages were issues that periodically contributed to labor strife and fostered efforts to unionize the rural industrial labor force assembled to construct the Hetch Hetchy project. During August of 1920, workers at some of the city's construction camps, particularly in the Mountain Tunnel Division, staged a general strike that lasted until May 1921. City officials, particularly O'Shaughnessy, had expressed general support for trade or craft unionism, but objected to "radicals" who organized the day laborers/construction workers hired by the CCSF and advocated worker solidarity, class conflict, and direct action (strikes) at the point of production. These radical labor leaders included representatives of the Industrial Workers of the World (I.W.W., or "Wobblies"), which variously functioned as an umbrella labor organization and revolutionary social movement, and the International Union of Mine, Mill & Smelter Workers, a labor union with militant roots in the copper, nickel, lead, and gold mines of the American West and British Columbia. During the 1920s and 1930s, Mine and Mill, as the union was known, made concerted efforts to organize unskilled national minorities such as Mexican-Americans and African-Americans in the American Southwest. City records indicated that Swedish/Finnish tunnel crews and Mexican laborers were among the more ardent supporters of the radical unionization effort.[21e]

Construction of Hetch Hetchy Dam, ancillary water storage structures, the city's extensive water conveyance system, and its power plant at Moccasin proceeded over several decades, from 1913 into the late 1930s. In 1925, in his report to the CCSF on Hetch Hetchy's progress, O'Shaughnessy made little mention of labor problems or strife over organizing, and no comments related to national groups and/or the ethnic composition of the workforce. He reported that the total number of "men" productively employed on the project between 1914 and mid-1925 ranged from over 500 at the end of 1914, less than a hundred at the beginning of 1915, and then a gradual increase (with ebbs and flows) to about 750 in 1919. Thereafter the numbers increased quickly, reaching over 2,000 in 1922, before dropping off again to less than 400 by mid-1925.[21f] After 1925, the bulk of the construction effort shifted to the Foothill and Coast Range Tunnels and installation of the San Joaquin Pipeline, leading eventually to the delivery of Hetch Hetchy water into the city in October 1934.[21g]

Section 4.7.1, page 4.7-24: The following footnotes are added in response to two comments (see **Responses L_SFLandmarks-04** and **L_SFLandmarks-06**):

[21a] Elmo R. Richardson, "The Struggle for the Valley: California's Hetch Hetchy Controversy, 1905–1913," *California Historical Society Quarterly*, Vol. 38, 1959.

[21b] Norris Hundley, *The Great Thirst: Californians and Water, 1770s–1990s.* University of California Press, pp. 187–189, 1992; and Stephen P. Sayles, "Hetch Hetchy Reversed: A Rural Urban Struggle for Power." *California History*, 64:4, p. 256, Fall 1985.

[21c] San Francisco Public Utilities Commission (SFPUC), *San Francisco Water and Power*, pp. 57–61, June 1949.

[21d] U.S. Census Bureau, MSS Population, Groveland Precinct, Tuolumne County, CA, 1920.

[21e] Ted Wurm, *Hetch Hetchy and its Dam Railroad*, Trans-Anglo Books, Glendale, CA, pp. 121–122, 1973; Melvyn Dubofsky, *We Shall Be All: A History of the Industrial Workers of the World*, Urbana: University of Illinois Press, 1988; Mario T. Garcia, *Mexican Americans: Leadership, Ideology and Identity, 1930–1960*, Urbana: Yale University Press, pp. 175–198, 1989; City and County of San Francisco (CCSF), Moccasin Archives, n.d.

[21f] M.M. O'Shaughnessy, *Hetch Hetchy Water Supply*, Bureau of Engineering of the Department of Public Works, report prepared for the City and County of San Francisco, p. 42, October 1925.

[21g] Hanson, Warren D., *San Francisco Water and Power: A History of the Municipal Water Department and Hetch Hetchy System*, City and County of San Francisco, pp. 55–56, 1994.

Section 4.7.1, page 4.7-25: The following text is added after the third full paragraph in response to a comment (see **Response L_SFLandmarks-04**):

O'Shaughnessy Dam was designed and built in a manner that would allow it to be raised. In the 1930s, President Franklin D. Roosevelt sought to provide America with a New Deal, a government-sponsored socioeconomic initiative that among its most prominent programs included dam construction projects as massive public works. Not long after Roosevelt's election (November 1932) and the start of the New Deal (after his inauguration in March 1933), the CCSF received a grant from the federal government covering 30 percent of the cost of labor and materials for raising O'Shaughnessy Dam. The money came from the National Recovery Administration, which was formed by the National Industrial Recovery Act of June 1933. The SFPUC reported that on November 7, 1933, the citizens of San Francisco passed a bond measure for $3.5 million to cover the city's portion of the cost of enlarging O'Shaughnessy Dam. The federal grant also stipulated that all available unemployed workers in Tuolumne County had to be put to work before unemployed people from San Francisco could be used. Soon thereafter, the state requested that the CCSF use 500 to 600 unemployed laborers it had available for "maintenance of municipal property" under the State Emergency Relief Act (SERA). By March 1934, the CCSF had erected seven SERA work camps capable of housing and feeding nearly 700 workers. Later, the state's SERA program for unemployment relief was absorbed into the federal Works Progress Administration. The CCSF issued the contract for the Hetch Hetchy Dam enlargement project on April 8, 1935 to the Transbay Construction Company, and the dam's raising was completed more than three years later, on July 1, 1938.[22a]

Section 4.7.1, page 4.7-25: The following footnote is added in response to a comment (see **Response L_SFLandmarks-04**):

[22a] San Francisco Public Utilities Commission (SFPUC), *San Francisco Water and Power*, pp. 59–60, June 1949; Ted Wurm, *Hetch Hetchy and its Dam Railroad*, Trans-Anglo Books, Glendale, CA, p. 251, 1973.

Section 4.7.2, page 4.7-37: The following footnote is added at the end of second full paragraph in response to a comment (see **Response L_SFLandmarks-05**):

[29a] These properties have been determined eligible for listing in the National Register through consensus between a federal agency and the State Historic Preservation Officer. Information regarding National Register eligibility was acquired through a records search conducted at the Northwest Information Center at Sonoma State University, which is one of regional offices of the California Historical Resources Information System established by the California Office of Historic Preservation.

Section 4.7.2, page 4.7-39: The fourth bullet at the bottom of the page is revised as follows to clarify the current understanding of the historical status of the Coast Range Tunnel.

- *Hetch Hetchy Coast Range Tunnel*. This facility is listed as a California Historic Civil Engineering Landmark and appears to meet the criteria ~~is eligible~~ for listing in the National and California Register.

Section 4.7.3, page 4.7-51, Table 4.7-2: The text for the Baden and San Pedro Valve Lots project (row 19 below the table header) is revised as follows to correct an editorial oversight.

TABLE 4.7-2
POTENTIAL FOR PALEONTOLOGICAL IMPACTS

Project No.	Project Name	Would the WSIP project be located in an area of geologic formations where there is a high likelihood of paleontological impact?[a]	Have fossil localities been identified at other locations within the geologic formation?[a]	What is the potential for impacts on paleontological resources?	Impact significance
PN-1	Baden and San Pedro Valve Lots Improvements	Yes, ~~marine deposits, possible Merced Formation~~ Butano Sandstone/Whiskey Hill Formation	Yes	High	PSM

Section 4.7.3, page 4.7-54: The first paragraph under the subheading "Peninsula Region" is revised as follows, including a new footnote shown below, to correct an editorial oversight.

Paleontological resources could be encountered during construction work for the Baden and San Pedro Valve Lots (PN-1), HTWTP Long-Term (PN-3), and Pulgas Balancing Reservoir (PN-5) projects. These project areas overlie marine sedimentary geologic units that have recorded fossil localities. The ~~Baden and San Pedro Valve Lots and~~ HTWTP Long-Term project~~s~~ overlie~~s~~ the Merced Formation, a marine sandstone, siltstone, claystone, and conglomerate deposit that contains numerous invertebrate fossil localities throughout the San Francisco Peninsula. The Pulgas Balancing Reservoir and Baden and San Pedro Valve Lots Improvements projects include construction ~~is~~ at the southern end of Crystal Springs Reservoir, in ~~an~~ area~~s~~ underlain by Butano Formation sandstone/Whiskey Hill Formation[32a] and other fossil-bearing marine sandstones and shales. The Butano Formation/Whiskey Hill Formation contains numerous fossil localities throughout

San Mateo County (UCMP, 2006). Given the high likelihood that these projects could affect paleontological resources, this impact would be *potentially significant*, but could be reduced to a less-than-significant level by suspending work if a paleontological resource is identified and having the site inspected by a qualified paleontologist (Measure 4.7-1).

(Footnote to be added as part of the above new text):

[32a] The Whiskey Hill Formation was previously mapped as the Butano sandstone. However, in 1993 the USGS determined that the Butano sandstone was actually composed of two similar sandstones indistinguishable in lithology and age but separated by the San Andreas-Pilarcitos fault system and having different stratigraphic relations to other geologic units. As a result of this determination, the geologic unit in the vicinity of the southern end of Crystal Springs Reservoir is now identified as the Whiskey Hill Formation, but references prepared prior to 1993 (including the University of California Museum of Paleontology Collections Database) refer to the Butano sandstone instead of the Whiskey Hill Formation. For this reason, the formation is referred to as the Butano sandstone/Whiskey Hill Formation in this analysis.

Section 4.7.3, pages 4.7-64 and 4.7-65, Table 4.7-4: The third and ninth rows, excluding headers, of Table 4.7-4 are revised as follows to correct inadvertent omissions of potentially affected facilities.

TABLE 4.7-4
HISTORIC ARCHITECTURAL RESOURCES IMPACT POTENTIAL
ON REGIONAL WATER SYSTEM FACILITIES

WSIP Facility Improve-ment Project	Construction Date of Potentially Affected Facilities	Would the project affect a potential historic district?	Significance determination for impacts on the historical significance of a potential historic district	Would the project demolish or alter the historic fabric or function of a specific existing facility?	Significance determination for impacts on the historical significance of the individual facility
SV-4: New Irvington Tunnel	Irvington Tunnel: 1934 Irvington Portal: 1934 Alameda West Portal: 1934 Coast Range Tunnel: 1934	Yes, the existing Irvington Tunnel and the Irvington and Alameda West Portals could be contributors to a potential historic district related to the implementation of John R. Freeman's plan for the development of the Hetch Hetchy system. Because the existing Irvington Tunnel and Alameda West Portal would continue as originally designed, and the project would create a new component of the system (a new, redundant tunnel) rather than eliminate the existing tunnel, the impact on such a potential historic district would be less than significant. However, the existing Irvington Portal would be demolished as part of this project, which would result in a potentially significant impact on the potential historic district. This impact could likely be reduced to a less-than-significant level.	PSM	Yes, the project would demolish the unique spherical Irvington Portal (in Fremont) that was built in the 1930s. Since retaining the portal is not feasible due to safety concerns, the impact on the historic facility would be potentially significant and unavoidable, if the portal were determined to be a historical resource for the purposes of CEQA compliance.	PSU

4.8 Traffic, Transportation, and Circulation

Section 4.8.2, page 4.8-22: The third full paragraph is revised as follows in response to a comment (see **Response L_EBRPD-06**):

> Construction of Calaveras Dam (SV-2) would require temporary closure of Calaveras Road between Geary Road and Felter Road to through-traffic during the two- to three-year construction period. Through-traffic using Calaveras Road would be required to find an alternate route for the duration of the construction period and would likely use I-680. Access to the East Bay Regional Park District's (EBRPD) Sunol Regional Wilderness would still be provided via Calaveras Road and Geary Road from the north, and emergency vehicles would continue to have access to temporarily closed roads. Direct access to ~~some~~ the EBRPD Ohlone Wilderness Regional Trail may be restricted, including access to the Bay Area Ridge Trail connection from the west. There are no private residences or commercial uses on this segment of Calaveras Road. This project would be evaluated as part of separate, project-level CEQA review. Implementation of SFPUC Construction Measure #5 (traffic control plan) and additional traffic control measures identified in Measure 4.8-1a would be adequate to ensure acceptable levels of traffic, pedestrian, and bicycle flow and to reduce any *potentially significant* circulation and access impacts to a less-than-significant level.

4.9 Air Quality

Section 4.9.2, page 4.9-17: The following text is added after the first paragraph to reflect updated information implemented by the city and county of San Francisco. This change does not affect the GHG impact analysis in the Draft PEIR.

Greenhouse Gas Reduction Ordinance

In May 2008, San Francisco adopted an ordinance amending its Environment Code to establish greenhouse gas emission targets and action plans, to authorize the Department of the Environment to coordinate efforts to meet these targets, and to make environmental findings (CCSF, 2008). The ordinance establishes the following greenhouse gas emission reduction limits for San Francisco and the target dates to achieve them:

- Determine 1990 City greenhouse gas emissions by 2008, the baseline level with reference to which target reductions are set;
- Reduce greenhouse gas emissions by 25 percent below 1990 levels by 2017;
- Reduce greenhouse gas emissions by 40 percent below 1990 levels by 2025; and
- Reduce greenhouse gas emissions by 80 percent below 1990 levels by 2050.

The ordinance also specifies requirements for City departments to prepare Climate Action Plans that assess and report GHG emissions and prepare recommendations to reduce emissions. As part of this, the San Francisco Planning Department is required to: (1) update and amend the City's applicable General Plan elements to include the emissions reduction

limits set forth in this ordinance and policies to achieve those targets; (2) consider a project's impact on the City's GHG reduction limits specified in this ordinance as part of its review under CEQA; and (3) work with other City departments to enhance the "transit first" policy to encourage a shift to sustainable modes of transportation thereby reducing emissions and helping to achieve the targets set forth by this ordinance.

Section 4.9.2, page 4.9-19: The text following the heading "SFPUC GHG Reduction Actions as Part of the WSIP" is revised as follows to correct an editorial error.

A. The SFPUC will include the first two ~~following~~ measures in all WSIP contractor specifications and will implement the third during project planning and design, which in addition to having other environmental benefits, would also help reduce GHG emissions.

Section 4.9.3, page 4.9-20: The third bullet under Significance Criteria is revised as follows to reflect the updated criterion used by the San Francisco Planning Department and to clarify the intent of the greenhouse gases (GHGs) analysis in the Draft PEIR. This change does not affect the GHG impact analysis in the Draft PEIR.

- Conflict with the state goal of reducing GHG emissions in California to 1990 levels by 2020, as set forth by the timetable established in AB 32, California Global Warming Solutions Act of 2006, such that the project's GHG emissions would result in a substantial contribution to global climate change (Evaluated in this section).

Section 4.9.4, page 4.9-48: The following reference is added after (Cal-EPA, 2005) to reflect updated information implemented by the City and County of San Francisco.

City and County of San Francisco (CCSF), Environment Code, Chapter 9: Greenhouse Gas Emissions Targets and Departmental Actions, (Ordinance 81-08, File No. 071294), May 13, 2008.

4.11 Public Services and Utilities

Section 4.11.1, page 4.11-4, Table 4.11-2: Table 4.11-2 is revised as shown on the following page in response to a comment (see **Response L_EBRPD-23**).

TABLE 4.11-2
LAW ENFORCEMENT AND FIRE PROTECTION SERVICE PROVIDERS
WITHIN THE WSIP STUDY AREA

Jurisdiction	Law Enforcement Agencies	Fire Protection Service Agencies
Alameda County		
Unincorporated areas including, San Lorenzo and Castro Valley	Alameda County Sheriff's Department East Bay Regional Park District Police Department	Alameda County Fire Department East Bay Regional Park District Fire Department

Section 4.11.1, page 4.11-8: The first sentence in the first paragraph is revised as follows to correct an editorial error.

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (Public Resources Code [PRC], Division 30), enacted through Assembly Bill (AB) 939 and modified by subsequent legislation, requires all California cities and counties to implement programs to reduce, recycle, and compost at least 50 percent of wastes by the year 2000~~, and to divert at least 75 percent by 2010~~ (PRC Section 41780).

4.12 Recreational Resources

Section 4.12.1, page 4.12-2: The last paragraph is revised as follows in response to a comment (see **Response L_EBRPD-19**).

East Bay Regional Parks. The EBRPD has jurisdiction over numerous regional parks located in Alameda and Contra Costa Counties. Several major EBRPD facilities encompassing thousands of acres of parks and open space are clustered in the East County/Sunol Valley area, including Del Valle Regional Park, Ohlone Regional Wilderness, Sunol Regional Wilderness, Vargas Plateau Regional Preserve, and Mission Peak Regional Park. The long-term goal of the EBRPD is to adopt land use plans to guide the management and use of all of its facilities. The EBRPD has adopted a land use plan for Del Valle Regional Park; other land use plans are in draft form at various stages of planning.

Section 4.12.1, page 4.12-7: The last two paragraphs are revised as follows in response to a comment (see **Response L_SFBayTrl-02**).

The Bay Trail. Senate Bill 100, passed in 1987, directed the Association of Bay Area Governments (ABAG) to identify an alignment and develop a plan to create a public trail system encircling San Francisco Bay. The *Bay Trail Plan*, adopted by ABAG in 1989, proposed a continuous 400-mile corridor that would eventually link the shorelines of all nine Bay Area counties and 47 cities around San Francisco and San Pablo Bays. Since its adoption, the *Bay Trail Plan* has received widespread public support as a means of preserving and enhancing public access to the San Francisco Bay waterfront. Most of the jurisdictions along the proposed trail alignment have adopted the plan and incorporated the appropriate Bay Trail segments into their local plans and policies. When complete, the Bay Trail corridor will be 500 miles long.

Development of the Bay Trail is overseen by the Bay Trail Project, a nonprofit organization established in 1990. The Bay Trail Project does not own land or easements; instead, it encourages local jurisdictions to construct and maintain segments of the Bay Trail, often in partnership with other local nonprofit groups. ~~As of 2005, a~~Approximately ~~280~~290 miles, or just over half of the envisioned trail, ~~had~~has been completed. Some portions of the Bay Trail are paved pathways, while others consist of dirt trails or sidewalks. The main trail, referred to as the "spine trail," follows the San Francisco Bay shoreline to the extent possible. Where it is

not able to follow the shoreline, "spur trails" provide access from the spine trail to points of interest along the waterfront. In addition, "connector trails" provide links to other nearby recreational facilities, residential neighborhoods and employment centers (Association of Bay Area Governments Bay Trail Project, 2005). Segments of the Bay Trail exist near the proposed pipeline alignments for the BDPL Reliability Upgrade (BD-1) project.

Section 4.12.1, page 4.12-10: The fourth paragraph is revised as follows in response to a comment (see **Response L_PaloAlto-14**).

City of Palo Alto

According to the City of Palo Alto, the city has a total of 4,358 acres of parkland and open space areas, including 32 urban parks encompassing approximately 200 acres and several large open-space and nature preserves. Foothill Park is approximately 1,400 acres and the Arastradero Preserve is approximately 610 acres (City of Palo Alto, 2007). ~~Palo Alto operates 29 parks encompassing approximately 190 acres. Palo Alto Baylands Nature Preserve, a popular hiking and bird-watching area on San Francisco Bay, encompasses 1,940 acres and contains 15 miles of multi-use trails, a segment of the Bay Trail, an athletic center, picnic facilities, an art park, and the Baylands Nature Interpretive Center.~~ The City of Palo Alto owns the wetlands south of Cooley Landing (in East Palo Alto) in the vicinity of the BDPL Reliability Upgrade (BD-1) pipeline alignment (City of Palo Alto, 1998). A BDPL Nos. 3 and 4 Crossovers (BD-2) crossover facility would be adjacent to the sports fields at Gunn High School.

Section 4.12.1, page 4.12-11: The first full paragraph is revised as follows in response to a comment (see **Response L_RdwdCty-06**).

City of Redwood City

Redwood City owns and operates 30 parks, including small neighborhood parks, larger multi-use parks, a dog park, a skate park, and two outdoor pools (City of Redwood City, 2007~~c~~a). The BDPL Reliability Upgrade project (BD-1) is in the vicinity of Fleishman Park, Hawes Park, and Red Morton Park. The 0.6~~40.63~~-acre Fleishman Park has play equipment, a play area, picnic area, barbeque pits, and restrooms (City of Redwood City, 2007~~a~~b). Hawes Park contains ball fields and restroom facilities on ~~covering~~ 1.59 acres (City of Redwood City, 2007b). Red Morton Park encompasses 30.89 ~~31.74~~ acres and has pools, ball fields, play areas and equipment, picnic areas, barbeque pits, tennis courts, basketball courts, and restroom facilities (City of Redwood City, 2007b~~d~~). An alternative site for the BDPL 3 and 4 Crossovers project (BD-2) could also be located in Redwood City (City of Redwood City, 1991).

Section 4.12.2, page 4.12-18: The second paragraph is revised as follows in response to a comment (see **Response L_EBRPD-02**).

To determine potential direct effects of WSIP projects construction activities and/or land acquisition, project areas were compared with the locations of identified recreational

resources. Potential indirect effects on recreational resources were identified through the same means, as well as by reviewing the impact findings from Section 4.3, Land Use and Visual Quality; Section 4.5, Hydrology and Water Quality; Section 4.9, Air Quality; and Section 4.10, Noise and Vibration. Indirect impacts that would typically result from other physical impacts and could adversely affect the recreational experience include the following: removal of vegetation that could alter views (Section 4.3, Land Use and Visual Quality); construction-related noise that could affect hiking or nature appreciation (Section 4.10, Noise); or impeded access to hiking trails (Section 4.8, Traffic, Transportation, and Circulation).

Section 4.12.2, page 4.12-22, Table 4.12-2: Table 4.12-2 is revised as follows in response to a comment (see **Response L_SFBayTrl-04**).

TABLE 4.12-2
PUBLIC PARKS AND RECREATIONAL FACILITIES IN THE PROJECT VICINITY

Projects	Potentially Affected Recreational Resources
BD-1: Bay Division Pipeline Reliability Upgrade	Don Edwards San Francisco Bay Regional Wildlife Refuge; Ravenswood Open Space Preserve; San Francisco Bay Trail; local parks in Fremont, Newark, San Mateo County, and Redwood City; numerous school properties in East Palo Alto, Fremont, Menlo Park, Newark, and Redwood City

Section 4.12.2, page 4.12-24: The first full paragraph is revised as follows in response to a comment (see **Response L_SFBayTrl-04**).

Of the WSIP projects proposed for construction in the Bay Division Region, the BDPL Reliability Upgrade project (BD-1) would have the greatest potential impact on recreational facilities in the area. The preferred pipeline alignment for the new Bay Division Pipeline (No. 5) would pass beneath the Don Edwards San Francisco Bay Regional Wildlife Refuge, with an approximately five-mile tunnel segment installed beneath marshlands and San Francisco Bay. The two cut-and-cover sections of pipeline (approximately seven miles from the Irvington Tunnel Portal to the Newark Valve House and nine miles from the Ravenswood Valve House to the Pulgas Tunnel Portal) would be located within the existing SFPUC right-of-way. The Ravenswood Open Space Preserve and San Francisco Bay Trail are also located in the vicinity of the Ravenswood Valve House.

Section 4.12.3, page 4.12-29: The following reference is added after (City of Palo Alto, 1998) in response to a comment (see **Response L_PaloAlto-14**).

City of Palo Alto, Yoriko Kishimoto, Mayor, letter communication, September 25, 2007.

Section 4.12.3, page 4.12-29: The following references are revised as follows in response to a comment (see **Response L_RdwdCty-06**).

City of Redwood City, Parks, Recreation and Community Services, Parks and Pools, available online at www.redwoodcity.org/parks/parksandpools/index.html, accessed May 17, 2007a~~e~~.

City of Redwood City, Peter Ingram, Community Services Director, letter communication, September 27, 2007b.

~~City of Redwood City, Parks, Recreation and Community Services, Fleishman Park, available online at www.redwoodcity.org/parks/parksandpools/parks/parks_fleishman.html, accessed May 17, 2007a.~~

~~City of Redwood City, Parks, Recreation and Community Services, Hawes Park, available online at www.redwoodcity.org/parks/parksandpools/parks/parks_hawes.html, accessed May 17, 2007b.~~

~~City of Redwood City, Parks, Recreation and Community Services, Red Morton Park, available online at www.redwoodcity.org/parks/parksandpools/parks/parks_red.html, accessed May 17, 2007d.~~"

Attachment 4-A (End of Chapter 4)

Attachment 4-A, pages 8 and 9, Measure 4.6-1b: This is the same revision to Measure 4.6-1b as described below under Volume 4, Chapter 6, Section 6.3.5, page 6-11.

Attachment 4-A, pages 11 and 12: This is the same deletion to Table 6-1 as described below under Volume 4, Chapter 6, Section 6.3.5, page 6-14. In addition, the revision to the footnote on this table on page 12 is the same as described below under Volume 4, Chapter 6, Section 6.3.6, page 6-15.

Attachment 4-A, page 17: This is the same revision to Table 6-2 (Measure 4.6-3b) as described below under Volume 4, Chapter 6, Section 6.3.5, page 6-20, regarding the San Mateo woolly sunflower.

Attachment 4-A, page 24, Measure 4.7-4a: This is the same revision to Measure 4.7-4a as described below under Volume 4, Chapter 6, Section 6.3.6, page 6-27.

Attachment 4-A, page 28, Measure 4.8-1a: This is the same revision to Measure 4.8-1a as described below under Volume 4, Chapter 6, Section 6.3.7, page 6-31.

Attachment 4-A, page 30: The impact number for Measure 4.16-6c (Combined Sunol Valley Traffic Control Plan) is revised as follows to correct an editorial error.

Combined Sunol Valley Traffic Control Plan

Measure 4.16-~~7~~6c: Due to the potential for overlapping project schedules in the Sunol Valley Region as well as for construction traffic….

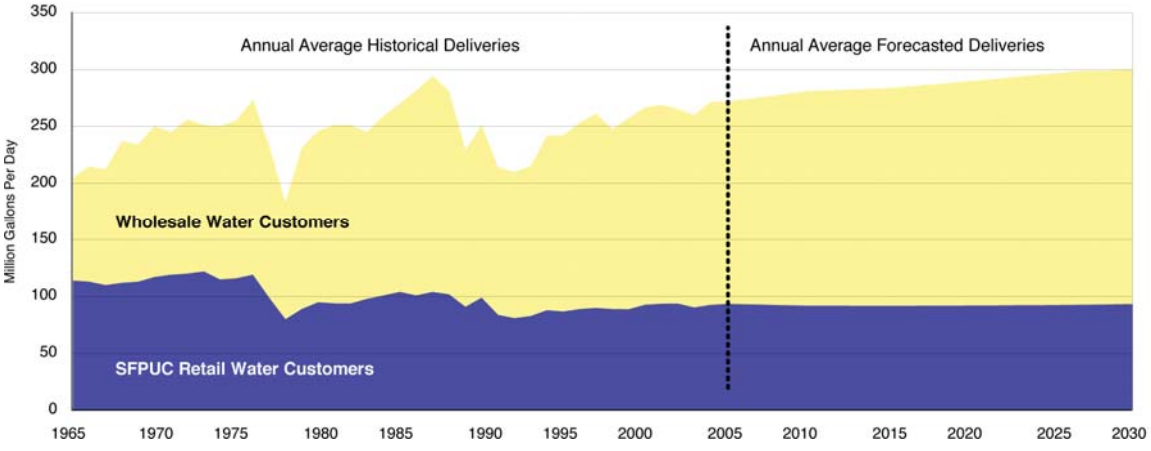
Attachment 4-A, page 36: This is the same revision to Measure 4.16-7b as described below under Volume 4, Chapter 6, Section 6.3.8, page 6-39.

Volume 3, Chapter 5

5.1 Overview

Section 5.1.3, page 5.1-5. This is the same revision as described above for Section 3.6.2, page 3-36, in the first bullet under the first paragraph under the heading "Proposed Drought-Year Water Supplies."

Section 5.1.3, page 5.1-6, Figure 5.1-2: The label on the right-hand side of the figure is revised as shown on the following page in response to a comment (see **Response L_BAWSCA1-57**).



SFPUC Water System Improvement Program ▪ 203287

SOURCE: SFPUC, 2007b

Figure 5.1-2 (Revised)
Annual Average Historical and
Projected Future Customer Purchase Requests

Section 5.1.4, page 5.1-9. The second paragraph under the heading "Hetch Hetchy/Local Simulation Model" is revised as follows and text is added to provide information regarding the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

> A general overview of this modeling tool and the basic assumptions about the system included in the model are described in this section. **Appendix H1** provides a more detailed description of the model and how it was used for the PEIR water supply and system operations impact analysis; **Appendix H2** provides supporting details and an explanation of the 2007 raw data output from the model.
>
> Following publication of the Draft PEIR, the SFPUC conducted updated model runs in 2008 using more recent input assumptions for several model parameters as part of its ongoing system planning and management. The revised input assumptions included: adjusted capacity for Crystal Springs Reservoir from recent survey data; more accurate assumptions for Pilarcitos facilities operations; improved data regarding the historical hydrology in the Alameda Creek watershed; updated agricultural demands in the Modesto and Turlock Irrigation Districts service area to be consistent with data used in recent

statewide planning documents; and a refinement of water release protocols at Don Pedro Reservoir. Review of the 2008 model output indicated that the results are generally consistent with the 2007 results used in the Draft PEIR analysis, and that the analyses and impact determinations presented in the Draft PEIR remain valid. With one exception, no changes in the impact approach, analysis or conclusions presented in the Draft PEIR are necessary for the water supply and system operations impact assessments that were based on the 2007 results. The sole exception is the approach to the impact analysis of Pilarcitos watershed resources, for which only semi-quantitative data were previously available. Therefore, the 2008 data were used to conduct a refined impact analysis of the Pilarcitos watershed resources; no new impacts were identified. The results of the refined impact analysis for the Pilarcitos watershed are summarized in Chapter 13 (Section 13.3, pp. 13-6 to 13-7).

Section 5.1.4, page 5.1-14: The last paragraph is deleted as follows to reflect the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

~~For example, the HH/LSM was used to estimate baseline and with-WSIP water levels in all SFPUC reservoirs except for Pilarcitos Reservoir. Model results for the Pilarcitos watershed were not directly used to analyze existing and projected water levels in Pilarcitos Reservoir or flows in Pilarcitos Creek. The model does not currently reflect a complete contemporary depiction of the physical operation of the Pilarcitos watershed's facilities. Although adequate for SFPUC's systemwide water supply planning purposes, HH/LSM results for the Pilarcitos watershed at times required supplemental refinement and analysis to accurately reflect the physical infrastructure in place in the watershed.~~

Section 5.1.4, page 5.1-17: The first sentence of the first paragraph is revised as follows to reflect the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

The HH/LSM was ~~also~~ used to estimate baseline and with-WSIP flows in the Tuolumne River, ~~and~~ Alameda Creek, and Pilarcitos Creek.

Section 5.1.4, page 5.1-17. The third paragraph is revised as follows to provide information regarding the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

For the reasons noted above, HH/LSM results were not used to predict ~~water levels in Pilarcitos Reservoir, flows in Pilarcitos Creek, or~~ the magnitude and timing of spills or releases from Crystal Springs and San Antonio Reservoirs. In addition, HH/LSM results were not used to predict the magnitude and timing of spills or releases from Crystal Springs Reservoir. In these cases, the likely effects of the WSIP were determined through a review of historical data and consultation with individuals knowledgeable about the past and predicted future reservoir operating practices as well as output from the updated 2008 HH/LSM results.

5.2 Plans and Policies

Section 5.2.2, page 5.2-4, Table 5.2-1: The following rows are added under the heading State of California in response to two comments as shown on the following page (see **Response L_BCDC-04** and **Response SI_TRT-CWA-SierraC-84**).

Section 5.2.2, page 5.2-6: The following text is added at the end of the fourth full paragraph in response to a comment (see **Response S_RWQCBCV-08**).

> Under Section 401 of the Clean Water Act, every applicant for a federal permit for any activity that may affect waters of the state must obtain a water quality certification that the proposed activity will comply with state water quality standards.

Section 5.2.2, page 5.2-6: The following text is added under the heading Federal Statutes and Agreements in response to a comment (see **Response L_Tuol2-06**).

> ***National Forest Management Act***
>
> The National Forest Management Act, enacted by Congress in 1976, is the primary statute governing the administration of national forests. The act requires the Secretary of Agriculture to assess forest lands, and to develop and implement a resource management plan for each unit of the National Forest System. The management plans must: ensure consideration of both economic and environmental factors; provide for wildlife and fish; provide for the diversity of plant and animal communities; ensure timber harvesting will occur only where water quality and fish habitat are adequately protected from serious detriment; and ensure clearcutting and other harvesting will occur only where it may be done in a manner consistent with the protection of soil, watersheds, fish, wildlife, recreation, aesthetic resources, and regeneration of the timber resource. The management plans must be updated at least once every 15 years. In the overall WSIP region, the Sierra Nevada Framework is the management plan governing Stanislaus National Forest. The provisions of the Sierra Nevada Framework are implemented by the U.S. Forest Service.

Section 5.2.2, page 5.2-10: The following text is added under the State Agencies heading in response to a comment (see **Response SI_TRT-CWA-SierraC-84**).

> ***California Fish and Game Commission***
>
> The California Fish and Game Commission (Commission) has the statutory authority to formulate guidance policies for the California Department of Fish and Game (CDFG). The Commission has over 200 powers and duties listed in the statutes of the Fish and Game Code. Principal among these are legislatively granted powers for the regulation of the sport take and possession of birds, mammals, fish, amphibians, and reptiles. The Commission oversees the establishment of wildlife areas and ecological reserves and regulates their use, and prescribes the terms and conditions under which permits or licenses may be issued by the CDFG. A primary responsibility of the Commission is to afford an opportunity for full public input and participation in the decision- and policy-making process of adopting regulations or taking other actions related to the well-being of California's fish and wildlife resources.

TABLE 5.2-1
APPLICABLE FEDERAL, STATE, AND LOCAL STATUTES AND AGREEMENTS

Statute or Agreement / Responsible Agency[a]	Summary Description	Associated Statutes and Plans	Applicability to WSIP Water Supply and System Operations Issues
State of California			
McAteer-Petris Act / BCDC	Promotes responsible planning and regulation of San Francisco Bay. Establishes BCDC as the agency responsible for carrying out the provisions of the act and of the SF Bay Plan.	San Francisco Bay Plan	Described in Section 5.2.3 and evaluated in Section 5.2.4 for consistency. Analyzed in Section 5.3.3.
California Fish and Game Code / Fish and Game Commission and CDFG	Provides a system for the restoration and preservation of California's fish and wildlife resources	California Endangered Species Act (CESA), California Environmental Quality Act (CEQA), Lake and Streambed Alterations	CEQA review of the proposed water supply and system operations aspects of the WSIP is presented in Chapter 5, including the impacts of the WSIP on species listed under CESA, as discussed in Sections 5.3.7, 5.4.6, and 5.5.6.

The Commission sets policy for the CDFG, while the CDFG is the lead state agency charged with implementing, safeguarding, and regulating the uses of fish and wildlife.

California Department of Fish and Game

The mission of the CDFG is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. The CDFG enforces multiple programs dedicated to the conservation and preservation of habitats and species in California, including the California Endangered Species Act (CESA), California Environmental Quality Act (CEQA), and California Fish and Game Code. Under CESA, the CDFG is responsible for consulting with state lead agencies to determine if their actions would affect a state-listed threatened or endangered species. Under CEQA, the CDFG is responsible for consulting with lead and responsible agencies and providing the requisite biological expertise to review and comment upon environmental documents and impacts arising from project activities. The CDFG is also responsible for enforcing the provisions of the California Fish and Came Code.

Section 5.2.2, page 5.2-11: The following text is added under the State Statutes and Agreements heading in response to a comment (see **Response SI_TRT-CWA-SierraC-84**).

California Fish and Game Code

The Fish and Game Code provides a system for the protection of California's fish and wildlife resources and includes: provisions related to fish and wildlife protection and conservation; fish and game management; wetlands mitigation banking; endangered species; and operation of dams, conduits, and screens.

Section 5.2.2, page 5.2-12: The following paragraph is added above the heading Porter-Cologne Water Quality Control Act in response to a comment (see **Response L_BCDC-04**).

McAteer-Petris Act

The McAteer-Petris Act was passed by the state legislature in 1965 to promote responsible planning and regulation of San Francisco Bay. The act designates the San Francisco Bay Conservation and Development Commission (BCDC) as the agency responsible for maintaining and carrying out the provisions of the act and the SF Bay Plan (for additional information on the act, see Chapter 4, Section 4.2, p. 4.2-8).

Section 5.2.2, page 5.2-12: The following paragraph is added under the heading Local and Regional Agencies heading, below City and County of San Francisco, in response to a comment (see **Response L_BCDC-04**).

San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC) is the agency responsible for maintaining and carrying out the provisions of the McAteer-Petris Act and

the SF Bay Plan. In the public interest, BCDC is authorized to control bay filling and dredging and bay-related shoreline development. Due to the regulatory authority of the State Water Resources Control Board (SWRCB), San Francisco Bay Regional Water Quality Control Board, U.S. Environmental Protection Agency, and the U.S. Army Corps of Engineers, BCDC's scope of authority over water quality issues is limited. (For additional information on BCDC's regulatory authority, see Chapter 4, Section 4.2, p. 4.2-8.)

Section 5.2.3, page 5.2-14: The following text is added under the heading Relevant Plans, Policies, and Planning Actions in response to a comment (see Response **Response L_Tuol2-06**).

U.S. Forest Service, Sierra Nevada Framework

In January 2001, the U.S. Forest Service adopted the Sierra Nevada Forest Plan Amendment (SNFPA or Sierra Nevada Framework), a plan for the management of 11 national forests and 11.5 million acres of national forest land in the Sierra Nevada mountain range, including Stanislaus National Forest. In January 2004, in response to concerns about the flexibility and compatibility of the SNFPA with other programs related to wildland fire management, the U.S. Forest Service amended the Sierra Nevada Framework to provide additional provisions for fire and fuels treatments. The amended Framework outlines procedures used to manage and protect forests, wildlife habitats, and communities from a variety of threats, including catastrophic fires, and provides a programmatic framework within which project-level decisions are designed and implemented. Key aspects of the SNFPA include: a commitment to restoration and protection of old-growth forest habitat; protection of all trees greater than 30 inches on 11 million of the 11.5 million acres of public land managed by the U.S. Forest Service; designation of riparian conservation areas; improvement and protection of suitable habitat for California spotted owl (*Strix occidentalis occidentalis*), northern goshawk (*Accipiter gentiles*), and willow flycatcher (*Empidonax traillii*); adoption of an integrated vegetation management strategy with the primary objective of protecting communities and modifying landscape-scale fire behavior to reduce the size and severity of fires; and provisions for increased land use management, including grazing, timber production, road construction, and recreation activities. The SNFPA is administered by the U.S. Forest Service (USDA Forest Service, 2004). As no WSIP facility improvement projects are proposed within Stanislaus National Forest, and the resources protected by the SNFPA would not be affected by the WSIP water supply and system operations, the WSIP would be consistent with the provisions of the SNFPA.

Section 5.2.3, page 5.2-15: The following text is added under the heading Regional Natural Resource Protection Plans in response to a comment (see **Response L_Tuol2-06)**.

Bay Delta Conservation Plan

The Bay Delta Conservation Plan (BDCP) is an effort driven by Delta water users to provide for the conservation and management of certain aquatic species, both listed and non-listed, and their habitats, while providing for regulatory assurances related to water

supply reliability and water quality for the Sacramento–San Joaquin River Delta. Activities that would be covered under the BDCP include water supply operations related to the State Water Project and the Central Valley Project, and the power plant operations of the Mirant Corporation. Under the BDCP, water users would pay for new infrastructure, wetlands restoration, and other related projects in return for guaranteed stable water supplies. As the BDCP is still under development and is not yet adopted, no determination regarding potential conflicts of the WSIP with its provisions has been made.

Section 5.2.3, page 5.2-20: The following paragraph is added above the Regional Habitat Conservation Plans heading in response to a comment (see **Response L_BCDC-04**).

San Francisco Bay Plan

The SF Bay Plan, completed and adopted by BCDC in 1968, is an enforceable plan that guides the protection and use of San Francisco Bay and its shoreline. For a discussion of the SF Bay Plan's applicability to individual WSIP facility projects, see Section 4.2 (Vol. 2, Chapter 4, p. 4.2-16).

The SF Bay Plan is founded on the belief that water quality in San Francisco Bay will be maintained at levels sufficiently high to protect the beneficial uses of the bay. The SF Bay Plan includes findings and policies related to freshwater inflow and changes in salinity. The freshwater inflow findings contained in the SF Bay Plan stress the importance of maintaining a balance between fresh and saltwater. The related policies assert that the impact of freshwater diversions should be monitored by the SWRCB to ensure compliance with water quality standards.

Section 5.2.4, page 5.2-27: The second full paragraph is revised as follows in response to a comment (see **Response L_BCDC-04**).

Consistency with Regional Natural Resource Protection Plans

WQCPs [water quality control plans] identify water quality issues and prescribe enforceable water quality objectives/criteria for specific water bodies and their tributaries. Because these standards are based on designated beneficial uses of the respective waterways, violation of the water quality objectives/criteria can adversely affect fish, wildlife, and other protected resources. SFPUC operations currently comply with water quality standards contained in the WQCPs, and the WSIP goals and objectives would be consistent with the applicable WQCPs. Further, as future SFPUC operations would be consistent with the water quality standards contained in the WQCPs, SFPUC operations would also be consistent with the SF Bay Plan freshwater inflow policies. The potential impacts of WSIP implementation on water quality in the Tuolumne River watershed and Sacramento–San Joaquin Delta, Alameda Creek watershed, Peninsula watershed, and Westside Groundwater Basin are analyzed in Sections 5.3.3, 5.4.3, 5.5.3, and 5.6, respectively.

Section 5.2.4, page 5.2-30: The following reference is added after (Pilarcitos Creek Restoration Workgroup, 2007) in response to a comment (see **Response L_BCDC-04)**.

San Francisco Bay Conservation and Development Commission, *San Francisco Bay Plan*, 1968, reprinted in January 2008.

5.3 Tuolumne River System and Downstream Water Bodies

Section 5.3.1.1, page 5.3.1-8: The fourth sentence of the second full paragraph is revised as follows to correct an editorial error.

> TID and MID ~~typically~~ divert ~~800,000 to 900,000 afy~~ an annual average of about 867,000 acre-feet from the Tuolumne River.

Section 5.3.1.2, page 5.3.1-25: Third full paragraph, last sentence is revised as follows to correct an editorial error.

> Under the existing condition, the model indicates that the minimum release would be made ~~84.2~~ 85.1 percent of the time (837 months in the ~~987~~984-month hydrologic record); with the WSIP the minimum release would be made ~~85.4~~ 85.7 percent of the time (843 months in the ~~987~~984-month hydrologic record).

Section 5.3.1.2, page 5.3.1-34: Third full paragraph, last sentence is revised as follows to correct an editorial error.

> Under the existing condition, the model indicates that the minimum release would be made ~~72.6~~ 72.9 percent of the time (717 months in the ~~987~~984-month hydrologic record); with the WSIP the minimum release would be made ~~74.4~~ 74.6 percent of the time (734 months in the ~~987~~984-month hydrologic record).

Section 5.3.3.1, page 5.3.3-1: The following text is inserted at the end of the second full paragraph in response to a comment (see **Response S_RWQCBCV-02**).

> The Tuolumne River flows from the crest of the Sierra Nevada westward to its confluence with the San Joaquin River. The San Joaquin River flows north to the Sacramento–San Joaquin Delta. Water from the Delta discharges to the San Francisco Bay Estuary and the Pacific Ocean. The Tuolumne River system and downstream water bodies are shown in Figure 5.1-1. Beneficial uses of the Tuolumne River, as designated in the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, include the following:
>
> - Source to (New) Don Pedro Reservoir: Municipal and Domestic Supply (MUN); Agricultural Supply (AGR); Hydropower Generation (POW); Water Contact Recreation (REC-1); Non-water Contact Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); and Wildlife Habitat (WILD)
> - New Don Pedro Reservoir: MUN (Potential); POW; REC-1; REC-2; WARM; COLD; and WILD
> - New Don Pedro Dam to San Joaquin River: MUN (Potential); AGR; REC-1; REC-2; WARM; COLD; Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and/or Early Development (SPWN); and WILD

Section 5.3.3.1, page 5.3.3-10, Table 5.3.3-6: The text in the first row, fourth column of Table 5.3.3-6 is revised as follows in response to a comment (see **Response SI_TRT-CWA-SierraC-138**):

6.0 mg/L (September 1 to November 30) and 5.0 mg/L (December 1 to August 30)

Section 5.3.3, page 5.3.3-21: The following reference is added to the end of Section 5.3.3 in response to a comment (see **Response S_RWQCBCV-02**).

State Water Resources Control Board (SWRCB), California Regional Water Quality Control Board, Central Valley Region, *Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin River Basins*, Fourth Edition, Revised October 2007 with approved amendments.

Section 5.3.4.2, pages 5.3.4-5 and 5.3.4-6: The last paragraph on page 5.3.4-5 is revised as follows in response to a comment (see **Response SI_TRT-CWA-SierraC-140**).

As described in Section 5.3.1, under existing conditions in the majority of years classified as below-normal or drier, almost all of the winter and spring runoff from the watershed upstream of Don Pedro Reservoir on the Tuolumne River is captured in the reservoir. Only the minimum required releases to the Tuolumne River below La Grange Dam are made. The WSIP would have no effect on flow in the Tuolumne River below La Grange Dam or the San Joaquin River ~~under these conditions~~ in months when only the minimum flows are currently released. In years when the reservoir fills, usually wet or above-normal years, excess water is released in some months to the Tuolumne River. In the future with the WSIP, TID and MID would draw Don Pedro Reservoir down farther in most years than they would under the existing condition, and consequently a greater proportion of spring runoff would be needed to refill the reservoir. As a result, the volume of excess water released to the Tuolumne River would be reduced in ~~some normal, above normal and wet years compared to the existing condition~~ all wet years, most above-normal years, and occasional below-normal and dry years.

Section 5.3.5.1, page 5.3.5-1: The following text is added at the end of the second full paragraph in response to a comment (see **Response S_RWQCBCBV-02**).

The Tuolumne River flows from the crest of the Sierra Nevada westward to its confluence with the San Joaquin River. The San Joaquin River flows north to the Sacramento–San Joaquin Delta. The Tuolumne River system and downstream water bodies are shown in Figure 5.3.1-1. Unless otherwise designated by the California Regional Water Quality Control Board, all groundwaters in the Central Valley region are considered to be suitable or potentially suitable, at a minimum, for municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Section 5.3.6.2, page 5.3.6-26: Second paragraph under Impact 5.3.6-2, the third to last sentence is revised as follows to correct an editorial error.

The modeling analysis indicates that, under the existing condition, the minimum flow release would be made ~~84.2~~ 85.1 percent of the time (837 months in the ~~987~~984-month hydrologic record), while under the WSIP the minimum flow release would be made 85.4 percent of the time (in 6 more months, or 843 months in the ~~987~~984-month hydrologic record).

Section 5.3.6.2, page 5.3.6-32: The fourth sentence of the first paragraph is revised as follows in response to a comment (see **Response SI_TRT-CWA-SierraC-169**).

These adverse effects on flows and temperature in the river under the WSIP would not substantially alter or degrade ~~fishery habitat~~ salmonid habitat in most years or jeopardize the continuation of the ~~fishery~~ salmonid populations in the lower Tuolumne River ~~in most years~~.

Section 5.3.8.1, page 5.3.8-10: The first and second sentence of the third paragraph is revised as follows in response to a comment (see **Response SI_TROA-03**).

~~A 900-cfs~~ A 1,100-cfs flow at Lumsden Campground is the minimum required for whitewater paddle boats and oar boats; a ~~600-cfs~~ 900-cfs flow is the minimum required for kayaks ~~and oar boats~~, and a ~~1,200-cfs~~ 1,500- to 2,000-cfs flow is considered optimal. The commercial outfitters prefer ~~a six-hour~~ an eight-hour release, but a ~~three-hour~~ four-hour release allows them to launch one-, two- and three-day trips.

Section 5.3.8.2, page 5.3.8-33: The first sentence of the first paragraph under River Recreation Below La Grange Dam is revised as follows to correct an editorial error.

Under existing conditions, most of the time (717 months in the ~~987~~984-month hydrologic record) flow in the Tuolumne River below La Grange Dam consists of the minimum required instream flows.

5.4 Alameda Creek Watershed Streams and Reservoirs

Section 5.4.1.1, page 5.4.1-4: The last sentence of the third full paragraph is revised as follows in response to a comment (see **Response L_ACFCWCD-13**).

A flow control structure known as the BART weir (owned by the ACFCWCD and located where the BART and railroad tracks cross Alameda Creek in Fremont) provides ~~grade control~~ structural protection of the footings of the BART and railroad bridge crossing and is a barrier to fish passage along this reach.

Section 5.4.1.1, page 5.4.1-9: The fourth paragraph, second sentence is revised as follows to better describe existing conditions as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Average monthly storage in Calaveras Reservoir under restricted operations ranges from about ~~31,000~~ 28,000 to 38,000 acre-feet in all conditions and months.

Section 5.4.1.1, page 5.4.1-13: The first paragraph, first sentence is revised as follows to better describe existing conditions as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

> The SFPUC estimates that, prior to lowering Calaveras Reservoir water levels (pre-2002 conditions), about ~~6,000~~ 8,000 afy had been diverted from Alameda Creek to Calaveras Reservoir in years with normal rainfall, with lesser diversions in dry and below-normal years.

Section 5.4.1.1, page 5.4.1-16: In the paragraph under the heading "San Antonio Creek Below San Antonio Reservoir," the first sentence is revised as follows to better describe existing conditions as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

> Modeled uncontrolled releases from San Antonio Reservoir to San Antonio Creek average about ~~1,700~~ 1,000 afy, ranging from no releases in below-normal and dry years to about ~~8,500~~ 3,200 acre-feet in very wet years.

Section 5.4.1.2, page 5.4.1-19: The second paragraph is revised as follows to reflect the change in project descriptions of the Calaveras Dam (SV-2) and Alameda Creek Fishery (SV-1) projects.

> Reservoir storage is constrained to approximately 37,800 acre-feet (except on a temporary basis), about 40 percent of its design capacity. Under the WSIP, Calaveras Reservoir would be restored to its full design capacity (approximately 96,800 acre-feet), which would allow the SFPUC to maximize the use of local watershed supplies. Furthermore, fishery releases from the proposed bypass flow structure at the Alameda Creek Diversion Dam and/or from the reservoir ~~(measured below the confluence of Alameda and Calaveras Creeks)~~ and flow recapture would be implemented under the WSIP in accordance with the 1997 MOU (compliance with the 1997 MOU is measured below the confluence of Alameda and Calaveras Creeks). The fishery releases from the diversion dam bypass flow structure to Alameda Creek and from Calaveras Reservoir to Calaveras Creek would be recaptured downstream and returned to the SFPUC water supply in compliance with the 1997 MOU.

Section 5.4.1.2, page 5.4.1-19: The fourth paragraph is revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) related to the proposed release of bypass flows at the diversion dam.

> **Figure 5.4.1-5** illustrates the modeled chronological storage and stream releases from Calaveras Reservoir for both the existing condition and the WSIP using hydrologic data from the period 1920 to 2002. Releases to Calaveras Creek from Calaveras Reservoir represent both controlled releases through the cone valve and uncontrolled releases over the spillway. The graphs also show how peak flows in Calaveras Creek downstream of the dam tend to correspond to periods when Calaveras Reservoir is operating at or near capacity. This figure assumes the SFPUC would make fishery releases in compliance with the 1997 MOU from Calaveras Reservoir only and does not account for the proposed bypass flows

from the diversion dam; this represents a worst-case condition for the range of fluctuation in Calaveras Reservoir water levels.

Section 5.4.1.2, page 5.4.1-22: The first, second, third and fourth full paragraphs are revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project and to refine and update the impact discussion based on the modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Figure 5.4.1-6 presents the estimated change in average monthly reservoir water surface elevation under existing conditions and after implementation of the WSIP. This figure assumes the SFPUC would make fishery releases in compliance with the 1997 MOU from Calaveras Reservoir only and does not account for the proposed bypass flows from the diversion dam; this represents a worst-case condition for the range of fluctuation in Calaveras Reservoir water levels. The water level in Calaveras Reservoir would be higher year-round with the WSIP; the increase in average monthly storage would be mostly attributable to completion of the Calaveras Dam project (SV-2) and the removal of the DSOD storage limitations. During rainy months, the reservoir water level would be kept near the wintertime storage objective, or roughly 20 to 30 feet higher than under existing conditions. The average water surface elevation would be substantially greater than under current conditions, but only 6 to 12 feet higher than pre-2002 conditions (prior to the DSOD restrictions).

With implementation of the WSIP, the change in operation of Calaveras Reservoir storage would affect hydrologic conditions elsewhere in the watershed. As described below, the restored capacity of Calaveras Reservoir would affect the operation of the Alameda Creek Diversion Dam and Tunnel, and thus the inflow to Calaveras Reservoir and flow to Alameda Creek below the diversion dam. The proposed bypass structure at the Alameda Creek Diversion Dam and the ~~The~~ restored storage capacity would also allow for implementation of the 1997 MOU-required releases from either the new bypass structure or Calaveras Reservoir in support of fisheries.

Compared to existing conditions, the WSIP would change the nature of releases from Calaveras Reservoir to Calaveras Creek. With implementation of the fishery releases from the new bypass flow structure at the diversion dam and from Calaveras Reservoir (up to 6,300 afy), there would at times be releases from the reservoir under the WSIP that are not made under existing conditions. These flows would be gaged and maintained below the confluence of Alameda and Calaveras Creeks. Contributing to these flows would be: (1) flows that spill past the Alameda Creek Diversion Dam, (2) unregulated runoff from accretions (inflow) between the diversion dam and the Calaveras Creek confluence, (3) unregulated runoff between Calaveras Dam and the confluence, ~~and~~ (4) operational releases from Calaveras Reservoir for reservoir regulation purposes, and (5) operational releases from the Alameda Creek Diversion Dam to support fishery releases when there is available flow in Alameda Creek.

Figure 5.4.1-7 illustrates the modeled chronological releases of water below Calaveras Dam to Calaveras Creek for both existing conditions and with the WSIP; this figure assumes the

SFPUC would make fishery releases in compliance with the 1997 MOU from Calaveras Reservoir only and does not account for the proposed bypass flows from the diversion dam. Operational releases from Calaveras Reservoir occur in about ~~40~~ 50 percent of the years under the modeled existing condition and ~~slightly less frequently~~ in about 35 percent of the years under the WSIP (with the exception of 1997 MOU releases, which would occur in all years), with most of these years being classified as above-normal or wet. **Table 5.4.1-7** shows the releases from the reservoir for various representative hydrologic year types and assumes the SFPUC would make fishery releases in compliance with the 1997 MOU from Calaveras Reservoir only and does not account for the proposed bypass flows from the diversion dam. As shown in the table, releases with the WSIP would be substantially diminished in the winter months of normal, above-normal, and wet years, with up to a 70 percent reduction. This reduction in the frequency and magnitude of releases would primarily result from removal of the DSOD storage constraint following construction of the Calaveras Dam project (SV-2). With greater operational capacity, more local runoff would be stored and used for water supply. During all months of below-normal and dry years and the majority of months in normal, above-normal, and wet years, the volume of releases would remain nearly the same or would be slightly diminished with the WSIP compared to existing conditions. However, in several scenarios, releases would be eliminated under WSIP operations.

Section 5.4.1.2, page 5.4.1-25: In the first paragraph, the last sentence is revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project.

With implementation of the WSIP, summer base flows (flows that occur in the absence of any recent rainfall) in Calaveras Creek below the dam would increase due to the required fishery releases below Calaveras Dam (shown in Table 5.4.1-5). The maximum supplemental release of 6,300 afy might not be needed in every year due to other flows reaching the confluence, including bypass flows at the Alameda Creek Diversion Dam~~; therefore, supplemental instream flow releases would range from about 2,250 afy to the full 6,300 afy~~.

Section 5.4.1.2, page 5.4.1-27: In the partial paragraph at the top of the page, the first full sentence is revised as follows to refine and update the impact discussion based on the modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3, as well as to reflect the change in project description of the Calaveras Dam (SV-2) project.

Flows past the diversion dam would be reduced in ~~all hydrologic year types, and nearly eliminated in below-normal and dry years~~ wet, above normal, and normal year types, although when flow is available, the SFPUC would allow for minimum bypass flows consistent with the requirements of the 1997 CDFG MOU.

Section 5.4.1.2, page. 5.4.1-27: In the first full paragraph, the last sentence is revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project.

~~Because the~~ The existing diversion dam facilities seep, and therefore, summer and fall base flows of less than about 1 cfs ~~would~~ continue down the creek and these flows would be

expected to continue down the creek under the WSIP via the new bypass facilities ~~would not be affected by WSIP operations~~.

Section 5.4.1.2, pages 5.4.1-27 and 5.4.1-33: The last paragraph on page 5.4.1-27 and ending on page 5.4.1-33 is revised as follows to refine and update the impact discussion based on the modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Table 5.4.1-8 presents modeled flow data for the Calaveras confluence in terms of the monthly average flow within year type. As shown in the table, there would be a substantial reduction (up to 44 percent) in wintertime flow at the confluence during normal, above-normal and wet years. As with the upstream reach, peak flows would also be substantially reduced ~~in drier years~~, primarily as a result of renewed upstream diversions. However, overall flows would be increased due to fishery releases.

Section 5.4.1.2, page 5.4.1-32, Table 5.4.1-8: The data in Table 5.4.1-8 showing flow in Alameda Creek below the Calaveras Creek confluence in the units of acre-feet per month are replaced with the same data in the units of cubic feet per second to be consistent with the format of similar tables in the PEIR. Due to rounding, the numbers and percentages representing the difference between existing conditions and the proposed WSIP have slightly changed. The replacement table is shown on the following page and for ease of reading, revised data are not shown in underlined format.

Section 5.4.1.2, page 5.4.1-33: In the second full paragraph, the first sentence is revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project and to refine and update the impact discussion based on the modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Under the WSIP, the SFPUC would augment flow below the confluence of Calaveras and Alameda Creeks by bypassing/releasing water from the Alameda Creek Diversion Dam and Calaveras Reservoir; as a result, there would be an increase in flow at the confluence in ~~almost all other months~~ April to November of wet and above-normal rainfall years and in all instances of other years.

Section 5.4.1.2, page 5.4.1-36: The first and second full paragraphs are revised as follows and Figure 5.4.1-14 (shown on page 16-55) is revised to reflect the updated impact discussion based on the modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Figure 5.4.1-14 illustrates the modeled chronological operation of San Antonio Reservoir for both the existing condition and with the WSIP. The figure shows the reservoir's storage, inflow from the Hetch Hetchy system, and releases to San Antonio Creek for each condition. ~~As illustrated in the figure, San Antonio Reservoir storage operations are typically cyclical: the reservoir fills in the late winter/early spring and is depleted during the summer. During a drought, reservoir storage would be additionally depleted by the slow, successive drawdown due to drafting to the Sunol Valley WTP in excess of watershed runoff and replenishment by Hetch Hetchy flows.~~

TABLE 5.4.1-8
ESTIMATED AVERAGE MONTHLY FLOW IN
ALAMEDA CREEK BELOW THE CALAVERAS CREEK CONFLUENCE
(cubic feet per second)

	Wet	Above Normal	Normal	Below Normal	Dry	All
Existing Condition (2005)						
Oct	0	0	0	0	0	0
Nov	1	1	0	0	0	1
Dec	56	26	22	1	1	21
Jan	280	114	24	3	1	84
Feb	463	214	55	6	4	147
Mar	272	110	26	7	1	82
Apr	144	25	5	1	1	35
May	5	2	1	1	0	2
Jun	1	0	0	0	0	0
Jul	0	0	0	0	0	0
Aug	0	0	0	0	0	0
Sep	0	0	0	0	0	0
WSIP (2030)						
Oct	7	7	7	7	7	7
Nov	5	5	5	5	5	5
Dec	45	18	13	5	5	17
Jan	199	64	18	14	13	61
Feb	434	151	36	22	23	132
Mar	272	106	22	16	13	85
Apr	145	32	9	7	7	40
May	9	7	7	7	7	7
Jun	7	7	7	7	7	7
Jul	7	7	7	7	7	7
Aug	7	7	7	7	7	7
Sep	7	7	7	7	7	7
Difference and Percent Change, Existing Condition (2005) vs WSIP (2030)						
Oct	7	*	7	*	7	*	7	*	7	*	7	*
Nov	4	[400%]	4	[400%]	5	*	5	*	5	*	4	[400%]
Dec	-11	-[20%]	-8	-[31%]	-9	-[41%]	4	[400%]	4	[400%]	-4	-[19%]
Jan	-81	-[29%]	-50	-[44%]	-6	-[25%]	11	[367%]	12	[1,200%]	-23	-[27%]
Feb	-29	-[6%]	-63	-[29%]	-19	-[35%]	16	[267%]	19	[475%]	-15	-[10%]
Mar	0	[0%]	-4	-[4%]	-4	-[15%]	9	[129%]	12	[1,200%]	3	[4%]
Apr	1	[1%]	7	[28%]	4	[80%]	6	[600%]	6	[600%]	5	[14%]
May	4	[80%]	5	[250%]	6	[600%]	6	[600%]	7	*	5	[250%]
June	6	[600%]	7	*	7	*	7	*	7	*	7	*
July	7	*	7	*	7	*	7	*	7	*	7	*
Aug	7	*	7	*	7	*	7	*	7	*	7	*
Sept	7	*	7	*	7	*	7	*	7	*	7	*

NOTE: "Existing Condition (2005)" is based on model run MEA3CHR. "WSIP (2030)" is based on model run MEA5HIN. An overview of the model runs is presented in Section 5.1. Detailed information on the models and underlying assumptions is provided in Appendix H.

Key:

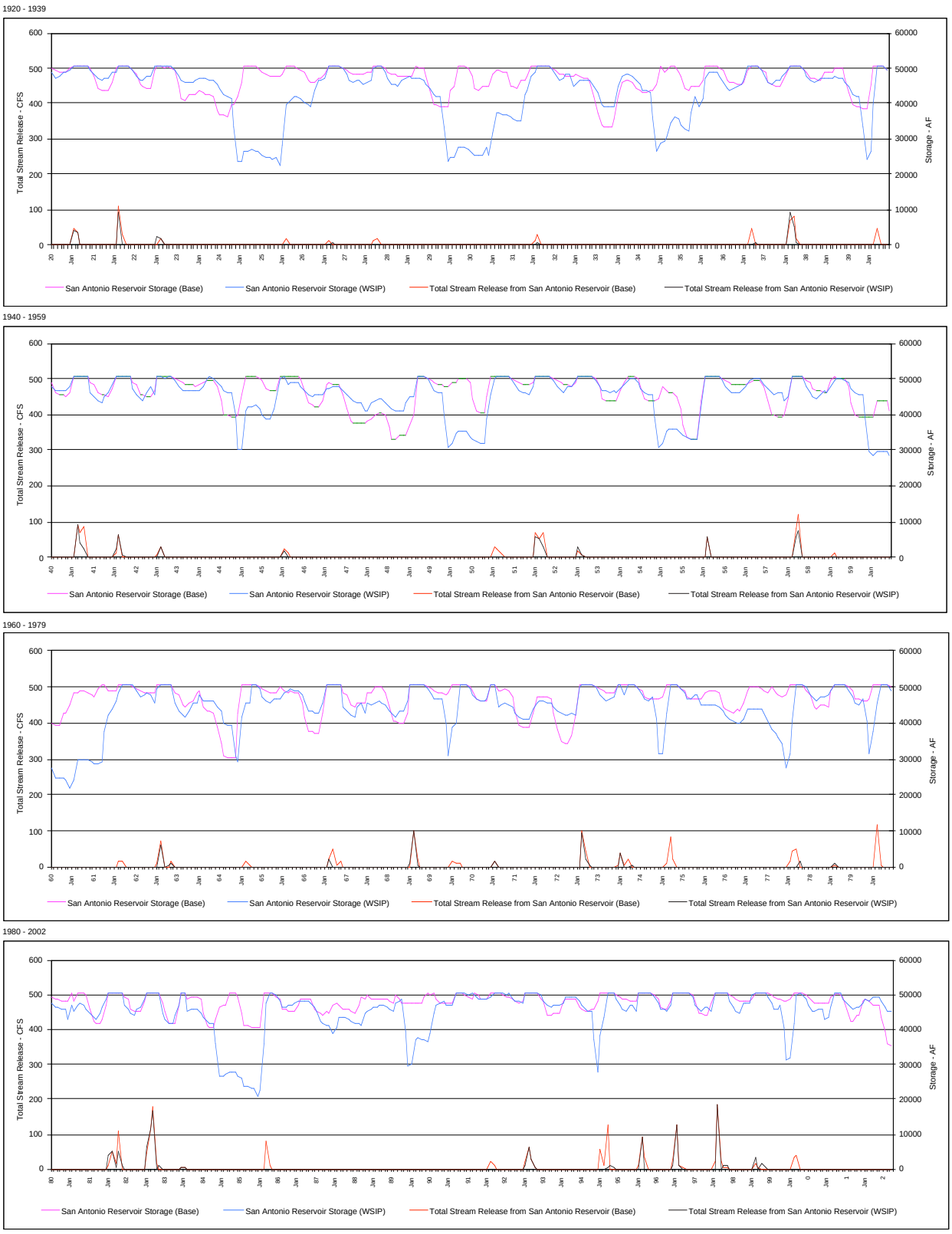
* Indicates a release under the "WSIP (2030)" condition where no release under "Current Condition (2005) currently exists.

> 0%

< 0 to -5%

< -5%

SOURCE: SFPUC, HH/LSM (See Appendix H)



Note: This figure is revised to reflect updated HH/LSM modeling (see Appendix O).

SOURCE: SFPUC, HH/LSM

SFPUC Water System Improvement Program . 203287

Figure 5.4.1-14 (Revised)

Chronological Operation of San Antonio Reservoir

~~Typically, San Antonio Reservoir would remain slightly fuller under the WSIP than under modeled existing conditions because the restored capacity of Calaveras Reservoir would provide additional local water supply to serve customer demand, reducing the need to use water from San Antonio Reservoir.~~ WSIP operations involve keeping local reservoirs higher for delivery reliability and system maintenance purposes. This supply would be used to maintain the Sunol Valley WTP's minimum throughput of 20 mgd and to satisfy water demand in excess of Hetch Hetchy flows. ~~The exception to this higher storage would occur e~~Every fifth year storage levels would drop when planned maintenance for the Mountain Tunnel would reduce Hetch Hetchy flows to the Bay Area during the winter. During this period, San Antonio Reservoir would be drawn to replace the flows not provided from the Hetch Hetchy system. The reservoir would refill to typical operating levels within one to two years after the maintenance period.

Section 5.4.1.2, page 5.4.1-36: The fourth full paragraph on page 5.4.1-36 and the fifth partial paragraph starting on page 5.4.1-36 and ending on page 5.4.1-39 are revised as follows to refine and update the impact discussion based on the modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

As indicated in the table, the WSIP would have ~~no~~ a minimal effect on flow in San Antonio Creek ~~in dry, below-normal, and normal years~~. The proposed program would result in minor increases and decreases in winter and spring flows in some above-normal years. Occasionally, the WSIP could result in spills to San Antonio Creek that would not occur under existing conditions. ~~These occasional spills would occur because the reservoir would be drawn down less often due to the restoration of Calaveras Reservoir storage capacity, the fishery releases that would be recaptured, and local reservoirs that would be kept slightly fuller for delivery reliability and system maintenance purposes.~~

Figure 5.4.1-15 illustrates the modeled chronological release of water below Turner Dam under the existing condition and with the WSIP. Releases from San Antonio Reservoir to San Antonio Creek have historically been rare and would continue to be rare with the WSIP. Releases past the dam are modeled to occur ~~in about 20 percent of the years under the existing condition and~~ at about the same frequency with the WSIP—mostly in above-normal or wet years. ~~The change in releases would occur primarily during January, February, and March of these years, with increases in average monthly flows of up to 15 cfs in some months countered by decreases of up to 15 cfs in some months countered by decreases of up to 16 cfs in others.~~ It should be noted that under actual operations, these changes in modeled average monthly flows could take the form of a few days of larger releases.

Section 5.4.1.2, page 5.4.1-39: The last full paragraph is revised as follows to refine and update the impact discussion based on the modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Figure 5.4.1-16 illustrates the modeled flow at the confluence during the various rainfall scenarios for the existing condition and with the WSIP. **Table 5.4.1-11** presents modeled flows at the confluence in terms of the average monthly flow within hydrologic year type.

As shown in the figure and table, there would be a substantial (8 to 52 percent) reduction in flow volumes at the confluence during January, February, and March of normal or wetter years, depending on the rainfall distribution. The majority of this effect would occur due to the reduction in spills from Calaveras Reservoir and~~, to a lesser degree,~~ increased diversions from the Alameda Creek Diversion Dam during these periods. However, in April of normal years, the modeled data indicate a moderate increase in total flow volumes (about 14 percent), again due to the change in operation of Calaveras Reservoir, as described above.

Section 5.4.2.2, page 5.4.2-3, Table 5.4.2-1: Impact 5.4.2-2 is revised as follows in response to a comment (see **Response L_ACWD-13**).

TABLE 5.4.2-1
SUMMARY OF IMPACTS – GEOMORPHOLOGY OF THE ALAMEDA CREEK WATERSHED

Impact	Significance Determination
Impact 5.4.2-1: Effects on channel formation and sediment transport along Calaveras Creek	LS
Impact 5.4.2-2: Effects on channel formation and sediment transport along Alameda Creek downstream of the diversion dam and downstream of the San Antonio Creek confluence.	LS
Impact 5.4.2-3: Effects on channel formation and sediment transport along San Antonio Creek downstream of San Antonio Reservoir	LS

LS = Less than Significant impact, no mitigation required

Section 5.4.2.2, page 5.4.2-3: Impact 5.4.2-2 is revised as follows in response to a comment (see **Response L_ACWD-13**).

Impact 5.4.2-2: Effect on channel formation and sediment transport along Alameda Creek downstream of the diversion dam and downstream of the San Antonio Creek confluence.

Section 5.4.2.2, page 5.4.2-4: The following text is added after the first partial paragraph in response to a comment (see **Response L_ACWD-13**).

Implementation of the WSIP would reduce flow in Alameda Creek downstream of the San Antonio Creek confluence in winter months of normal to wet years, ranging from a -18 percent decrease to a +13 percent increase in flow at the USGS Niles gage station. In the majority of winter months (December to March), flows at this location would decrease, but in April and May the flows would exhibit small to moderate increases. Although implementation of the WSIP would result in additional flow in Alameda Creek in summer months as part of the 1997 CDFG MOU releases, these additional flows would not mobilize significant amounts of sediment and could be recaptured at a location downstream of the Sunol Valley WTP. This net decrease in flow in Alameda Creek below the San Antonio

Creek confluence when compared to the existing condition would likely result in a slight decrease in the amount of sediment transported in Niles Canyon and lower Alameda Creek and would therefore decrease sediment and debris loading on lower Alameda Creek facilities.

As noted in Impacts 5.4.2-1 and 5.4.2-3, flows and the resulting impacts on geomorphology upstream of the San Antonio Creek confluence are expected to be within the range of conditions that have been experienced since development of water supply and flood control facilities in the upper and lower Alameda Creek watershed. Therefore, implementation of the WSIP would not significantly alter bed or channel form or introduce substantial new sources of sediment.

As a result of this net decrease in sediment transport in Niles Canyon and the less-than-significant impacts in upper Alameda Creek, the impact related to geomorphologic characteristics and sediment transport along Alameda Creek downstream of the San Antonio Creek confluence would be *less than significant*. It should also be noted that the Arroyo de la Laguna watershed is the major contributor to sediment supply in Niles Canyon and lower Alameda Creek.

Section 5.4.3.1, page 5.4.3-4: The first paragraph under the heading "Alameda Creek Below the Diversion Dam" is revised as follows in response to a comment (see **Response L_ACWD-14**).

Water quality in Alameda Creek is generally good and is protective of beneficial uses. In terms of aquatic life, the key water quality parameter is temperature, which is directly related to hydrologic flow conditions. **Table 5.4.3-3** summarizes weekly water temperature data collected by the ACWD near Sunol, above Arroyo de la Laguna, from 1997 through 2005. ~~The ACWD continuously samples, analyzes, and monitors the quality of water in Alameda Creek at a special monitoring facility located at the mouth of Niles Canyon near Mission Boulevard and at other key locations throughout the watershed (ACWD, 2007).~~ Average monthly water temperatures show an expected seasonal trend (i.e., cooler during the winter and warmer during the summer).

Section 5.4.3.1, page 5.4.3-5: The source footnote in Table 5.4.3-3 is revised as follows in response to a comment (see **Response L_ACWD-14**).

SOURCES: ACWD (raw data provided by Laura Hidas); Merritt Smith Consulting (data reduction). Note that ACWD temperature data may not have been subject to the rigorous QA/QC procedures required for scientific studies, and therefore should be used only to indicate general conditions (unless otherwise specified by the ACWD).

Section 5.4.3.1, page 5.4.3-5: The last two sentences of the first full paragraph are revised as follows in response to a comment (see **Response L_ACWD-15**).

~~In addition, most of the summer and fall flows in Alameda Creek below its confluence with Arroyo de la Laguna originate from the South Bay Aqueduct. This South Bay Aqueduct water may be warmer and is higher in total dissolved solids (TDS) than the flows in Alameda Creek originating from the Sunol Valley watershed.~~ Summer and fall flows in

Alameda Creek and its tributaries are at their seasonal low. Thus, flows in Alameda Creek below its confluence with Arroyo de la Laguna tend to be warm during these periods, because coldwater sources are largely unavailable in these reaches and base flows are low during this time of year, allowing waters to warm towards their natural temperature in equilibrium with meteorological conditions. In addition, flows in Arroyo de la Laguna appears to be higher in total dissolved solids (TDS) than the flows in Alameda Creek originating from the watershed upstream of Arroyo de la Laguna (RWQCB, 2008).

Section 5.4.3.1, page 5.4.3-6: The source footnote in Table 5.4.3-4 is revised as follows in response to a comment (see **Response L_ACWD-14**).

SOURCES: ACWD (raw data provided Laura Hidas); Merritt Smith Consulting (data reduction). Note that ACWD TDS data may not have been subject to the rigorous QA/QC procedures required for scientific studies, and therefore should be used only to indicate general conditions (unless otherwise specified by the ACWD).

Section 5.4.3.2, page 5.4.3-10: The third paragraph is revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project.

Studies conducted for the 1997 MOU between the CDFG and CCSF contemplated that a 7-cfs release from Calaveras Reservoir would result in cooler temperatures for the upper half of the stream reach between the Alameda/Calaveras ~~River~~ Creek confluence and the Sunol Valley WTP. Furthermore, the existing oxygenation system, which is also planned to be used in future operations, would maintain desired DO conditions in reservoir waters, which would further enhance DO conditions in the downstream reach. If MOU releases are from Alameda Creek upstream of Calaveras Creek, then Calaveras Creek would not receive the temperature benefits of these releases, and temperatures would remain as in the base case.

Section 5.4.3.2, page 5.4.3-11: The following text is added after the third paragraph under the heading "Reach 1" in response to a comment (see **Response S_RWQCBSF-15**).

Settleable Materials, Suspended Materials, and Turbidity. Sections 5.4.1.1 and 5.4.2.1 describes the SFPUC flushing activities intended to remove accumulations of coarse sediment to protect the facility, maintain storage capacity (and thus diversion capacity) above the Alameda Creek Diversion Dam, and support downstream geomorphic processes by passing sediment. The flushing procedure involves opening the sluice gates to flush coarse sediments from upstream of the diversion dam. Sediment flushing discharges approximately 900 cubic yards of sediment from behind the diversion dam each year, and typically occurs in February. This sediment typically consists of sands and gravels. Operations normally occur over a 48-hour period during high-flow events to develop the necessary velocity to mobilize the coarse sediments behind the dam. Flushing operations occur whether or not flows from the creek are being diverted to the diversion tunnel. The sluice gates remain closed year-round, except during the sluicing procedure. If water is not diverted via the diversion gates to the reservoir, the entire volume of the creek flows through the sluice gates in the dam or over the top of the dam. It is assumed that these SFPUC sediment flushing activities and sluice gate operations would continue under the WSIP.

Three water quality parameters—settleable materials, suspended materials, and turbidity—could be affected by changes in the Alameda Creek Diversion Dam operations and sediment flushing procedures. It is likely that more sediment would be transported to Calaveras Reservoir with the WSIP than under current conditions because of increased flows diverted to Calaveras Reservoir. Many of these sediments would settle out in the reservoir, reducing the overall quantity of sediments in the creek. Therefore, less sediment would be available for transport (either in flows over the dam or via sluicing/flushing operations) down Alameda Creek compared to the existing condition. Therefore, the sluicing/flushing procedures under the WSIP would have less-than-significant water quality impacts with respect to settleable materials, suspended materials, and turbidity.

Section 5.4.3, page 5.4.3-12: The following reference is added after "Merrit-Smith Consultants" in response to a comment (see **Response L_ACWD-15**).

Regional Water Quality Control Board - San Francisco Bay (RWQCB). 2008. Final Order No. R2-2008-0011, NPDES Permit No. CAG982001 General Permit for Discharges from Aggregate Mining, Sand Washing, and Sand Offloading Facilities to Surface Waters. February 15. http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2008/february/r2-2008-0011final.pdf

Section 5.4.4.2, pages 5.4.4-6 and 5.4.4-7: The last partial paragraph that begins on page 5.4.4-6 and ends on page 5.4.4-7 is revised as follows in response to a comment (see **Response L_ACWD-17**).

Impact 5.4.4-1: Changes in groundwater levels, flows, quality, and supplies.

Compared to current conditions, increased diversions and storage under the WSIP would reduce peak flows in Alameda Creek between the diversion dam and the confluence with San Antonio Creek. Seasonally, the WSIP would reduce flows in the high-flow months and increase flows in the low-flow months due to fishery releases. It would also increase storage in Calaveras Reservoir. The overall effect of these changes in groundwater supplies downstream in the Sunol aquifer areas is expected to be minor (either slightly positive or slightly negative), depending on the year's rainfall and seasonal conditions. The WSIP would reduce potential infiltration in the Sunol groundwater basin by reducing peak flows in wet years. ~~However, impacts on groundwater in the Niles Cone would be dampened by inflow from non-SFPUC watershed streams and aquifers, removal of the Sunol and Niles Dams, and ongoing withdrawals at the infiltration galleries above the water temple; as a result, impacts are expected to be minimal.~~ Impacts on groundwater in the Niles Cone would be less than significant because flows in Alameda Creek downstream of Niles Canyon would be maintained within the range of flows experienced since the Niles Cone began to be managed and utilized as a water supply resource. The program's minor changes in groundwater levels would not affect groundwater quality. This impact would be *less than significant*, and no mitigation measures would be required.

Section 5.4.5.1, page 5.4.5-9: The first bulleted paragraph is revised as follows in response to comments described in **Section 14.9, Master Response on Alameda Creek Fishery Issues**.

- Alameda County Flood Control and Water Conservation District's BART Weir – several studies have been conducted regarding potential designs to provide passage at this location. The most recent effort is a report (Wood Rogers, 2006) that outlines options ranging from total removal of the structure ("roughened channel") to three ladder and screen alternatives. The range of low flows estimated to allow suitable passage for adult steelhead among these four options is 10–50 cfs. However, other barriers (e.g., ACWD middle and upper rubber dams, PG&E Drop Structure – see below) within Alameda Creek may be impassable at these low flows. ~~There is currently no schedule or budget for this project, and environmental review has yet to begin.~~ On July 31, 2007, the Alameda County Flood Control and Water Conservation District and the ACWD entered into an agreement to design a fish passage facility over the BART weir and the middle inflatable dam in the Alameda County Flood Control Channel to improve steelhead passage within the Alameda Creek watershed.

Section 5.4.5.1, page 5.4.5-11: The first paragraph under the heading "Potential Steelhead Restoration" is revised as follows in response to comments described in **Section 14.9, Master Response on Alameda Creek Fishery Issues**.

Potential Steelhead Restoration

For the purposes of full disclosure, the PEIR provides this discussion of steelhead in lower Alameda Creek, and the potential for steelhead to be restored to the upper reaches of Alameda Creek (above the BART weir). However, because this steelhead access does not currently exist and there is no current steelhead migration above the BART weir, ~~there would be no~~ the potential impact on steelhead migration, spawning, or juvenile rearing upstream of the BART weir as a result of WSIP implementation is not analyzed in this section, which addresses WSIP impacts relative to existing conditions, but instead is analyzed as a future, cumulative impact in Section 5.7.3. ~~Further, as described in the preceding discussion, since a number of steps are required before steelhead migration further upstream can occur, it is speculative to assess the specific impacts that system operation under the WSIP might have on the potential future restoration of steelhead. Thus, no impact analysis or conclusion is developed in this PEIR. If and when steelhead are restored, the SFPUC will be required to conform its system operations to comply with the applicable Endangered Species Act requirements.~~

Section 5.4.5.2, page 5.4.5-19: The first full paragraph is revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project.

As described in Section 5.4.1, under the WSIP, reservoir operations would be restored, and the diversion dam would be operated to divert most flows that currently flow down upper Alameda Creek (up to a maximum diversion of approximately 650 cfs) through the diversion tunnel and into the reservoir. Under the proposed program, the SFPUC would construct a bypass flow structure at the Alameda Creek Diversion Dam and would implement bypass flows consistent with the 1997 CDFG MOU when flows are available

~~there is no requirement for maintaining minimum instream flows within Alameda Creek~~ to support fishery habitat downstream of the dam. The proposed diversion of most Alameda Creek flows below 650 cfs would result in a significant change in hydrologic conditions in Alameda Creek downstream of the diversion dam when compared to existing conditions. Diversion of most or all flows during the late winter and spring months could adversely affect the ability of resident rainbow trout to spawn and for eggs to successfully incubate in this reach, although the proposed bypass flows at the diversion dam would reduce the severity of this effect. In the future, with Calaveras Reservoir storage operating at higher levels for longer periods under the WSIP, diversions to storage are expected to be reduced and the frequency and magnitude of spills from the reservoir increased.

Section 5.4.5.2, page 5.4.5-20: The last paragraph is revised as follows to reflect the change in the description of the Calaveras Dam (SV-2) project.

Overall, WSIP-related impacts on fishery habitat along Alameda Creek immediately downstream of the diversion dam would be *potentially significant*, despite proposed implementation of bypass flows at the diversion dam. Implementation of Measure 5.4.5-3a: Minimum Flows for Resident Trout on Alameda Creek, which would require the SFPUC to develop operational guidelines and implement minimum instream flow requirements for Alameda Creek downstream of the diversion dam from December through April to support resident trout spawning and egg incubation, would reduce this impact to a less-than-significant level. Measure 5.4.5-3a in conjunction with the proposed bypass flows at the diversion dam may be sufficient to fully mitigate WSIP effects on resident trout in Alameda Creek, including the effects of entrainment through the diversion tunnel. If, after monitoring of this measure and adaptive management of the minimum flow requirements, the monitoring indicates that WSIP effects are not fully mitigated, then the SFPUC also will implement Measure 5.4.5-3b: Alameda Diversion Dam Diversion Restrictions or Fish Screens, to either modify seasonal diversions schedules to minimize impacts on fish or screen its diversion facilities. This measure may be refined as it would be developed in more detail and implemented as part of the Calaveras Dam (SV-2) project.

Section 5.4.6.2, page 5.4.6-19: The third full paragraph is revised as follows in response to comments (see **Response S_CDFG2-15** and **Section 14.9)**.

Overall, implementation of the proposed WSIP water supply and system operations would result in *potentially significant* impacts on terrestrial biological resources due to a potential reduction in aquatic breeding habitat for key special-status species. Measure 5.4.1-2, Diversion Tunnel Operation, calls for operation of the diversion tunnel in a manner that ensures that flows not required to maintain storage in Calaveras Reservoir are passed down Alameda Creek at the diversion dam. Measure 5.4.5-3a, Minimum Flows for Resident Trout on Alameda Creek, calls for developing and implementing an operational plan to provide minimum bypass flows below the diversion dam to support habitat for rainbow trout and other native stream-dependent species from December through April. Implementation of these measures would ensure that minimum flows in Alameda Creek are

allowed to pass by the diversion dam. Taken together, these measures would reduce adverse impacts on key special-status species to a less-than-significant level.

Section 5.4.6.2, page 5.4.6-20: The third and fourth paragraphs are revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project.

Flows in Calaveras Creek below Calaveras Dam would be altered in two ways during the two- to five-year period when the reservoir is being refilled. First, there would be no cone valve releases into Calaveras Creek below the dam. Second, the SFPUC would initiate required minimum instream flow releases (see Table 5.4.1-9) when construction of the new Calaveras Dam is completed. When flows at the confluence of Alameda and Calaveras Creeks fall below the minimum required flow, generally during protracted dry periods, releases would be made from Calaveras Dam or upstream on Alameda Creek. These releases would ensure that existing riparian habitat would be sustained; therefore, impacts on riparian habitats related to filling the reservoir would be *less than significant*, and no mitigation measures would be required.

Impacts from Minimum Flows. Under the WSIP, minimum flows ~~would~~ may be maintained year-round, ~~an increase over both existing conditions and pre-2002 conditions~~ depending if flow releases are from Calaveras Reservoir or from upstream on Alameda Creek. Sustained minimum flows during the dry season could slightly increase groundwater recharge. It could also facilitate the conversion from riparian habitats that require only seasonally flowing water to those that require permanent flowing water, such as alder riparian forest. This potential replacement of one sensitive riparian habitat with another one (with no change in the total extent of riparian habitat) would be *less than significant*.

Section 5.4.6.2, pages 5.4.6-23 and 5.4.6-24: The last partial paragraph on page 5.4.6-23 continuing to the first paragraph on page 5.4.6-24 and the first full paragraph on page 5.4.6-24 are revised as follows to refine and update the impact discussion based on the modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Sensitive Habitats

Sensitive habitats that could be affected by operations of San Antonio Reservoir include small areas of freshwater marsh and riparian scrub on gently sloping reservoir margins. ~~The average reservoir levels would be higher with the WSIP than under existing conditions, but t~~The maximum reservoir levels would not change. No upland habitats would be affected. ~~The average range of reservoir elevations under the WSIP would be slightly less than under existing conditions. Little perennial freshwater marsh or riparian scrub would be inundated to the extent that it would be permanently lost. Any loss of such habitat would be balanced by development of similar habitat at higher elevations.~~ As discussed in Section 5.4.1, storage levels at San Antonio Reservoir would drop every fifth year for planned system maintenance. The reservoir would be refilled to typical operating levels within one to two years after the maintenance period. The depth and duration of drawdown would be within the range of historic operating conditions. Thus, WSIP impacts on riparian and freshwater

marsh habitat along the margins of San Antonio Reservoir would be *less than significant*, and no mitigation measures would be required.

~~Drawdown once every five years during late fall or early winter would have a less-than-significant impact on habitat, since reservoir levels would be restored within a few months after system maintenance is completed.~~

Section 5.4.6.2, page 5.4.6-24: The second full paragraph, last sentence is revised as follows to refine and update the impact discussion based on the modeling results conducted in 2008 as discussed in Chapter 13, Section 13.3.

However, impacts ~~related to the negligible changes in the extent of~~ on riparian scrub and freshwater marsh habitat would be less than significant, and therefore impacts on the habitat of California red-legged frog and California tiger salamander would be *less than significant*, and no mitigation measures would be required.

Section 5.4.6.2, page 5.4.6-24: The third full paragraph, first sentence is revised as follows to refine and update the impact discussion based on the modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Other Species of Concern

San Antonio Reservoir ~~would be kept near maximum levels for longer periods, the~~ maximum water surface elevation would not change, and ~~only minor~~ fluctuations in water level that would occur ~~(apart from maintenance drawdown)~~ would be within the historic operating range.

Section 5.4.7.1, page 5.4.7-1: The third paragraph is revised as follows in response to a comment (see **Response L_EBRPD-26**).

Alameda Creek Recreation and Visual Quality

Alameda Creek runs through several local parks, ~~and~~ municipalities (including ~~Sunol Regional Wilderness,~~ Alameda County), and the cities of Fremont and Union City. Alameda Creek also runs through the Sunol Regional Wilderness and is adjacent to the Vargas Plateau Regional Preserve, Quarry Lakes Regional Recreation Area, and Coyote Hills Regional Park, all of which are operated by the EBRPD. The recreational uses of the creek are described below.

Section 5.4.7.1, page 5.4.7-3, the following text is added after the first partial paragraph in response to a comment (see **Response L_EBRPD-26**).

Vargas Plateau Regional Preserve

The Vargas Plateau Regional Preserve, managed by the EBRPD, is located adjacent to the SFPUC Alameda watershed along a common boundary line on the east side of the preserve. Its northern boundary touches Alameda Creek for a distance of about 2,500 feet. A portion

of the decommissioned Sunol Aqueduct crosses the park within a utility easement. Currently, the preserve is not suitable for active public use due to the lack of public road access, the need to protect natural or man-made resources, and other factors related to public safety and access. The EBRPD is currently in the process of adopting the *Vargas Plateau Regional Park Land Use Plan*, which would create a regional park that provides trails, outdoor recreation, campgrounds, and nature appreciation areas (EBRPD, 2007e).

Section 5.4.7.2, page 5.4.7-5, Table 5.4.7-1: Table 5.4.7-1 is revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project.

TABLE 5.4.7-1
SUMMARY OF IMPACTS –
RECREATIONAL AND VISUAL RESOURCES IN THE ALAMEDA CREEK WATERSHED

Impact	Significance Determination
Impact 5.4.7-1: Effects on recreational facilities and/or activities	~~PSM~~LS
Impact 5.4.7-2: Visual effects on scenic resources or the visual character of water bodies	~~PSM~~LS

~~PSM = Potentially Significant impact, can be mitigated to less than significant~~ LS = Less than Significant impact, no mitigation required

Section 5.4.7.2, page 5.4.7-5: The last paragraph is revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project.

The WSIP would not affect water-related recreational facilities or activities in the Alameda Creek watershed. As described above in Section 5.4.7.1, Setting, water recreation is not allowed on the SFPUC reservoirs; because there would be no change to this policy under the WSIP, impacts on recreation would not occur as a result of water level changes in the reservoir. With respect to recreation in and along the creeks in the watershed~~, for most portions of the watershed,~~ there is either: (1) no or only very limited water recreation occurring at present, and/or (2) the WSIP-related flow changes described in Section 5.4.1 would not change creek flows to an extent that existing recreational use would be affected. ~~However, the~~ The proposed program would ~~substantially~~ reduce peak flows along Alameda Creek in the Sunol Regional Wilderness in the winter and early spring months. The reduced flows would somewhat degrade the recreational experience for hikers on the trails near (or with views of) Alameda Creek, ~~resulting in a *potentially*~~ however, with the proposed minimum flows for resident trout on Alameda Creek to be released from the Alameda Creek Diversion Dam when such flows are present, this would be a *less-than-significant* impact. ~~Implementation of Measure 5.4.1-2, Diversion Tunnel Operation, and Measure 5.4.5-3a, Minimum Flows for Resident Trout on Alameda Creek, would reduce this impact to a less-than-significant level.~~

Section 5.4.7.2, page 5.4.7-6: The first and second paragraphs are revised as follows to reflect the change in project description of the Calaveras Dam project (SV-2).

> As described in Section 5.4.1, changes in stream flow and reservoir water levels under the WSIP are not beyond the range of flow and water level variation that occurs now. The reductions in peak flows in average, above-average, and wet years under the proposed program would not be visually apparent to most recreational users and others viewing the creeks and reservoirs. The main exception would be the ~~substantial~~ reductions in peak flows in Alameda Creek in the Sunol Regional Wilderness, including the scenic Little Yosemite area, during winter and spring months. Reduced peak flows in Alameda Creek in the Little Yosemite area would ~~result in a *potentially significant* impact on scenic resources. Implementation of Measure 5.4.1-2, Diversion Tunnel Operation, and Measure 5.4.5-3a, Minimum Flows for Resident Trout on Alameda Creek, would reduce potential impacts on scenic resources along Alameda Creek in the Sunol Regional Wilderness to a less-than-significant level.~~ somewhat degrade the visual character Alameda Creek, however, with the proposed minimum flows for resident trout on Alameda Creek to be released from the Alameda Creek Diversion Dam when such flows are present, this would be a *less-than-significant* impact.
>
> Proposed summer releases to support fisheries would increase flows in Calaveras Creek and downstream in Alameda Creek and would have a beneficial visual effect, because the releases would enhance the creek's appearance in the summer months when recreational use is highest. Therefore, no significant adverse visual impacts would occur, and no mitigation is required.

Section 5.4.7.2, page 5.4.7-6: The following reference is added after (EBRPD, 2007d) in response to a comment (see Response **Response L_EBRPD-26**).

> East Bay Regional Park District (EBRPD), *Draft Vargas Plateau Regional Park Land Use Plan*, October 2007e, available online at http://www.ebparks.org/planning/lup, accessed January 25, 2008.

5.5 San Francisco Peninsula Streams and Reservoirs

Section 5.5.1.1, page 5.5.1-5: The second paragraph, sixth sentence is revised as follows to reflect updated information on the Crystal Springs Reservoir capacity from recent SFPUC studies.

> The current maximum capacities of San Andreas~~, Upper Crystal Springs,~~ and ~~Lower~~ Crystal Springs Reservoirs are 19,000~~, 23,360,~~ and ~~35,040~~ 56,800 acre-feet, respectively.

Section 5.5.1.1, page 5.5.1-9: The last sentence of the third full paragraph is revised as follows in response to a comment (see **Response L_CoastsideCWD-11**).

> After the reservoir has filled, the ~~only water~~ SFPUC attempts to limit releases from Pilarcitos Reservoir ~~is~~ to that amount requested by Coastside CWD to meet its water needs. However, at times, additional water may be released from Pilarcitos Reservoir and diverted

to Crystal Springs Reservoir at Stone Dam or released from Stone Dam (see discussion below regarding experimental releases from Stone Dam to Pilarcitos Creek).

Section 5.5.1.2, page 5.5.1-13: The first paragraph under "Approach to Analysis" is revised as follows to better describe the refined analysis of impacts on resources in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

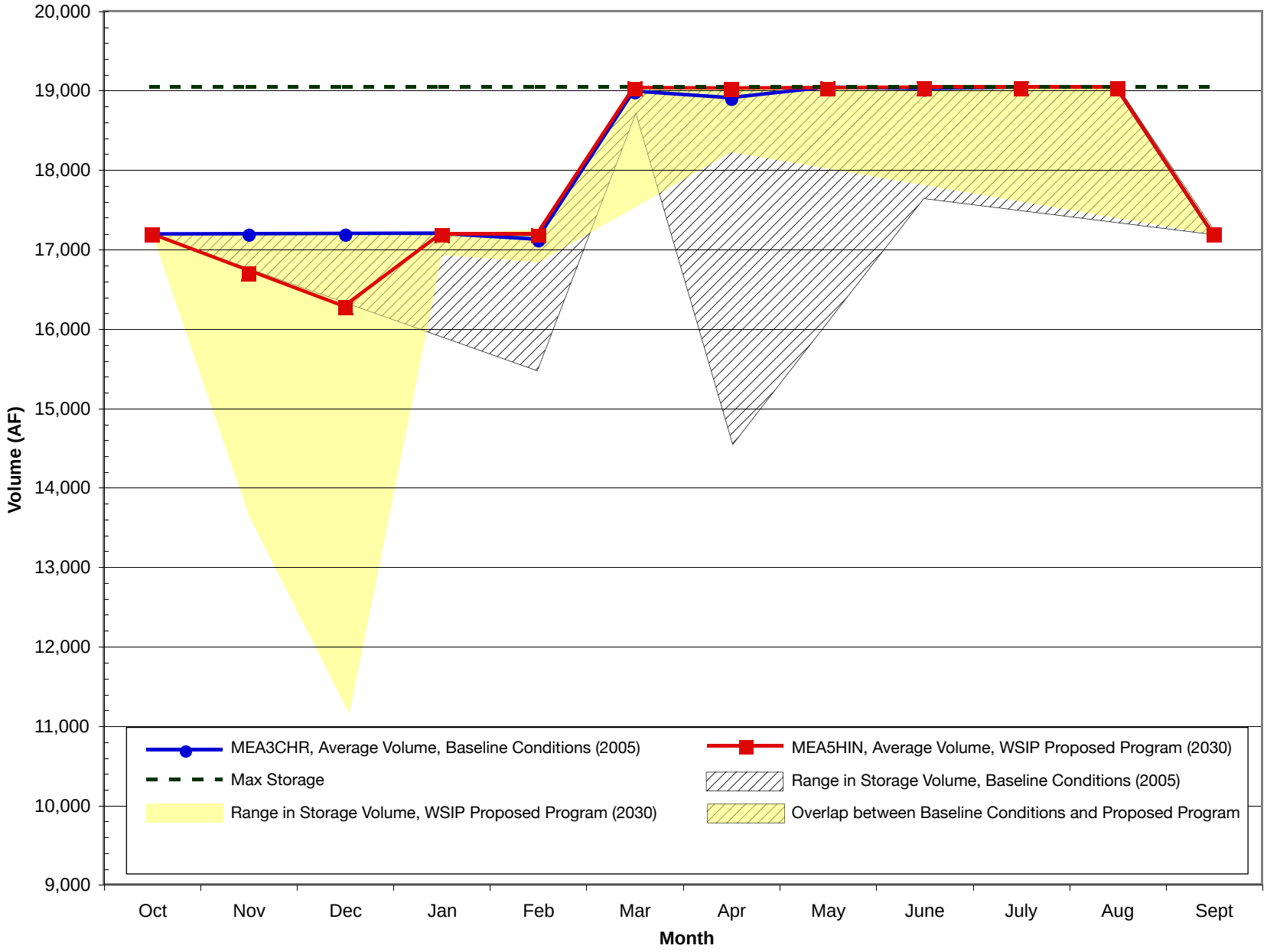
Approach to Analysis

Changes in reservoir storage and water levels attributable to the WSIP in the San Mateo Creek watershed and changes in reservoir storage, water levels and stream flows in the Pilarcitos Creek watershed attributable to the WSIP were estimated using the Hetch Hetchy/Local Simulation Model (HH/LSM). An overview of the model is provided in Section 5.1. Detailed information on the model and the assumptions that underlie it ~~is~~ are provided in Appendix H. Stream flows in San Mateo Creek and stream flows and changes in reservoir storage and water levels for the Pilarcitos Creek watershed were estimated semi-quantitatively based on results from the model in addition to interviews with individuals knowledgeable about historical, current and expected future (with-WSIP) water system operations. Information on the limitations of the HH/LSM and reasons for using supplemental information are provided in Section 5.1. Information on current and expected future operations in the Pilarcitos Creek watershed is provided in Appendix H2-3 and H2-7.

Section 5.5.1.2, page 5.5.1-14: The second paragraph is revised as follows to reflect updated information on the Crystal Springs Reservoir capacity from recent SFPUC studies.

The proposed program would increase average monthly storage in Crystal Springs Reservoir year-round compared to the existing condition. **Figure 5.5.1-7** shows average monthly storage in the reservoir. The increase in average monthly storage would mostly be attributable to the Lower Crystal Springs Dam project (PN-4), but also to improvements to the SFPUC regional water system as a whole. The improvements to Crystal Springs Dam are part of the WSIP and would allow the reservoir to be operated at its full capacity of ~~69,300~~ 68,000 acre-feet, or ~~22.6~~ 22.2 billion gallons. The Division of Safety of Dams currently limits the maximum storage capacity in Crystal Springs Reservoir to ~~58,400~~ 56,800 acre-feet (~~19~~ 18.5 billion gallons) due to concerns regarding the ability of the dam spillway to safely pass the largest floods that could occur in the watershed. …

Section 5.5.1.2, page 5.5.1-18: The legend in **Figure 5.5.1-9** is revised to show the correct range in storage volume of the San Andreas Reservoir. The Draft PEIR incorrectly labeled the yellow area as "Range in Storage Volume, Baseline Conditions (2005)" and the hatched area as "Range in Storage Volume, WSIP Proposed Program (2030)." Figure 5.5.1-9 is revised as shown on the following page.



SOURCE: SFPUC, HH/LSM (see Appendix H)

Figure 5.5.1-9 (Revised)
Average Monthly Storage Volume,
San Andreas Reservoir

Section 5.5.1.2, page 5.5.1-20: The two paragraphs under "Water Storage and Water Levels in Pilarcitos Reservoir" are revised as follows, including insertion of a new figure, Figure 5.5.1-10, to refine the flow analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Water Storage and Water Levels in Pilarcitos Reservoir

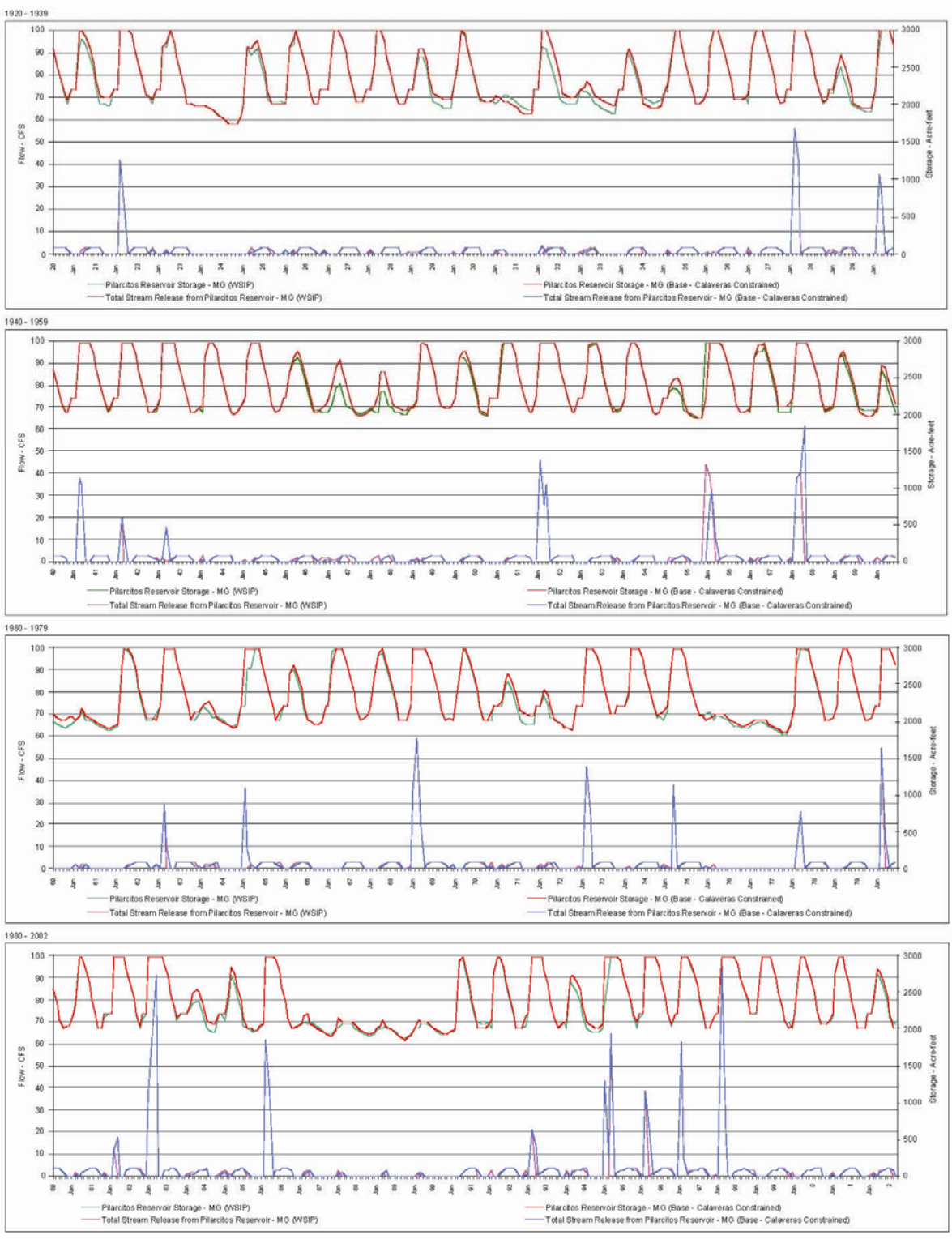
Seasonal changes in storage and water surface elevation in Pilarcitos Reservoir under the existing condition are shown in Figure 5.5.1-6. **Figure 5.5.1-10** shows chronological modeled storage in Pilarcitos Reservoir using hydrology data from the period 1920 to 2002. The figure compares the WSIP to the existing condition. With the WSIP, storage in the reservoir would follow a similar seasonal pattern as under the existing condition, but would average somewhat less than under the existing condition and would be drawn down more rapidly in some years in the late spring and summer. The increased rate of drawdown is primarily attributable to increased water demand in the Coastside CWD service area, which is served by releases from the reservoir, and increased transfers of water to the San Mateo Creek watershed. As water demand increases in the Coastside CWD service area, additional water would be drawn from Pilarcitos Reservoir to meet demand, although diversion of water from Pilarcitos Creek to Coastside CWD is currently limited to a maximum of 2 mgd because of pipeline capacity. The HH/LSM assumes that when Coastside CWD's monthly demand from Pilarcitos Creek exceeds 2 mgd the SFPUC serves Coastside CWD from Crystal Springs Reservoir. Additional water would also be transferred from the Pilarcitos Creek watershed to the SFPUC's reservoirs in the San Mateo Creek watershed with the WSIP than under the existing condition. This is because with the WSIP more reservoir capacity in the San Mateo Creek watershed would be available at times when water is available from Pilarcitos Creek.

~~Storage in Pilarcitos Reservoir with the WSIP would be reduced much of the time, except when the reservoir is full and spilling, or at its minimum elevation and no further diversions can be made.~~ Under existing conditions and in most years ~~dry periods~~, storage in ~~the~~ Pilarcitos ~~r~~Reservoir becomes depleted by the late summer, and the only releases made to Pilarcitos Creek are the consequence of inflow from groundwater and tributary streams. Depletion of the reservoir in dry periods would occur earlier in the year with the WSIP.

Section 5.5.1.2, page 5.5.1-20: A new table, **Table 5.5.1-2**, and the following new paragraph are inserted immediately under the heading "Flow in Pilarcitos Creek between Pilarcitos Reservoir and Stone Dam" to refine the flow analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Flow in Pilarcitos Creek between Pilarcitos Reservoir and Stone Dam

Releases to Pilarcitos Creek from Pilarcitos Reservoir under the existing condition and with the WSIP are shown in Figure 5.5.1-10. In normal, below normal, and dry years, the WSIP would have little or no effect on releases to Pilarcitos Creek from the reservoir. In average wet years and with the WSIP, releases would be reduced by about 6 percent. In average



SOURCE: SFPUC, HH/LSM (see Appendix H)

SFPUC Water System Improvement Program . 203287

Figure 5.5.1-10 (New)

Pilarcitos Reservoir Storage and Stream Release

TABLE 5.5.1-2 (New)
AVERAGE MONTHLY CHANGES IN PILARCITOS CREEK FLOW BELOW PILARCITOS RESERVOIR ATTRIBUTABLE TO THE WSIP (CUBIC FEET PER SECOND)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Year Type
1983	6	4	0	74	131	182	0	0	5	5	6	6	Wet
1998	0	0	2	0	192	37	0	0	3	5	5	6	Wet
1958	0	0	5	0	74	81	-62	0	5	6	6	6	Wet
1941	4	0	0	0	76	69	0	0	5	6	6	6	Wet
1982	0	4	0	0	23	-17	0	0	5	6	6	6	Wet
1995	0	0	0	-43	-8	118	0	2	4	5	6	6	Wet
1956	0	0	131	90	62	-10	3	4	5	6	6	6	Wet
1952	4	0	0	92	51	70	0	4	5	6	6	6	Wet
1938	4	0	0	0	112	84	0	3	5	6	6	6	Wet
1997	6	0	0	122	16	4	5	5	6	6	6	3	Wet
1969	0	0	3	70	119	37	1	4	5	6	6	6	Wet
1973	0	0	3	0	92	51	2	4	5	6	6	6	Wet
1986	0	0	0	0	123	79	0	4	5	6	6	6	Wet
1980	0	0	2	0	109	-13	2	4	5	6	6	6	Wet
1942	6	0	0	0	41	-12	0	0	5	6	6	6	Wet
1967	0	0	0	0	0	0	0	0	5	6	6	6	Wet
1963	0	0	-2	0	57	-10	0	0	5	6	6	6	AN
1940	0	0	0	0	-36	-27	0	4	5	6	6	6	AN
1965	0	0	0	-37	-9	5	0	4	5	6	6	6	AN
1996	6	7	4	0	77	-22	3	4	5	6	6	6	AN
1922	0	0	0	0	83	46	0	4	6	6	6	6	AN
1975	6	0	6	4	0	-38	0	3	5	6	6	6	AN
1974	0	2	0	0	4	0	0	3	5	6	6	6	AN
1978	0	0	0	0	-9	-26	0	4	5	6	6	6	AN
1993	0	0	7	0	43	-13	3	4	6	6	6	6	AN
1951	0	0	0	0	0	0	4	4	5	6	6	6	AN
1943	5	4	5	0	3	-16	1	4	5	6	6	6	AN
1927	0	0	4	0	0	0	0	5	6	6	6	6	AN
1937	0	0	0	8	0	0	0	4	6	6	6	6	AN
2000	6	-2	5	0	0	0	4	5	6	6	6	6	AN
1921	7	4	0	0	0	4	5	5	6	6	5	0	AN
1999	6	7	5	0	0	0	0	3	5	6	6	6	AN
1923	0	6	0	0	0	5	0	5	6	6	6	5	AN
1953	6	0	0	0	1	0	4	4	6	6	6	6	NORMAL
1928	0	0	1	4	1	0	0	5	6	6	6	5	NORMAL
1970	4	0	4	0	0	0	4	5	6	6	6	4	NORMAL
1984	6	0	0	2	4	4	4	4	6	4	0	0	NORMAL
1946	3	0	0	0	0	4	4	4	6	6	6	-2	NORMAL
1926	0	0	0	5	0	5	0	5	6	6	6	4	NORMAL
1936	3	0	0	2	0	2	2	4	6	6	6	6	NORMAL
1945	0	0	0	4	0	0	3	4	6	6	6	6	NORMAL
1971	0	7	0	0	5	2	4	5	6	6	0	0	NORMAL
1935	0	0	0	0	5	0	0	3	6	6	6	6	NORMAL
1932	0	0	0	0	-4	5	6	6	6	6	-3	0	NORMAL
1979	5	0	0	0	0	0	3	5	6	6	6	5	NORMAL
1962	0	0	0	0	0	0	5	5	6	6	6	5	NORMAL
1949	0	0	0	-1	4	0	3	4	6	6	6	6	NORMAL
1992	0	0	0	7	0	0	5	6	6	6	6	4	NORMAL
1981	3	0	0	0	4	0	4	5	6	6	6	4	NORMAL
2001	0	0	0	4	0	0	4	5	6	6	6	4	BN
1930	0	0	0	2	1	0	5	5	6	6	6	0	BN
1954	-2	6	0	0	0	0	3	5	6	6	6	6	BN
1968	5	0	0	0	0	2	4	5	6	6	6	4	BN
1959	6	0	0	0	0	5	5	5	6	6	-2	0	BN
1925	0	0	0	0	0	6	4	3	6	6	6	-2	BN
1944	4	0	0	6	0	0	4	5	6	6	6	6	BN
2002	0	0	0	0	4	0	5	5	6	6	-3	0	BN
1950	0	0	0	0	0	5	4	5	6	6	3	0	BN
1966	4	7	0	1	0	5	6	6	6	2	0	0	BN
1955	0	0	0	0	4	4	4	5	6	-2	0	0	BN
1957	4	0	0	5	0	4	4	3	6	6	6	6	BN
1934	0	0	1	0	0	5	6	6	6	-3	0	0	BN
1985	0	2	4	6	1	1	6	5	6	6	-2	0	BN
1991	0	0	0	0	0	0	5	6	6	6	6	-2	BN
1929	0	0	2	3	3	2	4	6	6	6	0	0	BN
1964	5	7	-1	0	5	6	5	-3	0	0	0	0	BN

TABLE 5.5.1-2 (New) (Continued)
AVERAGE MONTHLY CHANGES IN PILARCITOS CREEK FLOW
BELOW PILARCITOS RESERVOIR ATTRIBUTABLE TO THE WSIP
(cubic feet per second)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Year Type
1947	0	6	4	4	4	3	4	5	6	-3	-2	0	DRY
1994	4	0	0	6	0	6	5	5	6	2	0	0	DRY
1939	6	0	4	5	2	4	5	6	6	-2	0	0	DRY
1948	0	0	0	0	6	9	1	4	6	-3	0	0	DRY
1960	0	0	0	6	0	6	6	6	4	0	0	0	DRY
1972	0	0	1	5	3	7	6	-3	0	0	0	0	DRY
1933	0	0	0	2	5	5	5	3	0	0	0	0	DRY
1961	0	0	0	-2	0	5	3	0	0	0	0	0	DRY
1990	0	0	0	0	5	-1	0	0	0	0	0	0	DRY
1987	4	0	0	0	5	5	-2	0	0	0	0	0	DRY
1988	0	0	0	7	-1	0	0	0	0	0	0	0	DRY
1989	0	0	0	0	0	5	-2	0	0	0	0	0	DRY
1931	0	0	0	6	-1	-1	0	0	0	0	0	0	DRY
1976	6	0	-2	0	6	0	0	0	0	0	0	0	DRY
1977	0	0	0	0	0	0	0	0	0	0	0	0	DRY
1924	0	0	0	0	0	0	0	0	0	0	0	0	DRY

NOTES: Hydrologic year types were determined by rank ordering of total SFPUC Bay Area reservoir inflow.
Year Types: Wet, AN -- Above Normal, Normal, BN -- Below Normal, and Dry

SOURCE: SFPUC, HH/LSM (see Appendix H)

above normal years and with the WSIP, releases would be reduced by about 34 percent. The differences between releases under the existing condition and with the WSIP are shown in Table 5.5.1-2 in every month for the period 1921 through 2002. Negative values indicate the months in which releases to the creek with the WSIP would be less than under the existing condition.

Section 5.5.1.2, pages 5.5.1-20 and 5.5.1-21: The last partial paragraph on page 5.5.1-20 continuing to page 5.5.1-21 and the first full paragraph on page 5.5.1-21 are revised as follows to refine the flow analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Most runoff into Pilarcitos Reservoir occurs between November and April. In normal, above-normal, and wet years, when the reservoir is full and runoff exceeds the capacity of the diversion tunnels to San Andreas and Crystal Springs Reservoirs, or those reservoirs are full, the reservoir spills to Pilarcitos Creek. ~~Because Pilarcitos Reservoir is drawn down to its minimum elevation in late summer in all but the wettest years, the WSIP would have a negligible effect on wintertime spills to Pilarcitos Creek in most years. Some reduction in spills could occur in wet years~~. As shown in Figure 5.5.1-10, the WSIP would not affect wintertime spills in most years, but it would reduce spills in some wet and above normal years. Occasionally (for example, under 1940, 1943, 1965 and 1976 hydrologic conditions), wintertime spills that occur under the existing condition would be completely or almost completely eliminated with the WSIP.

The WSIP would increase flow in Pilarcitos Creek immediately below Pilarcitos Reservoir in some late spring and summer months of most hydrologic year types as a result of increased releases from the reservoir to meet Coastside CWD's needs. The increases are shown as positive values in April, May, June and July in Table 5.5.1-2. In the summer months of ~~dry~~ some years, Pilarcitos Reservoir would become depleted earlier in the year with the WSIP than it does under the existing condition. Coastside CWD would activate its pumps and draw water from Crystal Springs Reservoir earlier in the year than it does under the existing condition. At such times, there would be no releases from Pilarcitos Reservoir to the creek except for dry season inflow to the reservoir. Flow in the creek below the reservoir would be the same as under the existing condition, consisting of inflow releases, seepage from the dam, infiltration from groundwater, and tributary flow. The period of minimal flow below Pilarcitos Reservoir would be extended with the WSIP, because the reservoir would be drawn down to its minimum elevation earlier in the year. Table 5.5.1-2 shows negative values in some years between May and September. These are months in which releases from Pilarcitos Reservoir occur under the existing condition but which would be reduced or eliminated under the WSIP.

Section 5.5.1.2, page 5.5.1-21: The first and second paragraphs under "Flow in Pilarcitos Creek below Stone Dam" are revised as follows to refine the flow analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Flow in Pilarcitos Creek Below Stone Dam

Under the existing condition, water occasionally spills over Stone Dam to Pilarcitos Creek. There is little flow in Pilarcitos Creek immediately below Stone Dam most of the time, and no flow in dry periods. Spills over Stone Dam occur when releases from Pilarcitos Reservoir and runoff into Pilarcitos Creek between the reservoir and Stone Dam exceed the capacity of the diversion at Stone Dam. Occasional spills over Stone Dam would continue under the WSIP. The volume of spills would be reduced by the additional amount of Pilarcitos Creek water the SFPUC supplies to Coastside CWD or diverts to its reservoirs in the San Mateo Creek watershed.

~~In most months of wet years, spills over Stone Dam with the WSIP and under the existing condition would be the same. In some winter and early spring months, spills with the WSIP would probably be less than under the existing condition.~~ Spills at Stone Dam typically occur ~~in wet years~~ when Pilarcitos Reservoir is full, Coastside CWD's demand is met, and the SFPUC cannot transfer water to the San Mateo Creek watershed, either because available water in the Pilarcitos Creek watershed exceeds the capacity of the SFPUC's tunnels to San Andreas and Crystal Springs Reservoirs, or those reservoirs are already full. Spills very rarely occur in dry and below normal years under the existing condition and would very rarely occur with the WSIP. With the WSIP, average annual spills in wet, above normal and normal years would be reduced by about 11, 60, and 25 percent, respectively, compared to the existing condition.

Section 5.5.3.1, page 5.5.3-1: The last full sentence on the page is revised as follows to correct the spelling of "phosphorus" and in response to a comment (see **Response C_Hoel-04**).

> Past studies have shown that the growth of algae in Crystal Springs Reservoir is limited by a lack of nitrogen and phosphor~~o~~us, both of which are plant nutrients; therefore, an increase in the concentration of either could increase the growth of algae.

Section 5.5.3.2, page 5.5.3-4: The first paragraph under "Approach to Analysis" is revised as follows to better describe the refined analysis of impacts on resources in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Approach to Analysis

Changes in reservoir storage and water levels in the San Mateo Creek watershed and changes in reservoir storage, water levels and stream flows in the Pilarcitos Creek watershed attributable to the WSIP were estimated using the HH/LSM. An overview of the model is presented in Section 5.1. Detailed information on the model and the assumptions that underlie it ~~is~~ are provided in Appendix H. Changes in stream flows in ~~both~~ the San Mateo Creek ~~and Pilarcitos watersheds and changes in reservoir storage and water levels for the Pilarcitos Creek~~ watershed attributable to the WSIP were estimated semi-quantitatively in consultation with individuals knowledgeable about historical, current, and expected future (with-WSIP) water system operations.

Section 5.5.3.2, page 5.5.3-6: The first partial paragraph and the first full paragraph on page 5.5.3-6 are revised as follows to correct the spelling of "phosphorus" and in response to a comment (see **Response C_Hoel-04**).

> …bottom of the reservoir. If the proposed program increased the volume of oxygen-depleted water at the bottom of the reservoir, it could increase the release of phosphor~~o~~us. Increased release of phosphor~~o~~us and increased phosphor~~o~~us concentrations in reservoir water would have the potential to increase the growth of algae.
>
> Studies completed over the last several years indicate that the growth of algae in Crystal Springs Reservoir has historically been limited by both nitrogen and phosphor~~o~~us concentrations. After the SFPUC began disinfecting Hetch Hetchy water with chloramine, the nitrogen concentration in the reservoir increased, and the concentration of phosphor~~o~~us in reservoir water became the factor limiting the growth of algae. Thus, the addition of more nitrogen as a result of a WSIP-induced increase in the proportion of Hetch Hetchy water in Crystal Springs Reservoir would not alone increase the growth of algae. Increased phosphor~~o~~us concentrations in the reservoir as a result of the more stable thermal stratification induced by the WSIP would increase the growth of algae.

Section 5.5.3.2, page 5.5.3-7: The first paragraph under the heading "Pilarcitos Reservoir" is revised as follows to refine the water quality analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Pilarcitos Reservoir

Figure 5.5.1-6 shows recent past storage levels in Pilarcitos Reservoir from 1998 to 2006. Under the existing condition, the reservoir is drawn down through the summer, reaching minimum storage in October and November, just before the rainy season begins. With the WSIP, drawdown would occur more rapidly in ~~many~~ some years. The ~~increased~~ more rapid drawdown attributable to the proposed program could cause the reservoir to destratify earlier than under existing conditions. This would not adversely affect water quality; in fact, mechanical destratification in the fall has been recommended to the SFPUC as a means of improving water quality (SFPUC, 2002).

Section 5.5.3.2, page 5.5.3-7: The first paragraph under the heading "Pilarcitos Creek between Pilarcitos Reservoir and Stone Dam" is revised as follows to refine the water quality analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Pilarcitos Creek Between Pilarcitos Reservoir and Stone Dam

The WSIP could affect water quality in Pilarcitos Creek between Pilarcitos Reservoir and Stone Dam in two ways – by altering the quality of water released from Pilarcitos Reservoir to the creek and by altering flow in the creek. As discussed above, with the WSIP in place, the volume of the pool of cool water in Pilarcitos Reservoir below the thermocline would be reduced earlier in the year in some years compared to the existing condition, but the quality of water released to Pilarcitos Creek from the reservoir would change little.

Section 5.5.3.2, page 5.5.3-8: The first full paragraph is revised as follows to refine the water quality analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

The proposed program would also reduce flow in Pilarcitos Creek between Pilarcitos Reservoir and Stone Dam in wet months of some wet years. It is not expected that the wet-year flow reductions would have an adverse effect on water quality in the stream because, during the winter, water in the creek would be cool and well oxygenated.

Section 5.5.3.2, page 5.5.3-8: The second paragraph under the heading "Pilarcitos Creek Below Stone Dam" is revised as follows to refine the water quality analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

With the WSIP, less water would pass over Stone Dam in ~~wet~~ winters of wet, above normal, and normal years than it does under the existing condition. It is unlikely that the reductions in spill over Stone Dam would have much effect on water quality in Pilarcitos Creek below Stone Dam. The reductions in spills would occur in months of wet, above

normal, and normal years when runoff from the Pilarcitos Creek watershed below Stone Dam would be high. For this reason, the effect of the flow reductions on water quality in the creek below Stone Dam would be minor.

Section 5.5.3.2, page 5.5.3-9: The text under the heading "Impact Summary" is revised as follows to refine the water quality analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Impact Summary

The ~~Overall~~ adverse impacts of the WSIP on water quality ~~in Pilarcitos Reservoir and~~ along Pilarcitos Creek between Pilarcitos Reservoir and Stone Dam would be *potentially significant*; however implementation of Measure 5.5.3-2a~~, Revised Operations Plan for Pilarcitos Watershed Facilities~~ Low-head Pumping Station at Pilarcitos Reservoir, would restore flow to this reach of Pilarcitos Creek in the late summer ~~maintain the current storage levels in the reservoir~~ and reduce the impact to a less than significant level.

The adverse impacts of the WSIP on water quality in Pilarcitos Reservoir would also be potentially significant. Furthermore, Measure 5.5.3-2a, Low-head Pumping Station at Pilarcitos Reservoir, would exacerbate adverse impacts on water quality at the reservoir by lowering the water level in some summers. Implementation of Measure 5.5.3-2b, Aeration System at Pilarcitos Reservoir, would improve water quality and reduce impacts in the reservoir to a less than significant level.

Section 5.5.5.2, page 5.5.5-5: The text under "Approach to Analysis" is revised as follows to better describe the refined analysis of impacts on resources in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Approach to Analysis

Changes in reservoir storage and water levels in the San Mateo Creek watershed and changes in reservoir storage, water levels and stream flows in the Pilarcitos Creek watershed attributable to the WSIP were estimated using the HH/LSM. An overview of the model is presented in Section 5.1. Detailed information on the model and the assumptions that underlie it ~~is~~ are provided in Appendix H. Changes in flow in streams in the San Mateo Creek ~~and Pilarcitos watersheds and changes in reservoir storage and water levels in the Pilarcitos~~ watershed attributable to the WSIP were estimated semi-quantitatively based on interviews with individuals knowledgeable about the historical, current, and expected future (with-WSIP) water system operations.

Section 5.5.5.2, page 5.5.5-6, Table 5.5.5-1: Table 5.5.5-1 is revised as follows to reflect the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

TABLE 5.5.5-1
SUMMARY OF IMPACTS – FISHERIES
IN SAN FRANCISCO PENINSULA STREAMS AND RESERVOIRS

Impact	Significance Determination
Impact 5.5.5-1: Effects on fishery resources in Crystal Springs Reservoir (Upper and Lower)	PSU
Impact 5.5.5-2: Effects on fishery resources in San Andreas Reservoir	LS
Impact 5.5.5-3: Effects on fishery resources along San Mateo Creek	LS
Impact 5.5.5-4: Effects on fishery resources in Pilarcitos Reservoir	PSM*
Impact 5.5.5-5: Effects on fishery resources along Pilarcitos Creek below Pilarcitos Reservoir	PSM

LS = Less than Significant impact, no mitigation required
PSM = Potentially Significant impact, can be mitigated to less than significant
PSU = Potentially Significant impact, unavoidable

* Based on the refined Pilarcitos watershed impact analysis (see Section 13.3), this impact is PSM due to adverse effects that would result from implementing replacement Measure 5.5.3-2a.

Section 5.5.5.2, pages 5.5.5-7 and 5.5.5-8: The text under Impact 5.5.5-4, Effects on fishery resources in Pilarcitos Reservoir, is revised as follows to refine the fishery analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

> Storage in Pilarcitos Reservoir varies seasonally. The reservoir typically fills in the winter and is drawn down in the late spring and summer. By late summer, releases from the reservoir are typically limited to reservoir inflow. The volume of habitat available for resident aquatic species varies seasonally from about 3,000 acre-feet in the winter and spring to 1,600 acre-feet in the late summer or fall.
>
> With the WSIP, the reservoir would be drawn down more rapidly and earlier in the season than under the existing condition. The period in which the reservoir would be at its minimum elevation would be extended by days or weeks. ~~The reduction in summer storage would reduce the~~The volume of habitat ~~potentially~~ available for resident aquatic species would be at its minimum. ~~This impact would be *potentially significant*.~~ Because the WSIP would cause ~~Reductions in~~ the volume of water stored within Pilarcitos Reservoir to reach its seasonal minimum several days or weeks earlier in the year than under the existing condition, it ~~under proposed operations~~ would also be expected to reduce the coldwater pool volume within the reservoir hypolimnion to its seasonal minimum earlier in the year. This ~~which~~ could in turn have an adverse effect on resident coldwater species in the reservoir. However, because water is released from close to the surface of the reservoir, a cool water pool is usually retained below the level of the outlet. ~~Still, WSIP-induced water quality impacts on fishery habitat in the reservoir would be potentially significant.~~ Overall, the impacts of the proposed program on ~~related to a reduction in the volume and suitability of habitat potentially available for~~ resident aquatic species in Pilarcitos Reservoir would be *less than* ~~*potentially*~~ *significant.*

Implementation of Measure 5.5.3-2a, ~~Revised Operations Plan for Pilarcitos Watershed Facilities~~ Low-head Pumping Station at Pilarcitos Reservoir, would ~~maintain the current storage levels in the reservoir and reduce these impacts to a less-than-significant level~~ reduce the storage volume in Pilarcitos Reservoir by about 350 acre-feet in the late summer and fall of about one in four years. In these years, the seasonal minimum storage volume in Pilarcitos Reservoir would be 1,600 to 1,700 acre-feet. However, implementation of Measure 5.5.3-2b, Aeration System at Pilarcitos Reservoir, would improve water quality at such times as the reservoir was drawn down. The periodic reduction in volume of water available to aquatic species, attributable to Measure 5.5.3-2a, coupled with the improvement in water quality attributable to Measure 5.5.3-2b would have a *less-than-significant* impact on resident aquatic species.

Section 5.5.5.2, page 5.5.5-8: The text under the heading "Pilarcitos Creek Below Pilarcitos Reservoir" is revised as follows to refine the fishery analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Pilarcitos Creek Below Pilarcitos Reservoir

Flow in Pilarcitos Creek would increase during many spring and early summer months as a result of the WSIP; however, flow reductions would occur during the summer of dry years. Under the WSIP ~~proposed operations~~, instream flow releases (other than dam seepage and reservoir inflow) would cease in Pilarcitos Creek downstream of Pilarcitos Reservoir during summer months of dry years at an earlier date ~~with the WSIP~~ than under the existing condition. Flow reductions in Pilarcitos Creek downstream of Pilarcitos Reservoir under the WSIP ~~proposed operations~~ would result in potentially significant impacts on resident trout, other resident fish species and aquatic resources. ~~and habitat quality and availability for anadromous steelhead.~~

In addition, as described above, releases from Pilarcitos Reservoir to Pilarcitos Creek are made from close to the surface of the reservoir, so summer and fall releases under existing conditions are warm. With the proposed program in place, summer and fall releases would also be warm (possibly warmer at times ~~in the fall~~), because Pilarcitos Reservoir would be drawn down several days or weeks earlier ~~farther~~ than under the existing condition. Exposure to higher water temperatures in the late summer and fall could significantly affect habitat quality and availability for coldwater fish species inhabiting Pilarcitos Creek below Pilarcitos Reservoir, including ~~both~~ resident trout ~~and anadromous steelhead~~. This would be a potentially significant impact.

Section 5.5.5.2, page 5.5.5-8 and 5.5.5-9. The text under the heading "Pilarcitos Creek Below Stone Dam" is revised as follows to refine the fishery analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Pilarcitos Creek Below Stone Dam

~~Pilarcitos Creek below Stone Dam provides potential habitat for anadromous salmonids.~~ Pilarcitos Creek supports a population of anadromous steelhead. The creek channel is used as a migration corridor for upstream migration of adults and downstream migration of both adults and juvenile steelhead between approximately December 1 and May 31. Under the proposed WSIP, winter flows within the creek below Stone Dam, during normal or wetter hydrologic years, would be reduced. Although no specific barriers to passage have been identified downstream of Stone Dam, this reduction in peak winter flows could potentially adversely impact steelhead migratory passage and spawning at critical riffles and gravel bars due to the shallow nature of these habitat types.

Currently, there are occasional spills over Stone Dam when releases from Pilarcitos Reservoir and runoff into Pilarcitos Creek above Stone Dam exceed the capacity of the diversion at the dam. The spills occur in the winter months of wet, above normal and normal years. With implementation of the proposed program, occasional spills over Stone Dam would continue but with ~~somewhat~~ reduced frequency and magnitude. The volume of spills in average wet, above normal, and normal years would be reduced by 11, 60, and 25 percent, respectively.

Approximately, one-third of the Pilarcitos Creek watershed lies upstream of Stone Dam, and most of the runoff from the watershed is used for municipal water supply by the SFPUC and Coastside CWD. Spills over Stone Dam currently provide up to ~~one-third~~ 15 percent of the flow in the ~~this~~ lower reach of Pilarcitos Creek in Half Moon Bay, based on data from gages just downstream of Stone Dam and in Half Moon Bay.

With the WSIP, spills would be reduced and flow in Pilarcitos Creek would be reduced in the winter months, when occasional large flows are important to migratory fish. The effects of the reduced spills would be primarily felt in the reach of Pilarcitos Creek from Stone Dam to the first major downstream tributary at Albert Canyon. ~~Consequently, t~~The reduction in flows due to the WSIP ~~operations~~ and related impacts on fish habitat would be potentially significant. In addition, the National Marine Fisheries Service has raised concerns regarding stream flows in Pilarcitos Creek below Stone Dam, and the SFPUC is currently making experimental summer releases and undertaking studies in an effort to address these concerns.

Section 5.5.5.2, page 5.5.5-9: The text under the heading "Impact Conclusions" is revised as follows to refine the fishery analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Impact Conclusions

Overall, impacts on fishery resources along Pilarcitos Creek between ~~below~~ Pilarcitos Reservoir and Stone Dam related to reduced flows, degraded water quality and elevated temperatures in the late summer and fall ~~and reduced flows in the winter months~~ would be *potentially significant*. Implementation of Measures 5.5.3-2a, Low-head Pumping Station at Pilarcitos Reservoir, and Measure 5.5.3-2b, Aeration System at Pilarcitos Reservoir, ~~Revised Operations Plan for Pilarcitos Watershed Facilities~~ would reduce this potential impact to a less-than-significant level.

Impacts on fishery resources in Pilarcitos Creek below Stone Dam related to reduced wintertime flows would be *potentially significant*. Implementation of Measure 5.5.5-5, Establish Flow Criteria, Monitor and Augment Flow, would reduce this potential impact to a *less-than-significant* level.

Section 5.5.6.2, page 5.5.6-14, Table 5.5.6-4: Table 5.5.6-4 is revised as follows to reflect the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

TABLE 5.5.6-4
SUMMARY OF IMPACTS –
TERRESTRIAL BIOLOGICAL RESOURCES IN THE PENINSULA WATERSHED

Impacts	Sensitive Habitats	Key Special-Status Species	Other Species of Concern	Common Habitats and Species
Impact 5.5.6-1: Impacts on biological resources in Upper and Lower Crystal Springs Reservoirs	PSM	PSM	PSM	PSM
Impact 5.5.6-2: Impacts on biological resources in San Andreas Reservoir	LS	LS	LS	LS
Impact 5.5.6-3: Impacts on biological resources along San Mateo Creek below Lower Crystal Springs Dam	LS	LS	LS	LS
Impact 5.5.6-4: Impacts on biological resources in Pilarcitos Reservoir	LS	PSM*	LS	LS
Impact 5.5.6-5: Impacts on biological resources along Pilarcitos Creek below Pilarcitos Reservoir	~~PSM~~LS	LS	LS	LS
Impact 5.5.6-6: Impacts on biological resources along Pilarcitos Creek below Stone Dam	LS	LS	LS	LS
Impact 5.5.6-7: Conflicts with the provisions of adopted conservation plans or other approved biological resource plans	LS			

LS = Less than Significant impact, no mitigation required
PSM= Potentially Significant impact, can be mitigated to less than significant

* Based on the refined Pilarcitos watershed impact analysis (see Section 13.3), this impact is PSM due to adverse effects that would result from implementing replacement Measure 5.5.3-2a.

Section 5.5.6.2, page 5.5.6-19: The first two paragraphs in Impact 5.5.6-4 are revised as follows to refine the biological resources analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Sensitive Habitats

~~Greater~~ The earlier drawdown of the reservoir under the WSIP would not increase the extent of unvegetated, weedy, or seasonal wetland areas below the maximum water levels, although these areas would be exposed several days or weeks earlier than under the existing condition in some years. ~~Existing freshwater emergent vegetation is already limited to areas that receive groundwater seepage or year-round surface water flow at the mouths of the tributary streams. Although the greater drawdown could slightly reduce the extent of areas supporting sensitive freshwater marsh habitat, t~~This impact would be less-than-significant.

Key Special-Status Species

Proposed operations with the WSIP at Pilarcitos Reservoir would have no effect on ~~slightly reduce~~ the extent of suitable habitat at the ~~Pilarcitos R~~reservoir for California red-legged frog and San Francisco garter snake. ~~,a *potentially significant* impact. However,~~ Similarly, the extent and condition of adjacent upland vegetation would not be affected by the proposed reservoir operations. As a result, the WSIP would have no effect on species such as the marbled murrelet that ~~this impact would not apply to~~ nest~~ing~~ or forage~~ing~~ in upland habitats adjacent to the reservoir.~~for species such as the marbled murrelet.~~

Section 5.5.6.2, page 5.5.6-20: The second paragraph on this page is revised as follows to refine the biological resources analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Impact Conclusions

Impacts of the WSIP on sensitive habitats, key special-status species, other species of concern, and common habitats and species at Pilarcitos Reservoir would be *less than ~~potentially~~ significant.* However, ~~I~~implementation of Measure 5.5.3-2a, Low-head Pumping Station at Pilarcitos Reservoir, ~~Revised Operations Plan for Pilarcitos Watershed Facilities, would maintain storage levels similar to existing conditions and~~ would lower the water level in the reservoir by 3 or 4 feet in some summers. This could have a potentially significant impact on the extent of suitable habitat at the reservoir for California red-legged frog and the San Francisco garter snake. Implementation of Measure 5.5.3-2c, Habitat Monitoring and Compensation, would reduce this impact to a less-than-significant level.

Section 5.5.6.2, page 5.5.6-20: The text under Impact 5.5.6-5 under the heading "Sensitive Habitats" is revised as follows to refine the biological resources analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Sensitive Habitats

Under the WSIP, flow in Pilarcitos Creek between Pilarcitos Reservoir and Stone Dam would increase in some spring months ~~during normal and better rainfall years~~, a beneficial impact. In the summer months of some drier ~~dry~~ years, the period during which releases from Pilarcitos Reservoir would be limited to reservoir inflow ~~cease~~ would be extended, potentially for up to three months. Because willows exist ~~White alder, the dominant species~~ in the riparian forest in this section, ~~requires~~ it is apparent that the riparian forest is adapted to periods without flowing water ~~and without it could become stressed or could die~~. ~~Although there is some seepage from Pilarcitos Dam as well as flow from lateral tributaries, this seepage would decrease during an extended drought.~~ The channel-forming processes in Pilarcitos Creek would be reduced insignificantly under the WSIP. Thus, some changes in flow would be beneficial and some adverse. ~~Conservatively, t~~The overall impact on sensitive riparian habitat is considered *less than ~~potentially~~ significant.*

Section 5.5.6.2, page 5.5.6-21: The text under the heading "Impact Conclusions" is revised as follows to refine the biological resources analysis in the Pilarcitos watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Impact Conclusions

Impacts on sensitive riparian habitat at Pilarcitos Creek ~~below~~ between Pilarcitos Reservoir and Stone Dam would be *less than* ~~*potentially*~~ *significant*. ~~Implementation of Implementation of Measure 5.5.3-2, Revised Operations Plan for Pilarcitos Watershed Facilities, would maintain reservoir storage levels similar to existing conditions and would reduce this impact to a less-than-significant level.~~

Section 5.5.7.1, p. 5.5.7-3: The first and second paragraphs are revised as follows in response to a comment (see **Response L_CoastsideCWD-17**).

Pilarcitos Creek starts at Pilarcitos Reservoir within the SFPUC Peninsula watershed. No water recreation or access to this reservoir is allowed. The creek runs south until it reaches Highway 92, then runs west ~~through portions of the Golden Gate National Recreation Area (GGNRA) and Rancho Corral de Tierra~~ to its mouth on the Pacific Ocean within Half Moon Bay State Beach. ~~Numerous public trails throughout the GGNRA and Rancho Corral del Tierra provide access to Pilarcitos Creek.~~ No organized recreational activities are established within or adjacent to the creek in the upper watershed. However, ~~T~~trails within Half Moon Bay State Beach run adjacent to and across Pilarcitos Creek, and the public is allowed access to portions of ~~the~~ this stretch of the creek (Bay Area Hiker, 2007).

5.6 Westside Groundwater Basin Resources

Section 5.6.1.3, page 5.6-8: The last paragraph is revised as follows in response to a comment (see **Response SI_TRT-CWA-SierraC-27**).

Other continued uses of irrigation pumping in the South Westside Groundwater Basin in 2005 were consistent with historical pumping rates and are estimated at up to 2.1 mgd (2,400 afy) of irrigation pumping for cemeteries in Colma, and 0.1 mgd (120 to 150 afy) of irrigation pumping for the California Golf Club[8] in South San Francisco~~, and an undetermined amount of groundwater pumping for irrigation of the Golden Gate National Cemetery in San Bruno~~ (Luhdorff and Scalmanini, 2006). The Golden Gate National Cemetery in San Bruno has historically used groundwater for irrigation, but the cemetery has not been irrigated using groundwater for over 20 years (Schem, 2007).

Section 5.6.1.5, page 5.6-13: The text as follows is added at the end of the third paragraph in response to a comment (see **Response L_DalyCty-38**).

However, Lake Merced has not been used as a potable water supply since the 1930s. Refer to Table 4.5-1 for a description of the existing beneficial uses of Lake Merced.

Section 5.6.1.7, page 5.6-17: The last sentence of the first full paragraph is revised as follows in response to a comment (see **Response L_SBruno-06**).

> The City of San Bruno ~~is~~ constructed~~ing~~ two monitoring well~~s~~ clusters in 2006 along the bay side that ~~should~~ have provided additional geologic information and allow for monitoring of groundwater levels and groundwater quality at different depths along the bay margin. ~~insight into the mechanisms preventing seawater intrusion.~~

Section 5.6.1.8, page 5.6-17: The last sentence of the third full paragraph is revised as follows in response to a comment (see **Response L_SBruno-07**).

> In the South Westside Groundwater Basin, manganese has exceeded the secondary drinking water standard in San Bruno and Daly City in the untreated groundwater, but the water is treated to meet secondary standards prior to use in the water supply.

Section 5.6.1.11, page 5.6-21: The last sentence of the third paragraph is revised as follows in response to a comment (see **Response L_DalyCty-41**):

> Chapter 13.20 of the Daly City Municipal Code specifies well permitting requirements for Daly City. ~~, but~~ Although this code does not include provisions related to overdraft of the Westside Groundwater Basin, Section 13.20.070 allows for denial of a permit when the request is judged not to be in the public interest.

Section 5.6.1.11, pages 5.6-21 to 5.6-22: The last partial paragraph that begins on page 5.6-21 and ends on page 5.6-22 is revised as follows in response to a comment (see **Response L_SBruno-09**):

> In accordance with Section 4.68.225 of the San Mateo County Code, the San Mateo County Environmental Health Division would not grant a well permit for a large well[12] ~~in a public park, cemetery, or golf course~~ that could potentially cause overdraft of the South Westside Groundwater Basin or be located in an area subject to a specific and localized groundwater problem. The Environmental Health Division could also deny, revoke, or suspend a permit for a large well to avoid pollution or contamination of water resources.

Section 5.6.2.2, page 5.6-25: The last sentence of the third full paragraph is revised as follows in response to a comment (see **Response L_DalyCty-42**).

> During drought conditions, the SFPUC would be able to reduce the quantity of SFPUC system water delivered to the participating pumpers, and the stored groundwater, or banked water, would be available for local use to supplement supplies from the regional water system.

Section 5.6.2.2, page 5.6-33: The following reference is added after (SFPUC, 2007) in response to a comment (see **Response SI_TRT-CWA-SierraC-27**).

> Schem, Clifford, U.S. Department of Veterans Affairs, National Cemetery Administration, personal communication with Greg Bartow, San Francisco Public Utilities Commission, September 7, 2007.

5.7 Cumulative Projects and Impacts Related to WSIP Water Supply and System Operations

Section 5.7.2.1, page 5.7-11: The first sentence of the third full paragraph under the heading "Expansion of MID Municipal Treatment Plant" is revised as follows to correct an editorial error:

> MID owns and operates a ~~30~~ 40-mgd municipal water treatment plant that obtains water from Modesto Reservoir.

Section 5.7.3.2, page 5.7-55, Figure 5.7-3: This figure is revised as shown on the following page in response to comments described in **Section 14.9, Master Response on Alameda Creek and Fishery Issues**.

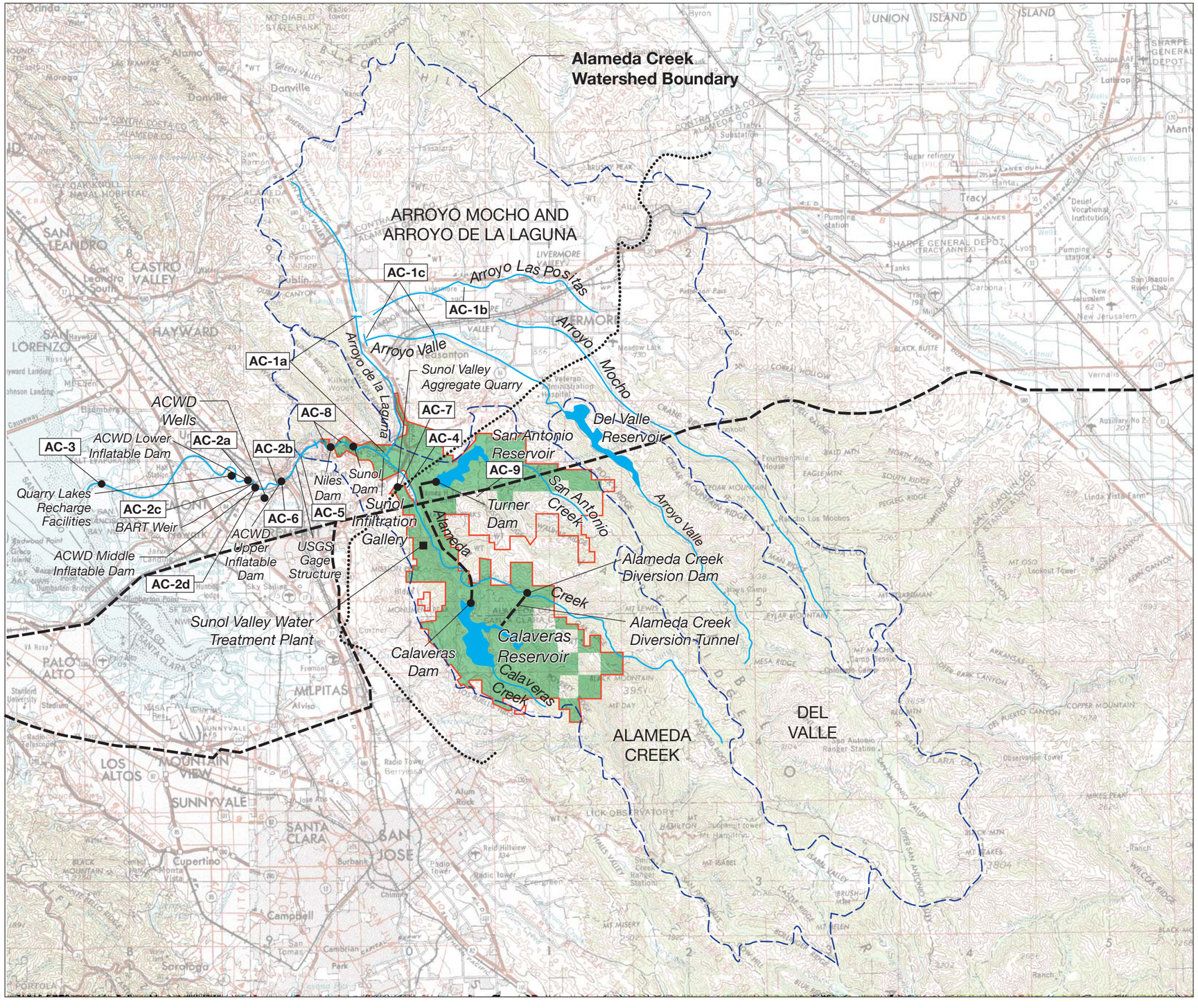
Section 5.7.3.2, page 5.7-65: The first full paragraph is revised as follows in response to comments described in **Section 14.9, Master Response on Alameda Creek and Fishery Issues**.

> **Cumulative Effects and WSIP Contribution**
>
> **Table 5.7-15** summarizes the effects of past and present projects, the impacts of the WSIP, the effects of probable future projects, and the combined impacts of the WSIP plus probable future projects on the Alameda Creek watershed. Past and present projects have substantially altered the hydrology, geomorphology, surface water quality, groundwater, fisheries, and terrestrial biology of this portion of the Alameda Creek watershed compared to pre-Euro-American settlement conditions. Visual and recreational resources have been moderately altered. The existing condition, which serves as the baseline for the analysis of the WSIP, reflects the substantial environmental changes that have occurred as a result of the past projects. Because past and present actions have drastically altered ~~this portion of~~ the Alameda Creek watershed, some of the environmental resources are more sensitive to small adverse changes than they would be if the ~~reach~~ watershed had remained relatively unaltered from pre-Euro-American settlement conditions.

Section 5.7.3.2, page 5.7-65, Table 5.7-15: The last row of Table 5.7-15 is revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project.

TABLE 5.7-15
CUMULATIVE EFFECTS ON THE ALAMEDA CREEK WATERSHED

Resource	Effects of Past and Present Projects	Impacts of WSIP (prior to mitigation/ after mitigation)	Effects of Other Future Projects	Cumulative Impact (WSIP after mitigation + Future Projects)	WSIP Contribution Cumulatively Considerable?
Hydrology	SA	SU/SU[a]	N/A	N/A	No
Geomorphology	SA	LS	LS	LS	No
Surface Water Quality	SA	LS	LSM	LS	No
Groundwater	SA	LS	LS	LS	No
Fisheries	SA	PSM/LS[a]	B	LS	No
Terrestrial Biology	SA	PSM/LS[a]	B	LS	No
Recreational/Visual Quality	MA	~~PSM/~~LS[a]	LS	LS	No



Watershed Boundary

Existing SFPUC System Corridor

AP-1 Other SFPUC Project

AC-1 Non-SFPUC Project

CCSF Ownership
(also project boundary for AP-1, AP-2, AP-3)

HCP Study Area (also project boundary for AP-1a)

DWR South Bay Aqueduct

See Table 5.7-13 for names and descriptions of projects

Cumulative Project No.	Plan/Project Name
OTHER SFPUC PROJECTS (not shown on figure as watershed wide)	
AP-1	Alameda Watershed Management Plan (WMP)
AP-1a	Alameda Watershed Habitat Conservation Plan (sub-project of Alameda WMP)
AP-2	Watershed and Environmental Improvement Program (WSIP-related activity)
AP-3	Habitat Reserve Program (WSIP-related activity)
NON-SFPUC PROJECTS	
AC-1	Zone 7 Stream Management Master Plan (SMMP)
AC-1a	Arroyo de la Laguna Reach 10 Improvements (sub-project of Zone 7 SMMP)
AC-1b	Chain of Lakes (sub-project of Zone 7 SMMP)
AC-1c	Lower Arroyo del Valle Restoration and Enhancement (sub-project of Zone 7 SMMP)
AC-2	Alameda Creek Steelhead Restoration
AC-2a	Rubber Dam 2 Decommissioning and Foundation Modification Project (sub-project of Alameda Creek Steelhead Restoration)
AC-2b	Alameda Creek Pipeline No. 1 Fish Screen (sub-project of Alameda Creek Steelhead Restoration)
AC-2c	BART Weir (sub-project of Alameda Creek Steelhead Restoration Efforts)
AC-2d	Middle Inflatable Dam Modification
AC-3	Alameda Creek – Levee Reconfiguration
AC-4	PG&E Gas Line Crossing
AC-5	Stonybrook Creek Culvert Removal
AC-6	Upper Inflatable Dam Fish Passage Project
AC-7	Sunol Valley Aggregate Quarry – SMP 30
AC-8	Section 1135 Alameda Creek Flood Control Project Fish Passage Modifications
AC-9	Apperson Ridge Quarry

SOURCE: ESA + Orion

0 20
Miles

SFPUC Water System Improvement Program . 203287

Figure 5.7-3 (Revised)
Future Projects in the Alameda Creek Watershed Considered in the Cumulative Analysis

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Section 5.7.3.2, page 5.7-66: The third full paragraph on page 5.7-66 is revised as follows and the following paragraph is inserted after the third full paragraph on this page in response to comments described in **Section 14.9, Master Response on Alameda Creek Fishery Issues**.

> Implementation of the WSIP would substantially reduce flows in the reach of Alameda Creek from the diversion dam to below its confluence with Calaveras Creek compared to existing conditions (Impact 5.4.1-2). This impact was determined to be significant and unavoidable, even with implementation of Measure 5.4.1-2 (Diversion Tunnel Operation) and bypass flows included as part of the protective measures in the Calaveras Dam Replacement project (SV-2). However, no other past, present, or future projects were identified that would further reduce the stream flow in this reach of Alameda Creek, and some of the projects listed in Table 5.7-13 could enhance the flow. Thus, there would be no adverse cumulative impact on hydrology associated with past, present, and future projects, and the WSIP's contribution to the cumulative impact on hydrology is not applicable.
>
> Due to agreements and ongoing actions regarding the implementation of fish passage improvement projects in lower Alameda Creek (as described in Section 5.4.5 of the Draft PEIR), it is possible that steelhead will be restored to the Alameda Creek watershed reaches upstream of the BART weir by 2030. More specifically, steelhead may be restored during construction or operation of the Calaveras Dam Replacement project (SV-2) under the WSIP. In response to this scenario, the SFPUC has modified the WSIP program description—mainly that of the Alameda Creek Fishery Enhancement (SV-1) and Calaveras Dam Replacement (SV-2) projects—to incorporate protective measures for steelhead in the event that man-made barriers in Alameda Creek have been successfully removed and that steelhead migration, spawning, and rearing have been restored in Alameda Creek above the BART weir. The protective measures incorporated into the operations of the Calaveras Dam Replacement project would address future-occurring steelhead and would provide for a range of minimum bypass flows and releases at the Alameda Creek Diversion Dam and Calaveras Dam to support steelhead migration, spawning, and rearing. The program as revised, and with implementation of mitigation measures identified in the Draft PEIR, which together include minimum bypass flows to support the various life stages and habitat requirements for steelhead, would have a less-than-significant contribution to cumulative impacts on fishery resources in the Alameda Creek watershed. Please refer to Chapter 14, Section 14.9, of the Final PEIR for further discussion.

Section 5.7.4.1, page 5.7-71: The legend for Figure 5.7-4 is revised as follows in response to a comment (see **Response SI_CNPS-SCV1-09**) and to correct an editorial error. The revised figure is shown on page 16-89.

> PP-1a Peninsula Watershed Habitat Conservation Plan (sub-project of ~~Alameda~~ Peninsula WMP)

Section 5.7.5.1, page 5.7-87: The first bullet under the heading "Municipal Pumping" is revised as follows in response to a comment (see **Response L_DalyCty-44**).

- In its 2005 UWMP, the City of Daly City estimates that future municipal groundwater pumping under the WSIP conjunctive-use program (Regional Groundwater Projects, SF-2) would range from 1.34 mgd (1,501 afy) during a nondrought year when surface water is supplied by the SFPUC to 3.76 mgd (4,212 afy) during a drought year when the city is also allowed to pump its banked groundwater (City of Daly City, 2005). These projected pumping volumes are presented in Table 4-4 of the 2005 UWMP.

Section 5.7.5.1, page 5.7-87: The third bullet is revised as follows in response to two comments (see **Responses L_SBruno-12 and L_SBruno-17**).

- The 200~~6~~7 UWMP for the San Bruno does not yet reflect long-term participation in the SFPUC's proposed conjunctive-use program, but, if approved, participation in this program is expected to be included in the next revision of its UWMP. In its 200~~6~~7 UWMP, the City of San Bruno estimates that overall, groundwater usage will decrease from 2.5 mgd (2,800 afy) in 2010 to zero in 2030 through implementation of conservation measures and increased purchases from the SFPUC. In a drought year, groundwater use between 2010 and 2030 is projected to range from 0.80 mgd (896 afy) to a maximum of 2.5 mgd (2,800 afy) (City of San Bruno, 200~~6~~7).

Section 5.7.5.2, page 5.7-90: The first sentence of under Impact 5.7.5-2 is revised as follows in response to a comment (see **Response L_SBruno-13**).

Future and continuing projects identified in the northern portion of the South Westside Groundwater Basin include the WSIP conjunctive-use program (the regional component of SF-2), municipal pumping by the participating pumpers, and continued irrigation pumping at 2,600 afy.

Section 5.7.5.2, page 5.7-91: The second bullet is revised as follows in response to a comment (see **Response L_DalyCty-45**).

- Under the proposed conjunctive-use program, the participating pumpers collectively would not be allowed to pump more than the quantity of banked groundwater resulting from the in-lieu delivery of SFPUC system water.

Section 5.7.5.2, page 5.7-91: The first sentence of the last paragraph is revised as follows in response to a comment (see **Response L_SBruno-09**).

Furthermore, as discussed in Section 5.6, the San Mateo County Environmental Health Division would not grant a well permit for a large well[1] ~~in a public park, cemetery, or golf~~

[1] A large well means any individual well that pumps an amount equal to or greater than 50 gallons per minute or 1,000 gallons per day, or multiple small wells on the same land use parcel which cumulatively pump an amount equal to or greater the 50 gallons per minute or 1,000 gallons per day.

PP-1 Other SFPUC Project

PC-1 Non-SFPUC Project

CCSF Ownership (also project boundary for PP-1, PP-2, PP-3)

Pilarcitos Creek Watershed Boundary (also project boundary for PC-2)

See Table 5.7-16 for names and descriptions of projects

Cumulative Project No.	Plan/Project Name
OTHER SFPUC PROJECTS	
PP-1	Peninsula Watershed Management Plan (WMP)
PP-1a	Peninsula Watershed Habitat Conservation Plan (sub-project of Peninsula WMP)
PP-2	Watershed and Environmental Improvement Program (WSIP-related activity)
PP-3	Habitat Reserve Program (WSIP-related activity)
NON-SFPUC PROJECTS	
PC-3	Lower Crystal Springs Dam Road Reconstruction
PC-2	Pilarcitos Creek Integrated Watershed Management Plan
PC-3	San Mateo Creek Mouth Improvements

SOURCE: ESA + Orion

SFPUC Water System Improvement Program . 203287

Figure 5.7-4 (Revised)
Future Projects in the Peninsula Watershed Considered in the Cumulative Analysis

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~~course~~ that could potentially cause overdraft of the South Westside Groundwater Basin or be located in an area subject to a specific and localized groundwater problem.

Section 5.7, page 5.7-100: The sixth reference under Westside Groundwater Basin Resources is revised as follows in response to a comment (see **Response L_SBruno-17**).

City of San Bruno, ~~*Public Draft*~~ *Final Urban Water Management Plan*. ~~December 2006~~ January 2007.

Attachment 5-A (End of Chapter 5)

Attachment 5-A, page 5-A-2, The revision is the same as that described below under Section 6.4, page 6-48.

Attachment 5-A, pages 5-A-2 and 5-A-3. Same revision as Section 6.4.2, pages 6-48 and 6-49.

Attachment 5-A, page 5-A-4. Same revision as Section 6.5.2, page 6-50.

Attachment 5-A, pages 5-A-6 and 5-A-7. Same revision as Section 6.4.3, pages 6-52 and 6-53 below.

Attachment 5-A, page 5-A-9. Same revision as Section 6.4.3, page 6-55.

Attachment 5-A, pages 5-A-10 and 5-A-11. Same as the multiple revisions to Section 6.4.4, pages 6-56 and 6-57 below.

Volume 4, Chapter 6

6.3 Mitigation Measures to Minimize Facilities Impacts

Section 6.3.5, page 6-11: The first paragraph of Measure 4.6-1b is revised as follows in response to comments (see **Responses S_RWQCBCV-06** and **S_RWQCBSF-06**).

Measure 4.6-1b: If the wetland delineation indicates that the WSIP project will affect jurisdictional wetlands or aquatic resources, then, in accordance with state and federal permit requirements, the SFPUC will avoid and minimize direct and indirect impacts such as erosion and sedimentation, alteration of hydrology, and degradation of water quality. As a first priority, the SFPUC will implement (1) avoidance measures. For unavoidable impacts, the SFPUC will implement (2) minimization of unavoidable impacts, (3) restoration procedures, and (4) compensatory creation or enhancement to ensure no net loss of wetland extent or function.

Section 6.3.5, page 6-11: The third sentence of the second paragraph of Measure 4.6-1b is revised as follows in response to a comment (see **Response SI_ACA1-21**).

For each WSIP project, a qualified biologist will quantify the magnitude and extent of impacts to wetlands, sensitive habitats, and key special-status species and other species of

concern, and the SFPUC will develop and implement restoration and/or compensation plans that meet the appropriate regulatory requirements and permit conditions with respect to restoration and/or compensation ratios. Compensation ratios typically range from a minimum of 1:1 for common habitats to 2:1 or higher for rare and sensitive habitats. If individual project requirements of the RWQCB, CDFG, or USFWS differ somewhat from these ratios, they are still intended to achieve the same purpose of full restoration and/or compensation, ~~other conservation measures and management requirements~~ to mitigate project impacts to less-than-significant levels, and to ensure no net reduction in the populations of any species listed as threatened or endangered by the state or federal resource agencies.

Section 6.3.5, page 6-14, Table 6-1: The revision in the sixth column of Table 6-1 (Measure 4.6-3b) is made to correct an editorial error.

TABLE 6.1 (SEE MEASURE 4.6-3b)
MITIGATION MEASURES FOR KEY SPECIAL-STATUS SPECIES

No.	**Project Name** **Notes:** **1. This table is for guidance only and is not intended as a complete list of mitigations for all projects, which must be assessed individually at the project-specific level.** **2. Standard measure B.4 (general surveys for raptors and protection of raptor nests) apply to all projects.**	**Suites of Key Special-Status Species**					
		Vernal Pool Invertebrates	Vernal Pool Plants	Riparian and Reservoir Species	Native Grassland Species	Salt Marsh Species	Fishes
SV-2	Calaveras Dam Replacement			B.5	I.3~~, M.4~~		F.1
SV-3	Additional 40-mgd Treated Water Supply			B.5	~~M.4~~		
SV-4	New Irvington Tunnel			B.5	~~M.4~~		F.1
SV-5	SVWTP – New Treated Water Reservoirs			B.5	~~M.4~~		F.1
SV-6	San Antonio Backup Pipeline			B.5	~~M.4~~		F.1

Section 6.3.5, page 6-20, Table 6-2: The following text in the last row of Table 6-2 (Measure 4.6-3b) is revised as follows to correct an editorial error.

TABLE 6.2 (MEASURE 4.6-3b)
STANDARD PROGRAMMATIC BIOLOGICAL RESOURCES MITIGATION MEASURES

Biological Resource Species and Status	Standard Mitigation Measures for Specific Plants and Animals
San ~~Francisco~~ Mateo Woolly Sunflower (FE/CE), Marin Western Flax (FT/CT) Fountain thistle (FE/CE)	**P.4:** Surveys for San ~~Francisco~~ Mateo woolly sunflower, fountain thistle and Marin western flax will be carried out at an appropriate time of year for projects located within the known range of the species. Any populations found will be avoided. An approved biological monitor will be present during all construction activities. A plan will be developed to protect populations located along Crystal Springs and Polhemus Roads where project-related construction vehicle traffic will occur. Where populations cannot be avoided, salvage of plants or seed will be implemented, along with a program to compensate for losses.

Section 6.3.6, page 6-27: The following text is added to the end of Mitigation Measure 4.7-4a in response to a comment (see **Response L_SFLandmarks-03**).

> Representative features such as aqueduct/pipe sections, valves subject to replacement, decorative elements, or plaques/inscriptions from buildings or other portions of structures demolished as a part of the WSIP projects could be preserved and displayed. Most of these types of structures are of sufficient size that they would form "monumental" commemorative structures. For example, an original pipeline valve replaced by modern equipment might be mounted and displayed on publicly accessible SFPUC property with informative placards. Such displays, if located in other jurisdictions, might be subject to those jurisdiction's requirements related to public art, safety, and liability considerations.

Section 6.3.7, page 6-31: The last bullet item under Measure 4.8-1a is revised as follows in response to a comment (see **Response L_Fremont-02**).

- To the extent applicable, the traffic control plan will conform to the ~~state's *Manual of Traffic Controls for Construction and Maintenance Work Areas*~~ *California Manual on Uniform Traffic Control Devices for Streets and Highways: Part 6 Temporary Traffic Control* and *Caltrans' 2006 Standard Plans*.

Section 6.3.8, pages 6-38 and 6-39: Measure 4.16-7b is revised as follows to clarify appropriate application of this measure in the Sunol Valley Region.

> **Health Risk Screening or use of Soot Filters for All Projects in the San Joaquin and Sunol Valley Regions**
>
> **Measure 4.16-7b:** Measure 4.9-2a requires specific projects to either conduct a health risk assessment or use soot filters to reduce DPM emissions associated with haul trucks. To address collective DPM impacts, this measure will be required for all WSIP projects in the San Joaquin and Sunol Valley Regions. This measure would only apply in the Sunol Valley Region if, under Measure 4.9-2b, the SFPUC elects not to vacate the two SFPUC Land Managers' residences in the Sunol Valley. ~~When~~ If this requirement is applied to the New Irvington Tunnel project (SV-4), it shall be applied to both the Sunol Valley and Fremont tunnel portals, taking into account truck traffic from other WSIP projects in the vicinity of both portals.

6.4 Mitigation Measures to Minimize Water Supply and System Operations Impacts

Section 6.4.2, page 6-48: The first sentence of Mitigation Measure 5.3.6-4a, Avoidance of Flow Changes by Reducing Demand for Don Pedro Reservoir Water, is clarified as follows in response to comments received on the Draft PEIR (see **Response S_CDFG2-07** and **Section 14.10, Master Response on Modified WSIP Alternative**).

> **Measure 5.3.6-4a:** The SFPUC will pursue a water transfer arrangement with MID/TID and/or other water agencies such that the water acquired is developed through actions that result in reduction of demand on Don Pedro Reservoir as a result of conservation, improved delivery efficiency, inter-agency ~~water~~ transfer of conserved water, or use of an alternative supply such as groundwater.

Section 6.4.2, pages 6-48 and 6-49: Measure 5.3.6-4b is revised as follows in response to several comments described in **Section 14.7, Master Response on Lower Tuolumne River Issues**.

> **Fishery Habitat Enhancement**
>
> **Measure 5.3.6-4b:** If Measure 5.3.6-4a is not implemented, then the SFPUC will mitigate potential fishery effects on the lower Tuolumne River by implementing (or funding) one of the following two habitat enhancement actions ~~directed at fish habitat improvements~~ that are designed to sustain fishery resources under the river's flow regime, which are consistent with the Habitat Restoration Plan for the Lower Tuolumne River Corridor: gravel augmentation/habitat enhancement to provide salmonid spawning and rearing habitat, or isolating or filling a captured former gravel quarry pit along the river that provides habitat for salmonid predators.
>
> The gravel augmentation/habitat enhancement project ~~Spawning gravel enhancement~~ will be implemented to increase salmonid spawning success and to improve the survival of rearing salmonids in the reach of the river downstream of La Grange Dam. Spawning success will be improved by the addition of suitable gravel to the stream channel. Other habitat features will be created to provide cover for juvenile salmonids and to increase the availability of substrate for macroinvertebrates ~~production~~ that would be used as ~~an enhanced~~ food ~~supply~~ by rearing juvenile salmon and steelhead~~and other species~~. The ~~spawning~~ gravel augmentation/habitat enhancement project will involve the planning, design, permitting, purchase, placement, and monitoring of suitable gravel and associated habitat enhancements ~~to be placed~~ at three riffle locations within the spawning reach between Basso Bridge and La Grange Dam. The three locations will meet ~~that meets~~ the criteria for suitable habitat as described in the Habitat Restoration Plan for the Lower Tuolumne River Corridor ~~at each location~~. The gravel will preferentially be rounded river rock of native origin that would be sized and pre-washed before placement into the river. The gravel augmentation/habitat enhancement project will also involve the addition of large woody debris and boulders to create increased habitat complexity and diversity at each of the three enhancement sites. After construction of the gravel augmentation/habitat enhancement project, it will be surveyed to establish its baseline condition. A survey of the three sites will be made at a minimum of five-year intervals by a qualified fisheries biologist. The fisheries biologist will determine whether the three sites continue to meet established criteria for salmonid spawning and rearing habitat. If the sites do not meet the criteria, as part of its long-term operations, the SFPUC will make the

improvements necessary to return it to the baseline conditions. ~~The depth and quality (e.g., percentage fines and cementation) of gravel will be monitored at five-year intervals and if the gravel deposits do not meet the criteria for suitable habitat SFPUC will be obligated to further augment or enhance the gravel deposits. The SFPUC will continue this gravel augmentation project and periodic monitoring as part of long-term system operations.~~

~~Alternately~~As an alternative to the gravel augmentation project, the SFPUC will remove from the lower river channel one of the former gravel quarry pits that has been "captured" by the river and acts as predator zones for fish such as largemouth and striped bass to prey on rearing and emigrating juvenile salmonids. ~~This~~Removal could be accomplished by filling the pit or installing a levee berm around the pit to isolate it permanently from the river channel. The SFPUC could implement this action directly or fund implementation by another entity involved in river restoration.

The performance standard for gravel pit removal would be an established permanent reduction in area of salmonid predator habitat. The SFPUC will monitor the pit removal project at five-year intervals. If floods have eroded the fil1 or damaged the levees in a manner that restores salmonid predator habitat, the SFPUC will make the necessary repairs. The SFPUC will continue periodic monitoring and repair as part of long-term system operations.

Section 6.4.2, page 6-50: The first full paragraph (last paragraph of Measure 5.3.7-2 (Controlled Releases to Recharge Groundwater in Streamside Meadows and Other Alluvial Deposits) is revised as follows for clarification. There are no revisions to the footnote in this paragraph, so it is not included here but it should be retained as part of the text.

As part of this measure the SFPUC will gather baseline data regarding the extent, species composition and condition of the existing meadow vegetation within the Poopenaut Valley. Some of these environmental baseline data may be available as a result of current study efforts in the Poopenaut Valley. As needed, the SFPUC will augment this information by carrying out vegetation composition surveys in the meadow before implementing the WSIP and at 5 year intervals after WSIP implementation to assess the efficacy of mitigation releases in maintaining or improving the percentage cover of meadow species as described by Ratliff (1985). The basic methodology for baseline vegetation survey and subsequent mitigation monitoring will be generally accepted quantitative vegetation sampling methods to permit statistical comparison of vegetation composition over time, as well as mapping the meadow vegetation in the Poopenaut Valley. The SFPUC will retain the services of a qualified biologist to assist in shaping the releases from Hetch Hetchy Reservoir in consideration of baseline and future meadow vegetation data. If a significant decline in the extent or diversity of native meadow vegetation occurs, releases will be modified as needed to achieve the mitigating effect of sustaining the existing meadow communities.

Section 6.4.3, pages 6-52 and 6-53: Measure 5.4.5-3a is revised as follows to reflect the change in project description of the Calaveras Dam (SV-2) project. The first sentence of the first paragraph as well as the last sentence of the fourth paragraph is revised as follows in response to comments

(see **Response S_CDFG2-13, Response CDFG2-15** and **Section 14.9, Master response on Alameda Creek Fishery Issues**).

Minimum Flows for Resident Trout on Alameda Creek

Measure 5.4.5-3a: The SFPUC shall develop and carry out as part of the implementation of the Calaveras Dam Replacement (SV-2) project, an operational plan to implement minimum ~~stream~~ bypass flows when precipitation generates runoff into the creek below the diversion dam to the Calaveras Creek confluence from December 1 through April 30 to support ~~resident trout~~ spawning and egg incubation for resident trout as well as breeding habitat for other native stream-dependent amphibians. This is the period when winter precipitation typically would produce flows for spawning and egg incubation and breeding habitat for other native stream-dependent species. The operational plan will identify the specific minimum flow requirements to support resident trout spawning and egg incubation, and a detailed monitoring plan to survey and document trout spawning and egg incubation and any diversion facility modifications that are needed to implement the minimum stream flows. This measure will be implemented in conjunction with the proposed bypass flows at the diversion dam to meet the 1997 CDFG MOU flow requirements.

Minimum flow requirements to support resident trout spawning and egg incubation vary depending on stream reach conditions. Although site-specific studies are needed to determine an appropriate minimum flow requirement for each specific creek reach, based on the general size and characteristics of the Alameda Creek channel immediately downstream of the diversion structure it has been suggested that a minimum flow on the order of 10 cfs may be needed to support trout spawning and egg incubation. The SFPUC's Natural Resources Division will complete the site-specific studies needed to determine the appropriate minimum stream flow for this reach of the creek; studies may show that the minimum flow requirement is more or less than 10 cfs. This minimum flow requirement would be met when precipitation would naturally generate runoff in the creek (below the diversion dam) under unimpaired conditions between December 1 and April 30. When precipitation generates runoff in the creek, the SFPUC shall provide for bypass of flow up to the required minimum flow amount. The operational plan will allow for adapting minimum flow amounts to support resident trout spawning and egg incubation and other native stream-dependent species based on the monitoring results and best available scientific information.

The monitoring plan will be provided to appropriate resource agencies for review and comment and will subsequently be implemented by the SFPUC's Natural Resources Division staff. Monitoring results shall be provided to the resource agencies as requested. Monitoring shall occur for a minimum of five years and a maximum of ten years following completion of the Calaveras Dam Replacement project. At the completion of the monitoring period the SFPUC shall produce a draft comprehensive report describing the methods, data collected, and results used to assess the performance of the minimum streamflow in providing suitable habitat for resident trout spawning and egg incubation.

The Alameda Creek Fisheries Restoration Workgroup is currently overseeing collaborative studies to better characterize the flow-habitat relationships for trout spawning within Alameda Creek, and the SFPUC is providing staff and funding to support this effort. Information from these studies will also be used in developing the specific range of

minimum stream flows needed to support suitable habitat within the reach below the diversion dam to the Calaveras Creek confluence. ~~Identification of any SFPUC facilities modifications needed to allow the designated minimum flow to pass downstream of the diversion dam will be described and evaluated as necessary in the project-level EIR for the Calaveras Dam Replacement project (SV-2).~~

This measure addresses two areas of impact to the resident trout fishery in Alameda Creek below the diversion dam. First, it addresses the decrease in flow below the diversion dam that would occur under the WSIP as a result of re-instituting flow diversions to Calaveras Reservoir once the dam is replaced (WSIP Project SV-2) and current DSOD storage capacity restrictions are removed. Second, it addresses the loss of fish from the lower creek system that would result from fish entrainment through the unscreened diversion tunnel to Calaveras Reservoir. Providing for minimum stream flows in Alameda Creek below the diversion dam, as required by the mitigation measure, would support resident trout spawning and egg incubation and it is expected that this measure would be sufficient to sustain the trout population in this reach of the creek. This would fully address/mitigate for both areas of WSIP impact to the resident trout fishery below the diversion dam. If monitoring indicates that this measure is adequate to sustain the resident trout population below the diversion dam, then no additional mitigation action would be required. If monitoring indicates that this measure does not sustain the resident trout fishery in this reach, then the SFPUC shall either modify the minimum stream flow to enhance downstream habitat conditions to fully meet the mitigation requirement or also implement Measure 5.4.5-3b Diversion Restrictions or Fish Screens.

Section 6.4.3, page 6-55: The first sentence of the second full paragraph is revised as follows in response to a comment (see **Response L_EBRPD-25**).

One alternative for implementing such habitat compensation is the Habitat Reserve Program (HRP) currently being developed by the SFPUC. The purpose of the HRP is to provide a comprehensive, coordinated approach to mitigation and related regulatory compliance for WSIP projects and operations. This related SFPUC project is described further in Chapter 3.0, Section ~~3.11~~ 3.12.3.

Section 6.4.4, page 6-56: Under the heading "Surface Water Quality," Measure 5.5.3-2 is replaced with Measure 5.5.3-2a and Measure 5.5.3-2b below as substitute mitigation for the Revised Operations Plan for Pilarcitos Watershed Facilities, which, upon subsequent analysis, was determined to be technically challenging and was replaced with more practical measures.

~~Revised Operations Plan for Pilarcitos Watershed Facilities~~

~~Measure 5.5.3-2:~~ ~~The SFPUC will develop an operations plan for Pilarcitos Reservoir, Stone Dam, and associated diversions that would manage storage in Pilarcitos Reservoir and releases to Pilarcitos Creek so that flows in Pilarcitos Creek between Pilarcitos Reservoir and Stone Dam would be similar to those that occur under the existing condition. This could be achieved by supplying Coastside CWD's increased future purchase request from Crystal Springs Reservoir in a pattern of diversion that would allow Pilarcitos Reservoir to be operated in a manner that approximates historical operations. Because, with this mitigation measure in place, storage in Pilarcitos Reservoir would be similar with the~~

~~WSIP and under existing conditions, spills at Stone Dam with the WSIP and under existing conditions would also be similar.~~

Low-head Pumping Station at Pilarcitos Reservoir

Measure 5.5.3-2a: The SFPUC shall install a permanent low-head pumping station at Pilarcitos Reservoir which would enable the SFPUC to access and use an additional 350 acre-feet of water from Pilarcitos Reservoir. In years when the WSIP would cause releases from Pilarcitos Reservoir to Pilarcitos Creek to be reduced to reservoir inflow earlier in the summer than under the existing condition (about 25 percent of years in the hydrologic record), the SFPUC will use the pumping station to augment flow in Pilarcitos Creek with water from the reservoir. The pumping station will draw water from the cool pool of water below the thermocline during times when the reservoir is stratified. The pumping station outlet will be designed to ensure that water discharged to the creek is adequately aerated.

Aeration System at Pilarcitos Reservoir

Measure 5.5.3-2b: The SFPUC shall install a permanent aeration system at Pilarcitos Reservoir. The SFPUC will operate the aeration system as necessary to avoid anoxic conditions and maintain good water quality conditions at the reservoir.

Section 6.4.4, page 6-56: Under the heading "Fisheries," Measure 5.5.5-5 is inserted as substitute mitigation for Measure 5.5.3-2, Revised Operations Plan for Pilarcitos Watershed Facilities, which was previously intended to provide mitigation for Impact 5.5.5-5, but, upon subsequent analysis, was determined to be technically challenging and was replaced with more practical measures.

Establish Flow Criteria, Monitor and Augment Flow

Measure 5.5.5-5: The SFPUC shall develop a monitoring and operations plan for Stone Dam to ensure WSIP-related flow reductions downstream of Stone Dam do not impair steelhead passage and spawning during the winter months of normal and wetter hydrologic years. This operational plan will provide for minimum stream flows to support existing adult steelhead passage and spawning downstream of Stone Dam, in the reach between Stone Dam and the confluence with the tributary at Albert Canyon, approximately 3.5 miles downstream. Downstream of Albert Canyon, WSIP flow reductions are unlikely to cause a significant impact to steelhead migration and spawning due to contributing flows from numerous downstream tributaries being sufficient to maintain adult upstream passage and spawning conditions within the creek. Monitoring and implementation of the operational plan will occur when precipitation generates runoff into Pilarcitos Creek below Stone Dam from December 1 through April 30 of normal and wetter years. This monitoring and operations plan will be established within five years of the approval of the PEIR.

Specific instream flows needed to support anadromous steelhead downstream of Stone Dam have not yet been identified. Suitable instream flows for steelhead passage on Pilarcitos Creek may be defined as providing a water depth of at least 0.6 feet over 25 percent of the total wetted channel cross-sectional area with 10 percent being contiguous. In cooperation with CDFG and NMFS, the SFPUC will identify up to five critical riffles, downstream of Stone Dam and upstream of Albert Canyon that may cause a

passage impediment/barrier to steelhead migration at reduced flows as defined by the water depth criterion above. Such habitat types will be selected for survey because they represent the shallowest habitat type and thus would most likely represent low flow passage barriers under WSIP-related reduced flow scenarios. This monitoring plan will survey and document the critical riffles identified to determine physical conditions (e.g., depth, velocity, and top width of the channel) present at various flow levels. The SFPUC will measure the stage-discharge relationship at each of the five critical riffles and identify the minimum stream flow that meets the steelhead passage criterion at the most restrictive of the five riffle locations.

The SFPUC will calibrate and validate the flow measurements made at the existing flow monitoring gage (USGS Gage 11162620) located immediately downstream of Stone Dam. The SFPUC will then develop a statistical relationship between the flow measurements at the existing gage and the flow at the most restrictive critical riffle downstream of Stone Dam to establish minimum average daily flows necessary to meet steelhead passage criterion. The SFPUC will monitor average daily flows at the stream flow gage during the period from December 1 through April 30 each year. If average daily flow, as measured at the gage, indicates that the minimum stream flow at the downstream critical riffle is not met, the SFPUC will release bypass flows from Stone Dam at a rate sufficient to meet the minimum stream flow for steelhead passage at a release rate up to, but not exceeding, the average daily inflow into Pilarcitos Reservoir as determined by SFPUC operators.

The SFPUC's Natural Resources Division will complete the site-specific studies needed to determine the appropriate minimum stream flow for the most restrictive critical riffle identified during monitoring. This minimum flow criterion will be met when WSIP diversions occur between December 1 and April 30 of normal and wetter hydrologic years. The operational plan will allow for adapting minimum flow amounts to support steelhead migration based on the monitoring results and best available scientific information. Monitoring and flow management will be continued for a minimum period of five years and a maximum period of ten years, at which time the SFPUC will prepare a technical report describing results of the stream flow monitoring, identifying whether or not operation of Stone Dam reduced passage flows below the minimum criteria, and identifying, if needed, an appropriate bypass flow for future operations at Stone Dam (a minimum flow below which water could not be diverted to storage between December and April 30). The technical report will be provided to CDFG and NMFS.

Section 6.4.4, page 6-57: Under the heading "Terrestrial Biological Resources," Measure 5.5.3-2c is inserted to mitigate impacts on terrestrial biological resources associated with implementation of the replacement Measure 5.5.3-2a, Low-head Pumping Station at Pilarcitos Reservoir.

Habitat Monitoring and Compensation

Measure 5.5.3-2c The SFPUC shall compensate for reduced productivity and diversity of San Francisco garter snake (SFGS) and California red-legged frog (CRLF) wetland habitat which could occur as a result of greater variability, extent and duration in drawdowns at Pilarcitos Reservoir as a result of implementation of Revised Measure 5.5.3-2a (Low-head Pumping Station at Pilarcitos Reservoir). To offset the potential loss of habitat quality, the SFPUC will develop an adaptive management plan for managing and maintaining freshwater marsh and other wetlands around the periphery of Pilarcitos Reservoir. This adaptive management plan would include pre- implementation monitoring and post-

implementation monitoring for up to 10 years to ensure that habitat is sustained at Pilarcitos Reservoir, to achieve no net loss of habitat and value for SFGS and CRLF habitat and document changes (if any) in extent or quality of the habitat attributable to operation of the low-head pumping station.

In the event that habitat is reduced, one alternative for implementing such habitat compensation is the Habitat Reserve Program (HRP) currently being developed by the SFPUC. The purpose of the HRP is to provide a comprehensive, coordinated approach to mitigation and related regulatory compliance for WSIP projects and operations. The HRP is described further in the Draft PEIR, Chapter 3.0, Section 3.12.3. Under the proposed HRP, the SFPUC would proceed as soon as possible with identifying, securing (through designation, management agreement, conservation easement, or acquisition of fee title) and improving lands to be used for habitat compensation so that mitigation is underway concurrent with habitat loss related to WSIP program activities, further ensuring no net loss of resources. The proposed HRP is undergoing CEQA environmental review in 2008 and 2009 and is targeted for implementation as soon as possible thereafter. Once the HRP is approved and implemented, the SFPUC will use this as one vehicle or method for implementing the mitigation requirements for WSIP-related activities. Otherwise, where appropriate and necessary, the SFPUC will develop and implement appropriate habitat compensation mitigation for WSIP system operational effects on Pilarcitos Reservoir, independent of the HRP.

6.6 Summary Tables of All Impacts and Mitigation Measures

Section 6.6, page 6-85, Table 6.4: The third and fourth rows of Table 6.4 are revised as follows to correct an editorial error.

IMPACT	Alameda Creek Fishery Enhancement SV-1	Calaveras Dam Replacement SV-2	Additional 40-mgd Treated Water Supply SV-3	New Irvington Tunnel SV-4	SVWTP – Treated Water Reservoirs SV-5	San Antonia Backup Pipeline SV-6
Impact 4.3-4: Permanent adverse impacts on scenic vistas or visual character	PSM	PSU	LS	PSM	LS	PSM
Regulations						
~~None applicable.~~ Watershed Management Plans and Actions						
Des5: Design Guidelines	X	X	X	X	X	X
SFPUC Construction Measures						
None applicable.						

Section 6.6, page 6-127, Table 6.6: The third row in Table 6.6 is revised as follows to correct an editorial error.

IMPACT	Baden and San Pedro Valve Lots Improvements PN-1	Crystal Springs / San Andreas Transmission Upgrade PN-2	HTWTP Long-Term Improvements PN-3	Lower Crystal Springs Dam Improvements PN-4	Pulgas Balancing Reservoir Rehabilitation PN-5
Impact 4.3-4: Permanent adverse impacts on scenic vistas or visual character	LS	PSM	PSM	PSM	PSM
Regulations					
~~None applicable.~~ Watershed Management Plans and Actions		X		X	X

Section 6.6, page 6-180, Table 6.11: The text under the heading "5.4.7 Recreational and Visual Resources" in Table 6.11 is revised as shown on the following page to reflect the change in project description of the Calaveras Dam (SV-2) project.

TABLE 6.11 (continued)
IMPACT AND MITIGATION SUMMARY FOR ALAMEDA CREEK WATERSHED STREAMS AND RESERVOIRS RELATED TO WATER SUPPLY AND SYSTEM OPERATIONS

IMPACT	Significance Determination	Mitigation Measure Required
Impact 5.4.6-8: Conflicts with the provisions of adopted conservation plans or other approved biological resource plans	LS	
PEIR Mitigation Measures		
None required.		
5.4.7 Recreational and Visual Resources		
Impact 5.4.7-1: Effects on recreational facilities and/or activities	~~PSM~~ LS	~~5.4.1-2 and 5.4.5-3a~~
PEIR Mitigation Measures		
~~Measure 5.4.1-2: Diversion Tunnel Operation~~ None required.		~~X~~
~~Measure 5.4.5-3a: Minimum Flows for Resident Trout on Alameda Creek~~		~~X~~
Impact 5.4.7-2: Visual effects on scenic resources or visual character of the water bodies	~~PSM~~ LS	~~5.4.1-2 and 5.4.5-3a~~
PEIR Mitigation Measures		
~~Measure 5.4.1-2: Diversion Tunnel Operation~~ None required.		~~X~~
~~Measure 5.4.5-3a: Minimum Flows for Resident Trout on Alameda Creek~~		~~X~~

LS = Less than Significant impact, no mitigation required
PSM= Potentially Significant impact, can be mitigated to less than significant
PSU = Potentially Significant Unavoidable impact
X = Applicable
N/A = Not Applicable

Volume 4, Chapter 7

Section 7.1.2, page 7-7: The last complete dash is revised in response to two comments (see **Response L_Milpts-14** and **Response L_RdwdCty-08**).

– The population growth assumed in the demand projections for most (~~17~~15 of ~~20~~19) of the water customers for which comparable general plan projections are available is similar to the growth anticipated in the general plans of the cities served by them.

Section 7.2.1, page 7-10, Figure 7.1: This revision is the same as that described above under Vol. 1, Chapter 3, Section 3.3, page 3-6, Figure 3.2.

Section 7.3.1, page 7-21, Table 7.5: Table 7.5 is revised as shown below to correct an editorial error.

TABLE 7.5
EMPLOYMENT AND POPULATION PROJECTIONS USED FOR WATER DEMAND ESTIMATES: SUMMARY BY COUNTY[a]

	Employment			Population		
	2001	2030	% change	2001	2030	% change
Wholesale Customers						
Alameda County	238,565	335,701	41%	456,962	542,688	19%
Santa Clara County	501,186	635,809	27%	466,452	580,391	24%
San Mateo County[b]	394,346	517,056	31%	703,185	814,904	16%
Total Wholesale Customers	1,134,097	1,488,566	31~~21~~%	1,626,599	1,937,983	19%
Retail Customers						
San Francisco (City and County)[c]	638,840	795,400	25%	760,075	849,942	12%
Total	1,772,937	2,283,966	29%	2,386,674	2,787,925	17%

Section 7.3.3, page 7-27: The second sentence of the first paragraph and the footnotes for that sentence are revised as follows in response to a comment (see **Response L_RdwdCty-08**).

The general plans of ~~22~~21 cities that are served in whole or part by SFPUC and its wholesale customers have population projections that are generally comparable to the water customer-selected population projections.[19, 20]

[19] ….The ~~22~~21 cities, served by ~~20~~19 water customers, represent approximately two-thirds of 32 cities served by the SFPUC regional system.

[20] The ~~22~~21 cities are served by ~~19~~18 wholesale customers and the SFPUC (for the retail service area), referred to collectively here as ~~20~~19 water customers.

Section 7.3.3, page 7-27: The first bullet item is revised as follows in response to a comment (see **Response L_Milpts-14**).

- The population projections used for ~~three~~ two of the wholesale customers (East Palo Alto~~,~~ ~~Milpitas,~~ and Sunnyvale) in the water demand studies are less than (from 2 to 6 percent less) the projections assumed in the general plans of the jurisdictions served by them.

Section 7.3.3, page 7-27: The second bullet item is revised as follows in response to a comment (see **Response L_RdwdCty-08**).

- The population projections assumed for ~~14~~13 of the water customers (ACWD, CWS-South San Francisco in combination with Westborough Water District, Daly City, Hayward, Hillsborough, Mid-Peninsula Water District, Millbrae, Mountain View, Palo Alto, ~~Redwood City,~~ San Bruno, San Francisco, and Santa Clara) are higher but within 1 to 10 percent of the projections presented in the respective general plans.

Section 7.3.3, page 7-28, Table 7.8: Table 7.8 is revised on the following page in response to two comments (see **Response L_Milpts-14** and **Response L_RdwdCty-08**). In addition, the table heading is revised to correct an editorial error.

Section 7.3.3, page 7-29: The first two bulleted items are revised in response to a comment (see **Response L_Milpts-14**).

- The population projections assumed by ~~three~~four of the water customers (Burlingame, Coastside County Water District, ~~and~~ Estero Municipal Improvement District, and Milpitas) appear to be more than 10 percent greater than the projections assumed in the respective general plans. The difference in these projections results from the longer 2030 planning horizon used for water planning and differences in the geographic area covered by the two sets of projections. Based on the difference in projections, however, the growth assumed in the demand models of these wholesale customers does not appear to be fully addressed in the general plans of the cities served by these customers.

- Two of the ~~three~~four customers assuming greater population growth than is reflected in the respective general plan also show somewhat greater growth than is forecasted in *Projections 2005*. Both of these customers (Burlingame and Estero MID) serve unincorporated areas outside the city's jurisdictional boundaries and ABAG subregional areas. In addition, Estero MID serves a non-segrable part of the city of San Mateo that is not included with the *Projections 2005* forecast for Foster City used in this comparison. The other customer (Coastside County Water District) assumes less growth than is forecasted in *Projections 2005* for 2030.

Section 7.3.6, page 7-50: The first full paragraph is revised as follows in response to a comment (see **Response L_Milpts-14**).

The customer-selected population projection used for Milpitas in the demand study is ~~generally consistent with~~ approximately 15 percent greater than the growth identified in the city's general plan and is generally consistent with (about 3 percent less than) the growth projected by ABAG. ~~The 2030 Milpitas population presented in the demand study is~~

TABLE 7.8
COMPARISION OF WATER DEMAND POPULATION ESTIMATES AND GENERAL PLAN POPULATION ESTIMATES

Customer	UWMP Population in 2030	*Projections 2005* Population in 2030	Water Customer-Selected Population Projection for 2030	General Plan Population Projection for General Plan Projection Year[a]	General Plan Projection Year[a]	Difference: Water Customer Population and General Plan Population	% Difference (Water Customer Population and General Plan Population)
Customer-selected projection less than or equal to general plan projection							
City of East Palo Alto	32,712	43,600	32,712	34,600	2020	-1,888	-5.5%
~~City of Milpitas[b]~~	~~91,400~~	~~91,400~~	~~88,841~~	~~94,400~~	~~2020~~	~~5,559~~	~~-5.9%~~
City of Sunnyvale[cb]	159,100	159,100	151,610	154,600	2020	-2,990	-1.9%
Customer-selected projection 1–10% greater than general plan projection							
Alameda County Water District	405,900	404,700	379,931	359,113		20,818	5.8%
Fremont	*257,100*	*257,200*		*229,213*	2020		
Newark	*53,500*	*53,400*		*49,800*	2020		
Union City	*95,300*	*94,100*		*80,100*	2020		
CWS–South San Francisco District and Westborough Water District[d,e c,d]	83,450	73,660	73,884	68,685	2020	5,199	7.6%
City of Daly City	115,651	127,200	115,651	113,000	2020	2,651	2.3%
City of Hayward	162,800	171,500	162,757	160,300	2025	2,457	1.5%
Town of Hillsborough		11,800	12,708	11,800	2025	908	7.7%
Mid-Peninsula Water District[fe]	28,930	28,800	27,997	27,800	2010	197	0.7%
City of Millbrae	24,200	24,500	25,174	24,860	2015	314	1.3%
City of Mountain View	81,700	89,600	81,670	75,200	2010	6,470	8.6%
City of Palo Alto	69,199	92,200	69,199	62,880	2010	6,319	10.0%
~~City of Redwood City~~	~~93,329~~	~~122,300~~	~~93,535~~	~~87,100~~	~~2020~~	~~6,435~~	~~7.4%~~
City of San Bruno	See note ~~g~~f	50,700	48,229	46,400	2020	1829	3.9%
City and County of San Francisco[hg]	849,942	903,300	849,942	811,100	2020	38,842	4.8%
City of Santa Clara	140,698	142,100	140,698	129,900	2010	10,798	8.3%
Customer-selected projection more than 10% greater than general plan projection							
City of Burlingame[hi g,h]	31,900	31,900	34,967	31,500	2010	3,467	11.0%
City of Milpitas[b i]	91,400	91,400	88,841	94,400	2020	5,559	-5.9%
Coastside County Water District[j]	24,973	27,100	24,973	21,065	2020	3,908	18.6%
Estero Municipal Improvement District (MID)[j,k]	40,866	32,500	40,096	30,803	2010	9,293	30.2%

NOTE: Most wholesale customer service areas are not contiguous with city limits (or with the city and its planning area), and therefore the population projections from the jurisdictions' general plans and ABAG should be considered as general comparisons only. The following are not included, because the water service area and jurisdictional boundaries are not comparable or the general plan of the corresponding jurisdiction does not provide a comparable population projection: Brisbane, CWS–Bear Gulch, CWS–Mid-Peninsula, Menlo Park, North Coast County Water District, Purissima Hills Water District, Redwood City, San Jose North, Skyline County Water District, and Stanford University.

a The general plan population projection and projection year are the most distant population projection and the year of the most distant population projection available in the general plan or general plan element.

~~b The general plan population is based on the population shown in the general plan (77,100) plus the additional population accommodated by the Milpitas Midtown Specific Plan, as advised by Milpitas Planning Department staff (Carrington, 2006), to account for 5,000 additional units with an assumed density of 3.46 persons per unit (i.e., an added population of 17,300). The City has amended to general plan to incorporate the specific plan.~~

bc The service area of Sunnyvale's water district is contiguous with the city limits; however, another water utility (CWS) serves several small areas within the city.

cd CWS = California Water Service Company.

de CWS–South San Francisco serves South San Francisco, Colma, a small portion of Daly City, and the unincorporated area of Broadmoor. The water customer estimate for the Westborough Water District is from the district's Urban Water Management Plan. The general plan figure is the combined total projected population in the South San Francisco and Colma general plans (67,400 and 1,285 respectively); the general plan projection year shown (2020) is for South San Francisco, the projection year for Colma is 2005. The *Projections 2005* figure is for South San Francisco and Colma (71,800 and 1,860, respectively).

ef The Mid-Peninsula Water District serves Belmont, portions of San Carlos, and unincorporated areas of San Mateo County. The general plan figure is for the city of Belmont, from the 2002 housing element.

fg The San Bruno UWMP (City of San Bruno, 2007) shows two population projections for 2030: 50,700, based on ABAG's *Projections 2005*, and 48,229, based on the City's Adjusted Draft General Plan.

gh UWMP and *Projections 2005* figures are for household population, since the customer-selected figure is for household population.

hi Burlingame's water system also serves portions of unincorporated Burlingame and a few properties in the city of San Mateo and town of Hillsborough.

i The general plan population is based on the 2002 Milpitas general Plan.

j The general plan figure is for the city of Half Moon Bay only, from the 1993 Half Moon Bay Local Coastal Program Land Use Plan (Table 9.3, Chapter 9, page 189). In addition to incorporated Half Moon Bay, the Coastside County Water District serves unincorporated areas of Half Moon Bay and the unincorporated communities of El Granada, Miramar, and Princeton by the Sea.

k Estero MID serves Foster City and a portion of the city of San Mateo. The general plan figure is for Foster City.

SOURCES: ABAG, 2004; ACWD, 2005; CWS-South San Francisco, 2006; ~~Carrington, 2006;~~ City and County of San Francisco, 2004; City of Belmont, 2002a; City of Burlingame, 2002a; City of Burlingame, 2005; City of Daly City, 2004a; City of Daly City, 2005; City of East Palo Alto, 1999a; City of East Palo Alto, 2006; City of Foster City, 2001a; City of Fremont, 2003a; City of Half Moon Bay, 1993; City of Hayward, 2002a; City of Hayward, 2005; City of Millbrae, 1998a; City of Millbrae, 2005; City of Milpitas, 2002a; City of Milpitas, 2005; City of Mountain View, 2002a; City of Mountain View, 2005; City of Newark, 2002a; City of Palo Alto, 1998a; City of Palo Alto, 2005b; ~~City of Redwood City, 2005b; City of Redwood City, 2007a~~; City of San Bruno, 2003a; City of San Bruno, 2007; City of Santa Clara, 2002a; City of Santa Clara, 2005; City of South San Francisco, 2002a; City of Sunnyvale, 2002a; City of Sunnyvale, 2005; City of Union City, 2002a; Coastside County Water District, 2005; Estero MID, 2005; Hannaford and Hydroconsult, 2004; Mid-Peninsula Water District, 2006; SFPUC, 2005; Town of Colma, 1999a; Town of Hillsborough, 2002a; URS, 2004a, Westborough Water District, 2005.

~~approximately 6 percent less than that cited in the city's general plan, as amended by the Midtown Milpitas Specific Plan, and projected by ABAG.~~ The City of Milpitas is currently preparing a Transit Area Specific Plan that is expected, upon adoption, to result in a buildout population of 95,014, somewhat greater than the population projection used in the demand study (Williams, 2007).

Section 7.3.6, page 7-52: The third sentence of the fourth paragraph is revised as follows in response to a comment (see **Response L_PHWD1-09**).

In 2001, the Purissima Hills Water District served 6,032—or 64 percent—of the approximately ~~94,555~~ 9,455 residences estimated for the town and its sphere of influence in 2000.

Section 7.3.6, p. 7-53: The third full paragraph is revised as follows in response to a comment (see **Response L_RdwdCty-08**).

The customer-selected population projection used for Redwood City in the demand study is ~~generally consistent with the buildout population identified in the city's general plan (which has a 2020 planning horizon), and~~ 24 percent lower than ABAG's 2030 population projection of 122,300 for the city and its sphere of influence. The 2030 Redwood City population used in the demand study is approximately 7 percent more than the 2020 projection shown in the city's Downtown Precise Plan ~~(a recent amendment of the general plan)~~, which cites ABAG's *Projections 2005* forecast for 2020 for the city within its jurisdictional boundary. The city's water service area includes only a portion of the city's sphere of influence (Bonte, 2006), which probably accounts for the difference between the ABAG projection for the city and its sphere of influence and that assumed in the demand study. ABAG's 2030 projection of 94,300 for Redwood City within the city limits only is within 1 percent of the demand study projection. Because the population projection included in the city's 1990 general plan is for 2000 (earlier than 2005), it is not considered comparable to the 2030 WSIP population projection for this analysis. According to the city, the 2003 UWMP was selected for use in the demand study because the UWMP contained the most current population and employment projections at the time.

Section 7.4.1, page 7-62: The second to the last bullet is revised as follows in response to a comment (see **Response L_PHWD1-11**).

- Town of Los Altos Hills General Plan (1975), General Plan Path Element (1996), 2002 Housing Element (2002), Circulation Element (1999), Land Use Element (n.d.) and Open Space~~,~~ and Recreation Element~~s~~ ~~(n.d.)~~ (2007).

Section 7.4, page 7-90: The fourth to the last reference is revised as follows in response to a comment (see **Response L_PHWD1-11**).

Town of Los Altos Hills Land Use, Open Space, and Recreation Elements, http://www.osaltoshills.ca.gov/government/town-documents.html (website accessed March 15, 2006), 2007.

Section 7.4, page 7-91: The following reference is added after (URS, 2006) in response to a comment (see **Response L_Milpts-14**).

Williams, Thomas, Comment letter from the City Manager of Milpitas to the SFPUC on the Draft PEIR for the SFPUC's Water System Improvement Program, September 27, 2007.

Chapter 7 references, pages 7-85, 7-89 and 7-90: The following corrections are made:

Popp, Ron, Director of Public Works, City of Millbrae, email communication, June 4, 2007.

San Francisco Public Utilities Commission (SFPUC), SFPUC Capital Improvement Program Wholesale Customer Best Estimate of Water Purchases from the SFPUC [submitted by the SFPUC and each wholesale customer], November 2004.

City of Redwood City, *Downtown Precise Plan Draft Environmental Impact Report* (October 2006) and *Final Environmental Impact Report*, State Clearinghouse #200655052027, certified March 2007a.

Town of Colma, Ordinance No. 557 of the City Council of the Town of Colma: An Ordinance Amending the Colma Municipal Code To Provide for Amendments to the "Town of Colma Zoning Map," July 14, 1999d.

Town of Hillsborough, *Town of Hillsborough Housing Element, 1999-2006*, adopted July 8, 2002a.

Volume 4, Chapter 8

Section 8.1, pages 8-1 and 8-2: The first and second paragraphs are revised as follows to reflect project sponsor requested revisions subsequent to the publication of the Draft PEIR.

The San Francisco Public Utilities Commission (SFPUC) has requested that this Program Environmental Impact Report (PEIR) include environmental analysis of three variants to the Water System Improvement Program (WSIP or proposed program). The WSIP variants are variations of the proposed program which are designed to meet or exceed all WSIP goals and objectives but differ with respect to water supply source or drought-year level of service. The variants are not necessarily intended to be alternatives to the proposed program that would lessen or avoid environmental impacts as required by the California Environmental Quality Act (CEQA); the CEQA alternatives are described and analyzed in Chapter 9.

Subsequent to the publication of the Draft PEIR, the SFPUC requested that the PEIR address a fourth variant. Please refer to Chapter 13 (Vol. 7) of the PEIR, Section 13.4 for a description and analysis of the fourth variant, the *Phased WSIP Variant*.

This chapter describes and analyzes the potential environmental effects of three WSIP variants: *WSIP Variant 1 – All Tuolumne*; *WSIP Variant 2 – Regional Desalination for*

Drought; and *WSIP Variant 3 – 10% Rationing*. The variants include the same fundamental facility components and operation/maintenance plan as the proposed WSIP. The major difference between the variants and the proposed program is either in the proposed source(s) of water supply or in the drought-year rationing level of service.

Section 8.5, page 8-59, Table 8.6: The last two rows in Table 8.6 are revised as shown on the following page to reflect the change in project description of the Calaveras Dam (SV-2) project.

Section 8.5, pages 8-61, 8-62, and 8-65, Table 8.7: The impact descriptions for Impacts 5.5.3-2, 5.5.5-4, and 5.5.6-4 as well as the impact conclusion for Impact 5.5.6-5 are revised as shown on pages 16-109 to 16-110 to refine the surface water quality and biological resources analyses in the Pilarcitos Watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Volume 4, Chapter 9

Section 9.2.1, page 9-19: Table 9.8 is revised as shown on page 16-111 to reflect the change in project description of the Calaveras Dam (SV-2) project.

Section 9.2.1, pages 9-20 and 9-21, Table 9.9: The impact descriptions for Impacts 5.5.3-2, 5.5.5-4, and 5.5.6-4 as well as the impact conclusions for Impact 5.5.6-5, Sensitive habitats, are revised as shown on page 16-112 to refine the biological resources analysis in the Pilarcitos Watershed as determined from the updated modeling results conducted in 2008, as discussed in Chapter 13, Section 13.3.

Section 9.2.8, page 9-78: The following footnote is added to the first sentence of the first paragraph under the heading "9.2.8 Modified WSIP Alternative" in response to comments described in **Section 14.10, Master Response on Modified WSIP Alternative.**

> The Modified WSIP Alternative incorporates changes in the proposed WSIP primarily to modify the proposed water supply and system operations so as to minimize environmental effects.[11]
>
> [11] The description and analysis of the Modified WSIP Alternative has been updated in the Comment and Responses document. Please see Section **14.10, Master Response on the Modified WSIP Alternative** (Vol. 7, Chapter 14) for detailed information.

Section 9.3.1, page 9-90: The fourth sentence of the second paragraph is revised as follows in response to a comment (see **Response L_CoastsideCWD-27**).

> The SFPUC currently serves Coastside CWD ~~primarily~~ with about equal quantities of water from ~~the~~ Pilarcitos ~~Reservoir~~ Creek and Crystal Springs Reservoir.

TABLE 8.6 (Continued)
SUMMARY OF WATER SUPPLY AND SYSTEM OPERATIONS IMPACTS FOR THE WSIP VARIANTS COMPARED TO EXISTING CONDITIONS – ALAMEDA WATERSHED

Impact	Proposed Program	Variant 1 – All Tuolumne	Variant 2 – Regional Desal for Drought	Variant 3 – 10% Rationing
Impact 5.4.7-1: Effects on recreation facilities and/or activities	Under both existing and future conditions, water recreation is prohibited in SFPUC reservoirs. Thus, changes in reservoir water levels would not adversely affect recreation. Operations under the WSIP would substantially reduced flows along Alameda Creek in the Sunol Regional Wilderness during winter and early spring months and adversely affect the recreational experience of hikers; however, with the changes in project description for the Calaveras Dam Replacement (SV-2) project, bypass flows would be reduced from the diversion dam when flows are present. (~~PSM~~ LS)	Same as proposed program (~~PSM~~ LS)	Same as proposed program (~~PSM~~ LS)	Same as proposed program (~~PSM~~ LS)
Impact 5.4.7-2: Visual effects on scenic resources or visual character of water bodies	Apart from raised water levels in Calaveras Reservoir and substantial reductions in flows along Alameda Creek in the Sunol Regional Wilderness area during winter and spring months, changes in stream flow and reservoir elevations in the Alameda watershed would not be apparent to most recreational users. WSIP-induced reductions in stream flows along Alameda Creek would substantially change quality of visual resources in the Sunol Regional Wilderness area; however, with the changes in project description for the Calaveras Dam Replacement (SV-2) project, bypass flows would be reduced from the diversion dam when flows are present. (~~PSM~~ LS)	Same as proposed program (~~PSM~~ LS)	Same as proposed program (~~PSM~~ LS)	Same as proposed program (~~PSM~~ LS)

TABLE 8.7
SUMMARY OF WATER SUPPLY AND SYSTEM OPERATIONS IMPACTS FOR THE WSIP VARIANTS COMPARED TO EXISTING CONDITION – PENINSULA WATERSHED

Impact	Proposed Program	Variant 1 – All Tuolumne	Variant 2 – Regional Desalination for Drought	Variant 3 – 10% Rationing
Impact 5.5.3-2: Effects on water quality in Pilarcitos Reservoir and along Pilarcitos Creek	~~Operations under the WSIP would increase summer drawdown of Pilarcitos Reservoir and could cause the reservoir to destratify earlier in the season, which may improve water quality. However, the ability of the reservoir to support cold freshwater habitat could be reduced due to a reduced volume of cool water below thermocline.~~ Proposed operations would generally be within the same range as existing conditions although replacement Measure 5.5.3-2a would cause Pilarcitos Reservoir to be drawn down earlier in the summer compared to existing conditions. Water temperature could increase and dissolved oxygen content could be reduced. During dry years summertime releases from Pilarcitos Reservoir to Pilarcitos Creek would be eliminated or reduced to a low level for a longer period of time with the WSIP, which would increase the temperature of instream flows between Pilarcitos Creek and Stone Dam and reduce the creek's ability to support designated cold freshwater habitat along this reach. Slight reductions in spill over Stone Dam would be minor and would not adversely affect water quality along Pilarcitos Creek. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)
Impact 5.5.5-4: Effects on fisheries resources in Pilarcitos Reservoir	~~Reduction in average monthly storage~~ Proposed operations would be within the same range as existing conditions although replacement Measure 5.5.3-2a would cause Pilarcitos Reservoir to be drawn down earlier in the summer compared to existing conditions. This would reduce the volume and quality of coldwater habitat available for resident fish species. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)
Impact 5.5.6-4: Impacts on biological resources in Pilarcitos Reservoir				
• Sensitive Habitats	Reduced water elevations could slightly reduce the extent of areas supporting sensitive freshwater marsh habitat. (LS)	Similar to proposed program (LS)	Same as proposed program (LS)	Similar to proposed program (LS)

TABLE 8.7 (Continued)
SUMMARY OF WATER SUPPLY AND SYSTEM OPERATIONS IMPACTS FOR THE WSIP VARIANTS COMPARED TO EXISTING CONDITION – PENINSULA WATERSHED

Impact	Proposed Program	Variant 1 – All Tuolumne	Variant 2 – Regional Desalination for Drought	Variant 3 – 10% Rationing
• Key Special Status Species	Proposed operations would be within the same range as existing conditions, although replacement Measure 5.5.3-2a would cause Pilarcitos Reservoir to be drawn down earlier in the summer compared to existing conditions. This ~~c~~would reduce the extent of suitable habitat for California red-legged frog and San Francisco garter snake. Special status species that utilize adjacent upland vegetation would not be affected. (PSM)	Similar to proposed program (PSM)	Similar to proposed program (PSM)	Similar to proposed program (PSM)
Impact 5.5.6-5: Impacts on biological resources along Pilarcitos Creek below Pilarcitos Reservoir				
• Sensitive Habitats	~~In summer months of dry years, an extended period of no or little flow would stress or kill riparian vegetation.~~ Proposed operations would result in flows within the range of historical conditions, to which sensitive habitats have adapted. (~~PSM~~ LS)	Similar to proposed program (~~PSM~~ LS)	Similar to proposed program (~~PSM~~ LS)	Similar to proposed program (~~PSM~~ LS)

TABLE 9.8
SUMMARY OF SIGNIFICANT WATER SUPPLY AND SYSTEM OPERATIONS IMPACTS FOR CEQA ALTERNATIVES – ALAMEDA WATERSHED

Impact	Proposed Program	No Program Alternative	No Purchase Request Increase Alternative	Aggressive Conservation/Water Recycling and Local Groundwater Alternative		Lower Tuolumne River Diversion Alternative	Year-round Desalination at Oceanside Alternative	Regional Desalination for Drought Alternative	Modified WSIP Alternative
				No Supplemental Tuolumne River Water	With Supplemental Tuolumne River Water				
Section 5.4.7, Recreational and Visual Resources									
Impact 5.4.7-1: Effects on recreation									
	Operations under the WSIP would substantially reduce flows along Alameda Creek in the Sunol Regional Wilderness during winter and early spring months and adversely affect the recreational experience of hikers; however, with the changes in project description for the Calaveras Dam Replacement (SV-2) project, bypass flows would be reduced from the diversion dam when flows are present. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS	Same as proposed program. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS)	Same as proposed program (~~PSM~~ LS)	~~Much less than~~ Same as proposed program (LS)
Impact 5.4.7-2: Visual effects									
	WSIP-induced reductions in stream flows along Alameda Creek would substantially change the quality of visual resources in the Sunol Regional Wilderness; however, with the changes in project description for the Calaveras Dam Replacement (SV-2) project, bypass flows would be reduced from the diversion dam when flows are present. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS)	Same as proposed program. (~~PSM~~ LS)	Same as proposed program (~~PSM~~ LS)	~~Much less than~~ Same as proposed program (LS)

LS = Less than Significant, no mitigation required
SM or PSM = Significant or Potentially Significant, can be Mitigated to less than significant
SU or PSU = Significant Unavoidable or Potentially Significant Unavoidable, cannot be mitigated to less than significant

TABLE 9.9
SUMMARY OF SIGNIFICANT WATER SUPPLY AND SYSTEM OPERATIONS IMPACTS FOR CEQA ALTERNATIVES – PENINSULA WATERSHED

Impact	Proposed Program	No Program Alternative	No Purchase Request Increase Alternative	Aggressive Conservation/Water Recycling and Local Groundwater Alternative		Lower Tuolumne River Diversion Alternative	Year-round Desalination at Oceanside Alternative	Regional Desalination for Drought Alternative	Modified WSIP Alternative
				No Supplemental Tuolumne River Water	With Supplemental Tuolumne River Water				
Section 5.5.3, Surface Water Quality									
Impact 5.5.3-2: Water quality in Pilarcitos Reservoir									
	~~Operations under the WSIP would increase summer drawdown of Pilarcitos Reservoir and could cause the reservoir to destratify earlier in the season, which may improve water quality. However, the ability of the reservoir to support cold freshwater habitat could be reduced due to a reduced volume of cool water below thermocline.~~ Proposed operations would generally be within the same range as existing conditions although replacement Measure 5.5.3-2a would cause Pilarcitos Reservoir to be drawn down earlier in the summer compared to existing conditions. Water temperature could increase and dissolved oxygen content could be reduced. During dry years, summertime releases from Pilarcitos Reservoir to Pilarcitos Creek would be eliminated or reduced to a low level for a longer period of time with the WSIP, which would increase the temperature of instream flows between Pilarcitos Creek and Stone Dam and reduce the creek's ability to support designated cold freshwater habitat along this reach. (PSM)	Similar to proposed program. (PSM)	Similar to but much less than proposed program. (LS)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program (PSM)	Similar to ~~existing condition~~ but much less than proposed program (LS)
Impact 5.5.5-4: Effects on fisheries resources in Pilarcitos Reservoir									
	~~Reduction in average monthly storage in Pilarcitos Reservoir~~ Proposed operations would be within the same range as existing conditions although replacement Measure 5.5.3-2a would cause Pilarcitos Reservoir to be drawn down earlier in the summer compared to existing conditions. This would reduce the volume and quality of coldwater habitat available for resident fish species. (PSM)	Similar to proposed program. (PSM)	Similar to but much less than proposed program. (LS)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program (PSM)	Similar to existing condition (LS)
Impact 5.5.6-4: Impacts on biological resources in Pilarcitos Reservoir									
▪ Key special status species	Proposed operations would be within the same range as existing conditions, although replacement Measure 5.5.3-2a would cause Pilarcitos Reservoir to be drawn down earlier in the summer compared to existing conditions. This ~~e~~would reduce the extent of suitable habitat for California red-legged frog and San Francisco garter snake. Special-status species that utilize adjacent upland vegetation would not be affected. (PSM)	Similar to proposed program. (PSM)	Similar to but much less than proposed program. (LS)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program. (PSM)	Similar to proposed program (PSM)	Similar to existing condition (LS)
Impact 5.5.6-5: Impacts on biological resources along Pilarcitos Creek									
▪ Sensitive habitats	~~In summer months of dry years, an extended period of no or little flow would stress or kill riparian vegetation.~~ Proposed operations would result in flows within the range of historical conditions, to which sensitive habitats have adapted. (~~PSM~~ LS)	Similar to proposed program. (~~PSM~~ LS)	Similar to ~~but much less than~~ proposed program. (LS)	Similar to proposed program. (~~PSM~~ LS)	Similar to proposed program. (~~PSM~~ LS)	Similar to proposed program. (~~PSM~~ LS)	Similar to proposed program. (~~PSM~~ LS)	Similar to proposed program (~~PSM~~ LS)	Similar to ~~existing condition~~ proposed program (LS)

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Appendix C

Appendix C.6

Appendix C, pages C-2, C-6, and C-7, Table C-1: The revisions to the project descriptions for the Alameda Creek Fishery Enhancement (SV-1), Calaveras Dam Replacement (SV-2), and Lower Crystal Springs Dam Improvement (PN-4) are the same as those described above under Volume 1, Chapter 3, Section 3.8, pages 3-50 and 3-54, Table 3.10.

Appendix C.6, page C-26: Table C.6 is revised as shown on pages 16-115 and 16-116 in response to comments described in **Section 14.4, Master Response on PEIR Appropriate Level of Analysis**.

Appendix E

Appendix E.3 Population, Employment, and Water Demand Projections

Appendix E.3, page E.3-38: The entries for Milpitas, Redwood City, and San Bruno in Table E.3.34 are revised as shown on page 16-117 in response to a few comments (see **Responses L_Milpts-14, L_RdwdCty-08, and L_SBruno-18**).

Appendix E.3, page E.3-39: The footnote and source information for Milpitas and Redwood City in Table E.3.34 are revised as shown on the page 16-118 in response to two comments (see **Responses Response L_Milpts-14** and **L_RdwdCty-08**).

Appendix E.3, page E.3-40: The entries for Milpitas and Redwood City in Table E.3.36 is revised as shown on page 16-119 in response to two comments (see **Responses L_Milpts-14** and **L_SBruno-18**).

Appendix E.3, page E.3-51: The following reference is deleted in response to a comment (see **Response L_RdwdCty-08**).

~~City of Redwood City, *Downtown Precise Plan Draft Environmental Impact Report* (October 2006) and *Final Environmental Impact Report*, State Clearinghouse #2005052027, certified March 2007.~~

Appendix E.4 Growth Trends

Appendix E.4, page E.4-3, Table E.4.1: Table E.4.1 is revised in response to two comments as shown on page 16-120 (see **Responses L_Milpts-14** and **L_RdwdCty-08**).

Appendix E.4, p. E.4-8: The last sentence of the second paragraph is revised as follows in response to a comment (see **Response L_Milpts-14**):

> With the Midtown Milpitas Specific Plan, the city's general plan population at buildout is projected to be 77,100 ~~94,400~~ (City of Milpitas, 2002a; City of Milpitas, 2002c~~; Carrington, 2006~~).

Appendix E.4, page E.4-14: The fourth and fifth sentences of the first full paragraph on this page are revised as follows in response to a comment (see **Response L_RdwdCty-08**).

> During the 1970s and 1980s, changes in industry and housing occurred, with the craft industries of the city's early years giving way to high-technology and information-age industries (City of Redwood City, 1990). The 1990 Redwood City General Plan indicated that the city was expected to reach a population of 70,000 by the year 2000 (Redwood City, 1990, Chapter 4, p. 4-1). The EIR for the Downtown Precise Plan~~, a recent amendment of the general plan,~~ cites ABAG's *Projections 2005* forecasts for the city (not including its sphere of influence) of 87,100 in 2020.

The following corrections are made:

> **References**
>
> City of Redwood City, *Downtown Precise Plan Draft Environmental Impact Report* (October 2006) and *Final Environmental Impact Report*, State Clearinghouse #200650~~5~~2027 certified March 2007c.

Appendix E.5 Impacts

The following corrections are made:

> **Page 2:**
>
> - City of Redwood City Downtown Precise Plan EIR, State Clearinghouse #200650~~5~~2027 (2007)
>
> **Table E.5.1 footnote**
>
> [m] City of Redwood City, Downtown Precise Plan Environmental Impact Report, State Clearinghouse #200650~~5~~2027, certified March 2007a; Resolution No. 14769 of the City Council of City of Redwood City Making Certain Findings Concerning Mitigation Measures, Adopting a Mitigation Monitoring and Reporting Program, Making Findings Concerning Alternatives, and Adopting a Statement of Overriding Considerations in Accordance with the California Environmental Quality Act for the Redwood City Downtown Precise Plan, adopted March 26, 2007b; Ordinance No. 2308 of the City Council of the City of Redwood City Adopting the Redwood City Downtown Precise Plan and the Moderate Intensity Alternative as the Most Appropriate Maximum Alternative Development Limitation for the Downtown Precise Plan, approved April 24, 2007c.
>
> **References**
>
> City of Redwood City, *Downtown Precise Plan Draft Environmental Impact Report* (October 2006) and *Final Environmental Impact Report*, State Clearinghouse #200650~~5~~2027 certified March 2007a.

TABLE C.6
PERMITS, APPROVALS, AND EARLY COORDINATION WITH OTHER AGENCIES THAT MAY BE REQUIRED[a]

Project Number	Project Name	ACOE Section 10	Individual or ACOE NWP Section 404	National Wildlife Refuge	SHPO Section 106	NMFS Section 7 / USFWS Section 7	USFWS FWCA	National Park Service, GGNRA[b]	State Lands Commission Lease/ Permit[c]	Caltrans[d]	DWR, Central Valley Flood Protection Board	DWR, Division of Safety of Dams	CDFG 1602, 2080.1, 2081, or MOA	DHS (Public Water System)	SWRCB (SWPPP)	RWQCB 401	RWQCB Discharge/ Dewatering	BAAQMD	BCDC	Local CUPA/ HazMat Business Plan
SJ-1	Advanced Disinfection		Possible		Possible	Possible							X	X	X	Possible		~~AQMD permit~~ TBD		
SJ-2	Lawrence Livermore Supply Improvements		X (TS site only)		Possible	X (TS site only)							X (TS site only)	X	X	X (TS site only)				X
SJ-3	San Joaquin Pipeline System		X	Possible	X	X			X	Possible	Possible		X		X	X				X
SJ-4	Rehabilitation of Existing San Joaquin Pipelines	Possible	Possible	Possible	Possible	Possible				Possible			Possible							
SJ-5	Tesla Portal Disinfection Station												X	X	X					X
SV-1	Alameda Creek Fishery Enhancement		TBD		TBD	TBD				Possible			X			TBD				
SV-2	Calaveras Dam Replacement		X		X	X	X					X	X		X	X	X			X
SV-3	Additional 40-mgd Treated Water Supply													X	X					X
SV-4	New Irvington Tunnel		X		X	X				Possible			X		X	X	X			X
SV-5	SVWTP – Treated Water Reservoirs													X	X					X
SV-6	San Antonio Backup Pipeline																			
BD-1	Bay Division Pipeline Reliability Upgrade	Possible	X	Possible	X	X	X[e]		X	Possible			X		X	X	X		Possible	X
BD-2	BDPL Nos. 3 and 4 Crossovers		X			X	X			Possible			X		X	X	X			
BD-3	Seismic Upgrade of BDPLs Nos. 3 and 4 at Hayward Fault	TBD	TBD		TBD	TBD	TBD		TBD	Possible			TBD	TBD	TBD	TBD	TBD	TBD		
PN-1	Baden and San Pedro Valve Lot Improvements									Possible				X			X			
PN-2	Crystal Springs/San Andreas Transmission Upgrade	X	X		X	X		EC[b]		Possible			X	X	X	X	X			X
PN-3	HTWTP Long-Term Improvements							EC[b]		Possible				X	X					
PN-4	Lower Crystal Springs Dam Improvements	X	X		X	X	X	EC[b]		Possible		X	X		X	X	X			X
PN-5	Pulgas Balancing Reservoir Rehabilitation							EC[b]					X							
SF-1	San Andreas Pipeline No. 3 Installation									Possible					X	X	X			
SF-2	Groundwater Projects (Local and Regional)									Possible				X				X		
SF-3	Recycled Water Projects									Possible				X		X				

NOTES: ACOE = U.S. Army Corps of Engineers; BAAQMD = Bay Area Air Quality Management District; BCDC = San Francisco Bay Conservation and Development Commission; Caltrans = California Department of Fish and GameTransportation; CDFG = California Department of Fish and Game; CUPA = Certified Unified Program Agency; DHS = California Department of Health Services; DWR = California Department of Water Resources; EC = Early Coordination Requested; (FWCA = Fish and Wildlife Coordination Act); GGNRA = Golden Gate National Recreation Area; MOA = Memorandum of Agreement; NMFS = U.S. National Marine Fisheries Service; (NWP = National Permit for Stream and Wetland Restoration Activities); RWQCB = Regional Water Quality Control Board; SHPO = State Historic Preservation Office; SWPPP = stormwater pollution prevention plan; SWRCB = State Water Resources Control Board; TBD = To Be Determined; TS = Thomas Shaft; USFWS = U.S. Fish and Wildlife Service.

a Additional approvals may be identified for WSIP facility projects when separate, project-level CEQA analysis is completed.

b The GGNRA requests consultation during project development and advance notification of meetings and would like to assist in creating mitigations for potential impacts from these projects.

c Section 6327 of the Public Resources Code provides that if a facility is for the "procurement of fresh-water from and construction of drainage facilities into navigable rivers, streams, lakes and bays," and if the applicant obtains a permit from the local reclamation district, State Reclamation Board, the U.S. Army Corps of Engineers, or the Department of Water Resources, then an application shall not be required by the State Lands Commission. Since the proposed program appears to fall within this section, a lease from the Commission would not be required, provided one of the above-listed permits is obtained.

d As part of project-level CEQA review, Caltrans requests that each facility improvement project be reviewed to determine if it encroaches on any state facilities. Any encroachment on Caltrans right-of-way would require an encroachment permit, and CEQA-related environmental studies may be necessary (including studies related to biological resources, cultural resources, and hazardous materials). A qualified professional must conduct these studies to satisfy Caltrans's environmental review policies. Ground-disturbing activities on the site prior to completing and/or approving the required environmental documents could affect Caltrans' ability to issue a permit for the project.

e The USFWS and the Coastal Conservancy are interested in acquiring clean dredge material generated by this project for use in wetland restoration associated with the South Bay Salt Pond Restoration Project, particularly within the Don Edwards San Francisco Bay National Wildlife Refuge (contact Clyde Morris, Manager, 510-792-0222, ext. 25). The USFWS recommends that the SFPUC coordinate with the USFWS's Division of Endangered Species at the Sacramento Fish and Wildlife Office (916-414-6600).

TABLE C.6
PERMITS, APPROVALS, AND EARLY COORDINATION WITH OTHER AGENCIES THAT MAY BE REQUIRED (CONT'D)

Project Number	Project Name	San Mateo County Transit District	Coastal Conservancy	Association of Bay Area Governments	Local Flood Control Districts[f]	Alameda County Flood Control and Water Conservation District	Alameda County Water District[g]	East Bay Regional Park District[h]	City of Fremont[i]	City of Menlo Park	City of Palo Alto	Coastside County Water District
SJ-1	Advanced Disinfection											
SJ-2	Lawrence Livermore Supply Improvements											
SJ-3	San Joaquin Pipeline System				Possible							
SJ-4	Rehabilitation of Existing San Joaquin Pipelines				Possible							
SJ-5	Tesla Portal Disinfection Station											
SV-1	Alameda Creek Fishery Enhancement				Possible		EC	EC				
SV-2	Calaveras Dam Replacement					EC[j]	EC	EC	EC			
SV-3	Additional 40-mgd Treated Water Supply						EC	EC				
SV-4	New Irvington Tunnel				Possible		EC	EC				
SV-5	SVWTP – Treated Water Reservoirs						EC	EC				
SV-6	San Antonio Backup Pipeline				Possible		EC	EC				
BD-1	Bay Division Pipeline Reliability Upgrade	EC[k]	EC[l]	EC[l]	Possible		EC	EC	EC	EC[m]		
BD-2	BDPL Nos. 3 and 4 Crossovers				Possible						EC[n]	
BD-3	Seismic Upgrade of BDPLs Nos. 3 and 4 at Hayward Fault				Possible				EC			
PN-1	Baden and San Pedro Valve Lot Improvements											
PN-2	Crystal Springs/San Andreas Transmission Upgrade				Possible							
PN-3	HTWTP Long-Term Improvements											
PN-4	Lower Crystal Springs Dam Improvements											EC[o]
PN-5	Pulgas Balancing Reservoir Rehabilitation											
SF-1	San Andreas Pipeline No. 3 Installation				Possible							
SF-2	Groundwater Projects (Local and Regional)				Possible							
SF-3	Recycled Water Projects				Possible							

NOTE: EC = Early Coordination Requested

f As part of project-level CEQA review, the Alameda County Flood Control and Water Conservation District requests that each facility improvement project that includes pipelines be reviewed to determine if an encroachment permit is required where the pipelines cross the District's channels and creek inverts.

g The ACWD requests that the BD-1 project be coordinated with the ACWD earlier (during project planning and design phases, rather than during the construction phase) to minimize impacts associated with conflicting water facilities and potential impacts on the ACWD's ability to meet customer demands and fire flow requirements. In addition, all Sunol Valley projects (SV-1 through SV-6) will need to take into account potential effects of facility construction on downstream water intakes at ACWD's facilities in the flood control channel. The project-level CEQA review for the SV-2 project will need to consider coordination and notification related to Calaveras Reservoir release protocols that could affect downstream groundwater recharge and the potential for flooding.

h As part of project-level CEQA review, each facility improvement project in the Sunol Valley region should be reviewed to determine if it encroaches on EBRPD property. The EBRPD requests coordination of construction mitigation measures for certain WSIP projects in the Sunol Valley to minimize construction impacts on recreational uses and allow coordination of fire suppression planning and response (including review of traffic control plans). As part of the project-level EIR for SV-2, the EBRPD states that the SFPUC needs to coordinate the timing of water releases from Calaveras Dam to maximize benefits to amphibians and anadromous fish species.

i The City of Fremont requests consultation (regarding the applicability of encroachment permits, and development and review of traffic control plans) during the planning and design phases of the SV-2, BD-1, and BD-3 projects as well as any other WSIP project that could affect the Fremont transportation network.

j As part of the project-level CEQA review, mitigation measures should be developed to establish coordination and notification protocols between the SFPUC and the ACFCWCD regarding Calaveras Reservoir releases that could affect the potential for downstream flooding.

k The USFWS requests that the BD-1 project be coordinated with the Transit District's Dumbarton Rail Project to minimize habitat impacts for both projects.

l The Coastal Conservancy requests that the SFPUC coordinate with the Coastal Conservancy and Association of Bay Area Government's Bay Trail project (regarding completion of the Bay Trail gap through SFPUC lands).

m The City of Menlo Park requests coordination of construction mitigation measures for the BD-1 project to minimize construction impacts (e.g., access and parking) on local residents and businesses, including the Menlo Business Park.

n The City of Palo Alto requests early consultation on the BD-2 project.

o The Coastside CWD requests consultation during development of the adaptive management program for Crystal Springs Reservoir as part of the operations phase of the PN-4 project.

TABLE E.3.34
COMPARISON OF GENERAL PLAN POPULATION PROJECTIONS TO ABAG PROJECTIONS 2005, UWMPS, AND WATER CUSTOMER DEMAND PROJECTIONS FOR GENERAL PLAN PROJECTION YEAR

	Population in General Plan Population Year[a] Shown in:			
	General Plan[b]	UWMP	SFPUC Water Customer Projection[c]	*Projections 2005*
Cities with GP Population Projections for 2005				
Colma	1,285	see note d	see note d	1,350
Cities with GP Population Projections for 2010				
Belmont	27,800	see note f	see note f	26,000
Burlingame	31,500	30,200	31,648	30,200
Foster City	30,803	37,424[e]	36,284[e]	29,800
Menlo Park	35,285	10,344[g]	12,619[g]	35,600
Mountain View	75,200	75,200	74,422	76,000
Palo Alto	62,880	64,168	62,823	78,300
San Mateo	100,700	see note h	see note h	102,500
Santa Clara	129,900	116,527	115,630	117,400
Cities with GP Population Projections for 2015				
Millbrae	24,860	23,055	23,253	22,800
Cities with GP Population Projections for 2020				
Atherton	8,400	see note i	see note i	7,900
Daly City	113,000	114,291[j]	112,363[j]	120,200
East Palo Alto	34,600	29,612	29,844	39,600
Fremont	229,213	236,700	see note k	236,900
Half Moon Bay (incl. unincorporated area)	21,065	23,262	22,679	26,400
Milpitas	77,100~~94,400~~[l]	82,400	79,846	82,400
Newark	49,800	50,000	see note k	49,000
~~Redwood City~~	~~87,100~~	~~89,492~~[m]	~~89,519~~[m]	~~114,200~~
San Bruno	46,400	~~n.a.~~see note m	45,642	47,700
San Francisco	811,100	840,000	818,954[n]	859,200
South San Francisco+Westborough Water District[d]	67,400	78,200	70,156	68,700
Sunnyvale	154,600	146,900	144,629	146,900
Union City	80,100	86,000	see note k	82,600
Cities with GP Population Projections for 2025				
Hayward	160,300	160,300	158,909	165,900
Hillsborough	11,800	n.a	12,520	11,600
Cities with GP Population Projections for Years Prior to 2005 or No Applicable GP: Projections for 2030				
Brisbane + Guadalupe Valley MID		n.a.	6,164	5,240
Los Altos Hills		n.a.	see note o	10,700
Los Trancos County Water District[p]		see note q	1,094	n.a.
Pacifica		42,100	47,829	42,200
Portola Valley		see note q	see note q	7,800
San Carlos		see note h	see note h	35,200
Stanford University		n.a.	27,924	n.a.
Woodside		see note q	see note q	7,300

n.a. = Not available.

[a] Population shown is for the year of the most distant population projection available in the general plan, housing element, or other relevant local document (see note b). For example, populations in all columns for cities in the group titled "Cities with GP Population Projections for 2005" are populations projected for or estimated in 2005.

[b] Population estimates are from each city's general plan (GP) or the general plan's EIR.

[c] Estimates for years between 2001 and 2030 are derived by Mundie & Associates, based on linear interpolations of water customer projections, except for the 2020 San Francisco projection, which is included in the Retail Demand Study (Hannaford and Hydroconsult, 2004).

[d] CWS – South San Francisco District (Colma, parts of Daly City and South San Francisco, plus unincorporated areas) UWMP projection for 2020 is 64,050, and Westborough Water District (which serves part of South San Francisco) UWMP projection for 2020 is 14,150; the CWS-South San Francisco water customer projection for 2020 is 56,006 and the Westborough Water District water customer projection is the same as its UWMP projection (14,150).

TABLE E.3.34 (Continued)
COMPARISON OF GENERAL PLAN POPULATION PROJECTIONS TO ABAG PROJECTIONS 2005, UWMPS, AND WATER CUSTOMER DEMAND PROJECTIONS FOR GENERAL PLAN PROJECTION YEAR

Figures shown are for Estero MID (Foster City and part of San Mateo).

f Mid-Peninsula Water District (Belmont, part of San Carlos, and portions of unincorporated San Mateo County) UWMP projection for 2010 is 26,130; water customer projection is 26,925.

g Figures shown are for the City of Menlo Park water agency, which serves part of Menlo Park (less than half of the city's population).

h CWS – Mid-Peninsula District (parts of the cities of San Mateo and San Carlos plus unincorporated areas) UWMP projection for 2010 is 129,070; water customer projection is 126,746. Part of San Mateo is served by Estero MID.

i CWS – Bear Gulch District (Atherton, parts of Menlo Park, Portola Valley, and Woodside, plus unincorporated areas) UWMP projection for 2020 is 57,730; water customer projection for 2020 is 71,125.

j Figures shown are for City of Daly City water agency, which serves part of Daly City.

k Alameda County Water District (cities of Fremont, Newark, and Union City) projection is 358,066 in 2020.

l Based on Milpitas General Plan ~~adjusted to include 5,000 housing units added by the Midtown Milpitas Specific Plan~~.

m ~~Figure shown is for City of Redwood City water agency, which also serves part of the City of San Carlos, part of the Town of Woodside, and portions of unincorporated San Mateo County.~~ The UWMP (Table 2) reports three population projections: the draft general plan (2006), ABAG subregional (2005), and adjusted draft general plan (2001), although the draft general plan (2006) does not include a projection for 2020. The projections for 2020 are, respectively, 43,400 (based on a straight-line interpolation from projections shown for 2005 and 2025), 47,700, and 43,400.

n Figure is for Household Population in 2020 as shown in the Retail Demand Study (Hannaford and Hydroconsult, 2004)

o Purissima Water District (part of Los Altos Hills and some unincorporated areas) water customer projection is 6,763.

p Los Trancos County Water District was acquired by CWS in 2006, and is now part of the CWS – Bear Gulch District. Because it was a separate entity when these projections were prepared, it is presented separately in this analysis.

q CWS – Bear Gulch District (Atherton, parts of Menlo Park, Portola Valley, and Woodside, plus unincorporated areas) UWMP projection for 2030 is 59,220; water customer projection is 73,719 (excluding Los Trancos).

SOURCES: ABAG, 2004; ACWD, 2005; CWS-Mid-Peninsula, 2005 ;CWS-South San Francisco, 2006; ~~Carrington, 2006;~~ City and County of San Francisco, 2004; City of Belmont, 2002; City of Burlingame, 2002a; City of Burlingame, 2005; City of Daly City, 2004; City of Daly City, 2005; City of East Palo Alto, 1999; City of East Palo Alto, 2006; City of Foster City, 2001; City of Fremont, 2003; City of Half Moon Bay, 1993; City of Hayward, 2002; City of Hayward, 2005; City of Menlo Park, 1994; City of Menlo Park, 2006; City of Millbrae, 1998; City of Millbrae, 2005; City of Milpitas, 2002b; City of Milpitas, 2005; City of Mountain View, 2002; City of Mountain View, 2005; City of Newark, 2002; City of Palo Alto, 1998; City of Palo Alto, 2005; ~~City of Redwood City, 2005; City of Redwood City, 2007;~~ City of San Bruno, 2003; City of San Bruno, 2007; City of San Mateo, 2001; City of Santa Clara, 2002; City of Santa Clara, 2005; City of South San Francisco, 2002; City of Sunnyvale, 2002; City of Sunnyvale, 2005; City of Union City, 2002; Coastside County Water District, 2005; Estero MID, 2005; Hannaford and Hydroconsult, 2004; Mid-Peninsula Water District, 2006; SFPUC, 2005; Town of Atherton, 2002; Town of Colma, 1999; Town of Hillsborough, 2002; URS, 2004, Westborough Water District, 2005.

TABLE E.3.36
COMPARISON OF GENERAL PLAN POPULATION PROJECTIONS TO ABAG *PROJECTIONS 2005*, UWMPS, AND WATER CUSTOMER DEMAND PROJECTIONS FOR 2030

	General Plan Population Projection	UWMP Population in 2030	SFPUC Water Customer Population Projection for 2030	*Projections 2005* Population in 2030
Cities with GP Population Projections for 2005				
Colma	1,285	see note a	see note a	1,860
Cities with GP Population Projections for 2010				
Belmont	27,800	see note c	see note c	28,800
Burlingame	31,500	31,900	34,967[d]	31,900
Foster City	30,803	40,866	40,096[b]	32,500
Menlo Park	35,285	11,218[e,ŧ]	13,655[e,ŧ]	41,100
Mountain View	75,200	81,700[g]	81,670[g]	89,600
Palo Alto	62,880	69,199	69,199	92,200
San Mateo	100,700	see note h	see note b,h	119,800
Santa Clara	129,900	140,698	140,698	142,100
Cities with GP Population Projections for 2015				
Millbrae	24,860	24,200	25,174	24,500
Cities with GP Population Projections for 2020				
Atherton	8,400	see note f	see note f	8,200
Daly City	113,000[i]	115,651 [j,k]	115,651[j,k]	127,200
East Palo Alto	34,600	32,712	32,712	43,600
Fremont	229,213	257,100	see note l	257,200
Half Moon Bay (incl. uninc. area)	21,065	24,973[m]	24,973[m]	27,100
Milpitas	77,100~~94,400~~[n]	91,400	88,841	91,400
Newark	49,800	53,500	see note l	53,400
~~Redwood City~~	~~87,100~~	~~93,329~~ [o]	~~93,535~~ [o]	~~122,300~~
San Bruno	46,400	see note ~~p~~o	48,229[q~~p~~]	50,700
San Francisco	811,100	871,000	849,942	924,600
South San Francisco+Westborough Water District	67,400	83,450[r]	73,884[r~~q~~]	71,800
Sunnyvale	154,600	159,100	151,610	159,100
Union City	80,100	95,300	see note l	94,100
Cities with GP Population Projections for 2025				
Hayward	160,300	162,800	162,757	171,500
Hillsborough	11,800		12,708[s~~r~~]	11,800
Cities with GP Population Projections for Years Prior to 2005 or No Applicable GP Population Projection				
Brisbane + Guadalupe Valley MID		n.a.	6,164	5,240
Los Altos Hills		n.a.	see note t	10,700
Los Trancos Valley Water Dist.[u~~t~~]		n.a.	1,094[v]	
Pacifica		42,100	47,829	42,200
Portola Valley		n.a.	see notes f,[w~~v~~]	7,800
San Carlos		see note h	see note h	35,200
Stanford University			27,924	n.a.
Woodside			see note f	7,300

a CWS – South San Francisco District (Colma, parts of Daly City and South San Francisco, plus unincorporated areas) UWMP projection for 2030 is 60,150; water customer projection for 2030 is 59,584.
b Estero MID (Foster City and part of San Mateo) projection for 2030 is 40,096.
c Mid-Peninsula Water District (Belmont, part of San Carlos, and portions of unincorporated San Mateo County) UWMP projection for 2030 is 28,930; water customer projection is 27,997.
d Figure shown is for the City of Burlingame Water Agency, which also serves some unincorporated area.
e Figure shown is for the portion of Menlo Park (less than half of the city's population) served by the City of Menlo Park Water Agency.
f CWS – Bear Gulch District (Atherton, parts of Menlo Park, Portola Valley, and Woodside, plus unincorporated areas) projection for 2030 is 73,719; UWMP population projection is 59,220 in 2030.
g Figure shown is for the City of Mountain View Water Agency, which serves most of Mountain View.
h CWS – Mid-Peninsula District (parts of the cities of San Mateo and San Carlos plus unincorporated areas) water customer population projection for 2030 is 139,834; UWMP population projection for 2030 is 134,010.
i The Housing Element of the Daly City General Plan projects this population within the city limits and a population of 120,000 within the (planning) area that corresponds to the ABAG subregional study area.
j Figure shown is for the portion of Daly City served by the City of Daly City Water Agency.
k Parts of Daly City and South San Francisco are served by CWS – South San Francisco District.
l Alameda County Water District (cities of Fremont, Newark, and Union City) projection for 2030 is 379,931.
m Figure shown is for the Coastside County Water District, which also serves unincorporated Half Moon Bay.
n Based on Milpitas General Plan ~~adjusted to include 5,000 housing units added by the Midtown Milpitas Specific Plan (Carrington, 2006)~~.
o ~~Figure shown is for City of Redwood City Water Agency, which also serves part of the City of San Carlos, part of the Town of Woodside, and portions of unincorporated San Mateo County.~~
p~~o~~ San Bruno UWMP (City of San Bruno,2007) shows two population projections for 2030: 50,700, based on ABAG's *Projections 2005*, and 48,229, based on the City's Adjusted Draft General Plan.
q~~p~~ Figure shown is for the City of San Bruno Water Agency, which also serves some unincorporated areas.
r~~q~~ Figures shown are for the CWS – South San Francisco District plus Westborough Water District. For the Westborough Water District, the water customer projection is the same as the UWMP projection.
s~~r~~ Figure shown is for the Town of Hillsborough Water Agency, which also serves some unincorporated area.
t~~s~~ Purissima Hills Water District, (part of Los Altos Hills and some unincorporated area) projection is 6,763.
u~~t~~ Los Trancos County Water District was acquired by CWS in 2006, and is now part of the CWS – Bear Gulch District. Because it was a separate entity when these projections were prepared, it is presented separately in this analysis.
v~~u~~ Includes a portion of Portola Valley.
w~~v~~ Portola Valley is served by CWS – Bear Gulch District; a portion of the city was previously served by the Los Trancos County Water District, which is now part of CWS – Bear Gulch.

SOURCE: See sources for Table E.3.34.

TABLE E.4.1
CURRENT POPULATION ESTIMATES AND FORECASTS OF SELECT JURISDICTIONS

City	Actual Population	Current Population Estimates			Forecasts				
	U.S. Census 2000 Population	U.S. Census Estimated 2005 Population	ABAG *Projections 2005* Estimated 2005 Population	Department of Finance Estimated 2006 Population	General Plan Buildout (Year) and Population	ABAG *Projections 2005 Population* Projection for General Plan Buildout Year	Customer-Selected Population Projection for 2030	ABAG *Projections 2005 Population* Projection for 2030	Percent of Supply (after Conservation) from SFPUC
Alameda County									
ACWD[a]	312,753	311,600	326,900	325,396	(2020) 359,113	368,500	379,931	404,700	25%
Fremont	*203,413*	*200,468*	*211,100*	*210,158*	*(2020) 229,213*	*236,900*		*257,200*	
Newark[b]	*42,471*	*41,956*	*44,400*	*43,486*	*(2020) 49,800*	*49,000*		*53,400*	
Union City	*66,869*	*69,176*	*71,400*	*71,752*	*(2020) 80,100*	*82,600*		*94,100*	
Hayward	140,030	140,293	146,300	146,398	(2025) 160,300	165,900	162,757	171,500	100%
Santa Clara County									
Milpitas[c]	62,698	63,383	65,400	65,276	(2020) 77,100~~94,400~~	82,400	88,841	91,400	48%
Santa Clara[d]	102,361	105,402	108,700	110,771	(2010) 129,900	117,400	140,698	142,100	15%
Sunnyvale	131,760	128,902	131,700	133,544	(2025) 154,600	146,900	151,610	159,100	46%
San Mateo County									
East Palo Alto	29,506	32,242	32,700	32,083	(2020) 34,600	39,600	32,712	43,600	100%
Redwood City[e]	75,402	73,114	77,300	76,087	(2000~~2020~~) 70,000~~87,100~~	87,100	93,535	122,300	92%
San Mateo[f]	92,482	91,081	94,900	94,315	(2010) 100,700	98,000	See note f	119,800	100%
South San Francisco[g]	60,552	60,735	61,000	61,824	(2020) 67,400	68,500	73,884	71,800	See note g
City and County of San Francisco	776,733	739,426	798,000	798,680	(2020) 811,100	859,200	849,942	924,600	97%

a ACWD = Alameda County Water District; U.S. Census, ABAG, Department of Finance (DOF), and general plan figures are the combined estimates for Fremont, Newark and Union City.
b The Newark general plan projection shown is from the 2002 housing element. The general plan (adopted in 1992) projected a buildout population of 51,942 by the year 2007.
c The general plan population is based on the population shown in the general plan ~~(77,100) plus the additional population accommodated by the Milpitas Midtown Specific Plan, as advised by Milpitas Planning Department staff (Carrington, 2006), to account for 5,000 additional units with an assumed density of 3.46 persons per unit (i.e., an added population of 17,300). The City has amended to general plan to incorporate the specific plan~~.
d The general plan figure for Santa Clara is the average of the range projected in the general plan at buildout of 124,800 to 135,000.
e The SFPUC provides 100 percent of Redwood City's potable water. The remaining 8 percent of demand indicated here is met by recycled water.
f The city of San Mateo is served by the CWS–Mid-Peninsula District and Estero MID, both of which serve other jurisdictions as well; therefore, the 2030 population assumed by the wholesale customers is not comparable to projections for the city. The SFPUC supplies all of the CWS–Mid Peninsula District's and Estero MID's water.
g The customer-selected projection is the combined 2030 estimates for the CWS–South San Francisco District (which also serves Colma and a small portion of unincorporated San Mateo County), based on the 2004 demand study, and the Westborough Water District, based on the district's 2005 UWMP. The SFPUC would supply approximately 85 percent of the CWS–South San Francisco District's water supply in 2030 and 100 percent of Westborough Water District's. The other figures are for South San Francisco only.

SOURCES: ABAG, 2004; California Department of Finance, 2006; ~~Carrington, 2006;~~ City of East Palo Alto, 1999a; City of Fremont, 2003a; City of Hayward, 2002a; City of Milpitas, 2002a; City of Newark, 2002; City of Redwood City, 1990~~2007c~~; City of San Mateo, 2001; City of Santa Clara, 2002; City of Sunnyvale, 2002; City of Union City, 2002a; U.S. Census Bureau, 2000; U.S. Census Bureau, 2006; URS, 2004, Westborough Water District, 2005.

Appendix H

Appendix H1, page H1-10: The seventh sentence of the third full paragraph on the page is revised in response to a comment (see **Response SI_TRT-CWA-SierraC-174**).

> Studies suggest that there is a 30 percent chance that the SFPUC system will experience a drought in the next 75 years equal to or more severe than the 1987–1992 drought (Beck, 1994).

Appendix H1, page H1-39: The following text is added as the first reference in response to a comment (see **Response SI_TRT-CWA-SierraC-174**).

> Beck,R.W. *Design Drought Analysis*. Prepared for Modesto Irrigation District and Turlock Irrigation District, August 1994.

Appendix I

Appendix I, page I-3: The following consultant is added after "JRP Historical Consulting (Cultural Resources)" to reflect this consultant's contributions to the Comments and Reponses document.

Stratus Consulting (Climate Change, third party review)

P.O. Box 4059
Boulder, CO 80306-4059

- Joel B. Smith