



COMMENTS ON THE 2016
DRAFT REVISED SUBSTITUTE ENVIRONMENTAL DOCUMENT IN
SUPPORT OF POTENTIAL CHANGES TO THE
WATER QUALITY CONTROL PLAN FOR THE
SAN FRANCISCO BAY-SACRAMENTO SAN JOAQUIN DELTA
ESTUARY: SAN JOAQUIN RIVER FLOWS AND SOUTHERN DELTA
WATER QUALITY



BAWSCA Member Agency Service Area

MARCH 17, 2017

TABLE OF CONTENTS

I. BAWSCA'S INTEREST IN THE 2016 DRAFT SED	1
a. BAWSCA Agencies Are Reliant On The Hetch Hetchy Watershed.....	3
b. The SED Alternative Flows Will Have A Significant Impact On BAWSCA.....	6
II. SUMMARY OF BAWSCA'S COMMENT LETTER	9
III. BAWSCA'S ANALYSIS OF THE SED	10
a. The 2016 Draft SED Is Inadequate Because It Entirely Fails To Analyze The Reasonably Foreseeable Actions Of The Individual BAWSCA Member Agencies In Response To Reduced Availability Of Water.....	10
i. The SED Did Not Consider The BAWSCA Agencies' Urban Water Management Plans, Which Represent The Reasonably Foreseeable Actions Of BAWSCA Agencies In Responding To Decreased Supply	11
ii. The 2016 Draft SED Fails To Consider The Public Health Impacts Caused By Shortages.....	22
b. It Is Not Reasonably Foreseeable That The Significant Water Supply Impacts To The RWS Could Be Completely Mitigated By San Francisco's Development And/Or Procurement Of The Replacement Water Supplies	24
i. The 2016 Draft SED Incorrectly Assumes That CCSF Could Effectuate Water Transfers To Purchase The Requisite Volume Of Replacement Water From The Modesto And Turlock Irrigation Districts.....	24
ii. The 2016 Draft SED Incorrectly Assumes that the Irrigation Districts Would Agree to Transfer the Required Volume of Water at the Assumed Price.....	29
iii. It Is Not Reasonably Foreseeable That CCSF Could Develop The Identified In-Delta Diversion Facility	30
iv. It Is Not Reasonably Foreseeable That San Francisco Could Develop A Desalination Plant.....	31
c. The 2016 Draft SED Fails To Adequately Analyze The Reasonably Foreseeable Reduction In The Water Supplies And The Resulting Significant Impact On The Bay Area's Economy	31
i. The 2016 Draft SED Contains An Inadequate Economic Analysis.....	31
ii. The 2016 Draft SED Fails To Consider The Economic Impact To BAWSCA Agencies' Rates.....	35
d. The 2016 Draft SED Fails To Adequately Analyze Increasing Bay Area Population Growth And Housing Needs, The Impacts From Displaced Low-Density Growth, And The Environmental Costs Of Foregoing Smart Growth Development.....	36
i. The 2016 Draft SED Fails To Adequately Analyze Bay Area Population Growth And Resulting Displaced Low-Density Growth From The Proposed SED Alternative Flows.....	37
ii. The 2016 Draft SED Fails To Analyze The Environmental Harm From Foregoing Smart Growth Strategies And Encouraging Urban Sprawl	39
iii. The 2016 Draft SED Fails To Analyze The Impacts Disadvantaged Communities in the Bay Area	47
IV. CONCLUSION	48

Index of Figures:

- Figure 1: BAWSCA Member Agency Service Area
- Figure 2: San Francisco Regional Water System Map
- Figure 3: BAWSCA Fiscal Year 2014-15 Total Water Use by Source
- Figure 4: BAWSCA Projected Fiscal Year 2040-41 Total Water Use by Source
- Figure 5: Wholesale Customer Cutback Percentage at Current (Pre-Drought) Demands of 223 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives
- Figure 6: Wholesale Customer Cutback Percentage at Full System Demands of 265 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives
- Figure 7: BAWSCA Agencies' Foreseeable Responses to 50 Percent Shortages
- Figure 8: BAWSCA Population and Water Use – 1975 to 2015
- Figure 9: BAWSCA Residential Per Capita Water Use – 1975 to 2015
- Figure 10: Cumulative BAWSCA Water Savings Target versus Savings Achieved for June 2015 to May 2016 State Water Resources Control Board Compliance Period
- Figure 11: Average Residential Per Capita Water Use by Region June 2015 through May 2016 in Gallons per Capita per Day
- Figure 12: Average Residential Customer Water Uses 60 Gallons per Day in BAWSCA Service Area
- Figure 13: BAWSCA-EBMUD Water Transfer Map
- Figure 14: BAWSCA-SCVWD Water Transfer Map
- Figure 15: Annual Incremental Job Losses to Wholesale Customers at Full RWS Demands of 265 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives
- Figure 16: Annual Incremental Economic Output Losses to Wholesale Customers at Full RWS Demands of 265 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives
- Figure 17: Annual Incremental Job Losses to Wholesale Customers at Current (Pre-Drought) RWS Demands of 223 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives
- Figure 18: Annual Incremental Economic Output Losses to Wholesale Customers at Current (Pre-Drought) RWS Demands of 223 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives
- Figure 19: Sprawl Resource Impacts



March 17, 2017

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RE: BAWSCA Comments on the 2016 Draft Revised Substitute Environmental Document In Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay-Sacramento San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality

Dear Ms. Townsend:

The Bay Area Water Supply and Conservation Agency (BAWSCA) submits the following comments regarding the *Draft Revised Substitute Environmental Document In Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay-Sacramento San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality* (hereinafter referred to as "2016 Draft SED" or "SED") issued by the State Water Resources Control Board (State Board) on September 15, 2016. In addition, BAWSCA incorporates by reference the March 16, 2017 *Comments by the City and County of San Francisco (CCSF) to the Draft Substitute Environmental Document in Support of Potential Changes to the Bay-Delta Plan* (CCSF SED Comments) as well as individual comment letters of wholesale agencies represented by BAWSCA (the "Wholesale Customers").

BAWSCA supports the objectives of the Bay-Delta Plan and is committed to working with other stakeholders to protect water quality in the Bay-Delta Water Quality Control Plan for humans, fish, and other wildlife; understands the difficult task faced by the State Board; and supports the "Alternative to promote the expansion of natural fall-run Chinook salmon and *Oncorhynchus mykiss* populations in the lower Tuolumne River while maintaining water supply reliability" proposal put forth by the San Francisco Public Utilities Commission (SFPUC) as a means to accomplish the benefits for the Tuolumne River needed to restore and sustain the long term health of the Bay Delta.¹

I. BAWSCA'S INTEREST IN THE 2016 DRAFT SED

BAWSCA is a special district that represents the interests of twenty-four cities and water districts and two private utilities that are long term purchasers of wholesale water from CCSF's Regional Water System ("RWS"), including water originating on the Tuolumne River.²

¹ See *Comments by the City and County of San Francisco (CCSF) to the Draft Substitute Environmental Document in Support of Potential Changes to the Bay-Delta Plan* (CCSF SED Comments), *Alternative to promote the expansion of natural fall-run Chinook salmon and Oncorhynchus mykiss populations in the lower Tuolumne River while maintaining water supply reliability* (SFPUC Alternative).

² Wat. Code, § 81300 et seq.; State Water Resources Control Board, California Environmental Protection Agency, *Draft Revised Substitute Environmental Document In Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay-Sacramento San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality* (September 2016) Appendix L, p. L-6 (hereinafter "2016 Draft SED").

BAWSCA's governing board includes representatives from each of its twenty-six member agencies and these twenty-six agencies are hereinafter referred to as "BAWSCA agencies." Through the BAWSCA agencies, the water purchased from CCSF is redistributed to over 1.78 million people and over 40,000 businesses and community organizations in Alameda, Santa Clara and San Mateo counties. BAWSCA, the BAWSCA agencies, and the 1.78 million customers relying on the RWS have a clear interest, individually and collectively, in a reliable water system and in the 2016 Draft SED. Figure 1 illustrates the BAWSCA service area and agencies.

Figure 1: BAWSCA Member Agency Service Area



Legend

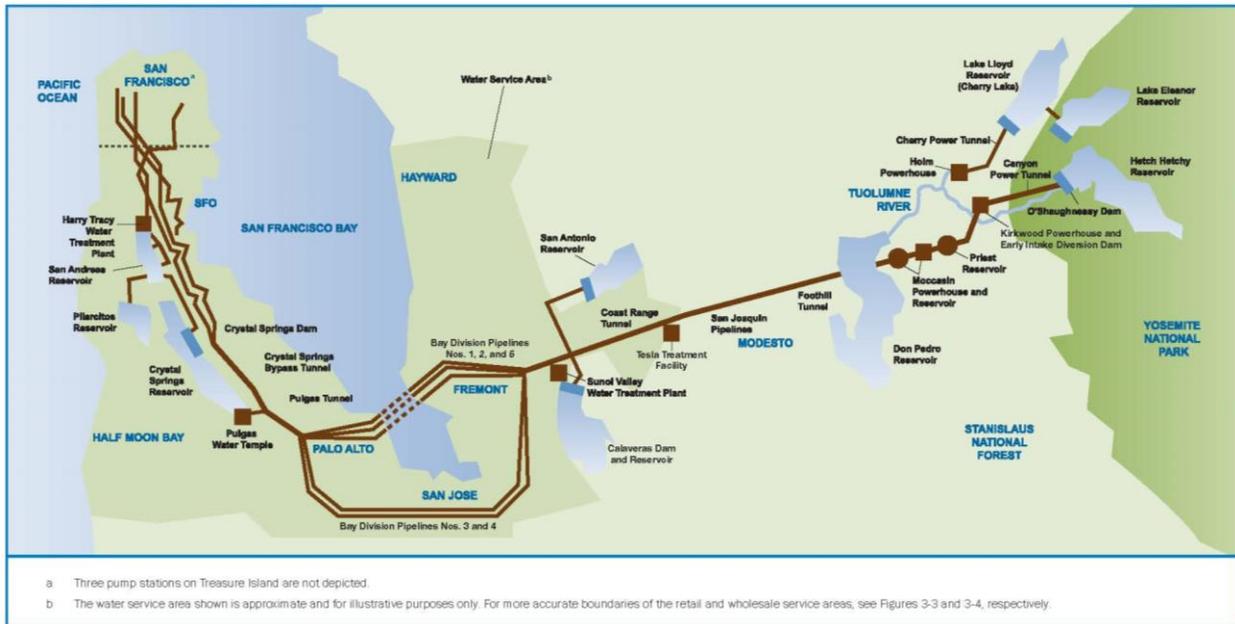
- | | | |
|-----------------------------------|-----------------------------|-----------------------------------|
| 1 Alameda County Water District | 9 Guadalupe Valley MID | 19 Purissima Hills Water District |
| 2 City of Brisbane | 10 City of Hayward | 20 City of Redwood City |
| 3 City of Burlingame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

Source: BAWSCA FY 2014-15 Annual Survey

a. BAWSCA Agencies Are Reliant On The Hetch Hetchy Watershed

The Hetch Hetchy Watershed, which is in the upper Tuolumne River, provides approximately 85 percent of CCSF's RWS supply. Figure 2 illustrates the RWS. The Hetch Hetchy Reservoir water feeds into an aqueduct system delivering water 167 miles by gravity to Bay Area reservoirs and, ultimately, to Bay Area customers. The remaining 15 percent of the RWS supply is drawn from local surface waters in the Alameda and Peninsula watersheds. The actual split between the watershed resources varies from year to year depending on the year's hydrology and operational circumstances.

Figure 2: San Francisco Regional Water System Map



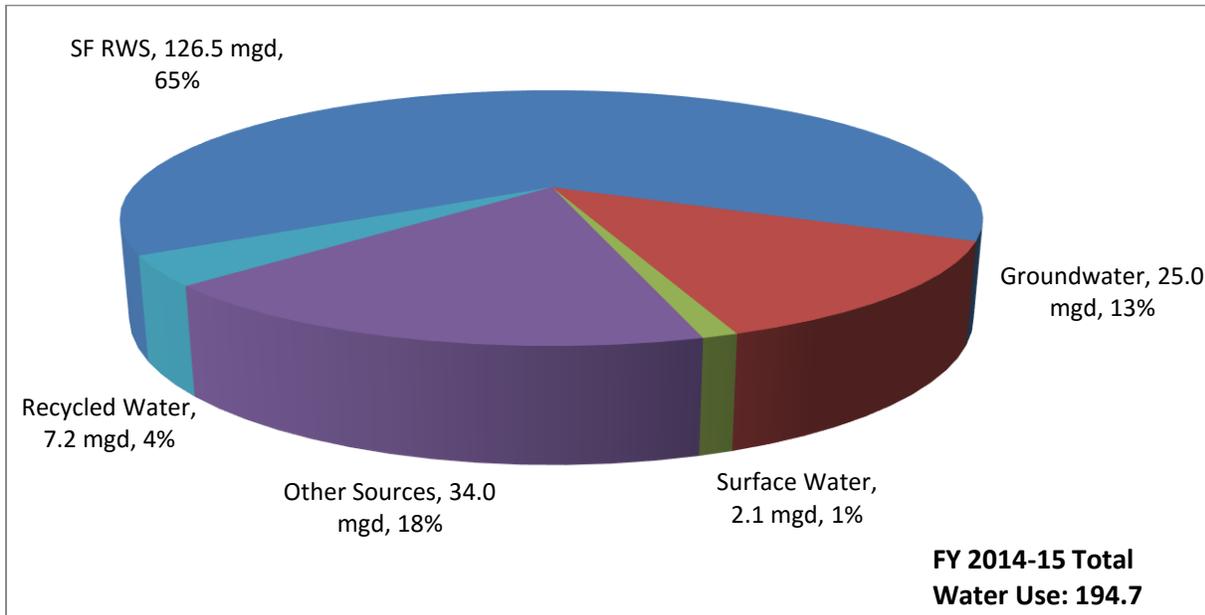
Source: SFPUC 2015 Urban Water Management Plan

Approximately two-thirds of CCSF's total water deliveries are made to BAWSCA agencies - meaning BAWSCA agencies are the primary recipient of water from the Hetch Hetchy Watershed.³ Such deliveries are annually made according to a contractual agreement between each BAWSCA agency and the CCSF. Fifteen of the BAWSCA agencies rely on the RWS for 100 percent of the potable water they distribute and all but one of the BAWSCA agencies obtain more than 50 percent of their supply from the RWS. Figure 3 illustrates the sources of supply for BAWSCA member agencies during Fiscal Year 2014-2015 and Figure 4 illustrates the projected sources of supply for BAWSCA member agencies in 2040. The Lower San Joaquin River (LSJR) Alternatives presented in the SED would dramatically affect the amount of surface water diversions to the RWS.⁴ The BAWSCA member agencies are submitting individual letters further describing their reliance on the RWS and these letters are incorporated herein by reference.

³ 2016 Draft SED, Appendix L, Table L.3-1.

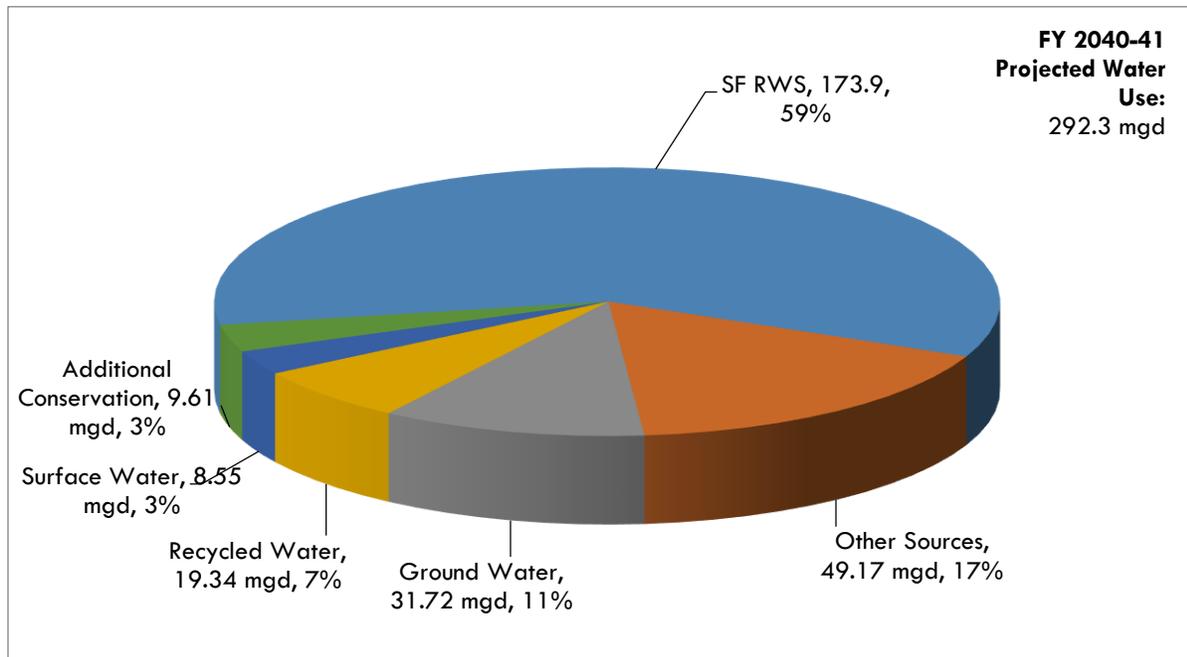
⁴ 2016 Draft SED, Appendix L, p. L-1.

Figure 3: BAWSCA Fiscal Year 2014-15 Total Water Use by Source



Source: BAWSCA Annual Survey FY 2014-15

Figure 4: BAWSCA Projected Fiscal Year 2040-41 Total Water Use by Source



Source: BAWSCA Annual Survey FY 2014-15

The water supplies currently available to the BAWSCA agencies are limited, and reliability is affected by several issues including policy decisions, hydrologic conditions, regulatory actions, climate change, and other factors.⁵ CCSF policy decisions have limited the water supplies currently available to the BAWSCA member agencies. As part of the Water System Improvement Plan (WSIP), Program Environmental Impact Report (PEIR), CCSF evaluated and unilaterally selected the Phased WSIP Variant as the preferred alternative. The Phased WSIP Variant included full implementation of the proposed WSIP facility improvement projects to ensure that public health, seismic safety, and delivery reliability goals are achieved, but limited RWS deliveries to 265 million gallons per day (mgd) in normal water years. Specifically, as part of the Phased WSIP Variant, in October 2018, the SFPUC made the unilateral decision to limit the water supply available from the RWS to the BAWSCA member agencies to 184 mgd until at least until 2018. For purposes of water supply planning, BAWSCA has assumed that deliveries from the RWS to the BAWSCA member agencies will not be in excess of 184 mgd, through 2040. This assumption is consistent with what the SFPUC has stated in public documents.⁶

In October 2008, SFPUC adopted an 80 percent level of service (LOS) goal for the RWS. Based on the drought allocation formula used in the 2009 Water Supply Agreement between San Francisco and the BAWSCA Wholesale Customers (Attachment H, Water Shortage Allocation Plan, the "Tier 1 Plan"), assuming a full system demand of 265 mgd (184 mgd for the Wholesale Customers), a drought event that creates a 10 percent RWS shortfall corresponds to an average 17 percent cutback to the Wholesale Customers, in aggregate, while a 20 percent system-wide shortfall corresponds to an average 28 percent cutback to Wholesale Customers.⁷ In addition, the allocation varies for each BAWSCA member agency (i.e., under a 20 percent system-wide shortfall, some agencies could receive a cutback of up to 40 percent to their RWS supply, while some receive less than the 28 percent cutback).⁸ Lastly, the existing drought allocation plans apply to shortages of up to 20 percent system wide, due to a recognition of the severe impacts among communities in cases of shortages that exceed 20 percent. The drought plan allows for the parties to agree to adjustments to the drought allocation plan in such a circumstance.

Based on the information presented in BAWSCA's 2015 Long-Term Reliable Water Supply Strategy Phase II Final Report (Phase II Final Report), the drought year water supply needs for the BAWSCA member agencies in 2040, with 20 percent shortage conditions on the RWS, is anticipated to be 43 mgd, which corresponds to a 26 percent shortage to the Wholesale Customers, in aggregate.⁹ The results presented in the Phase II Final Report assume that only RWS supplies are impacted and there is no shortage on agencies' other

⁵ Bay Area Water Supply & Conservation Agency, *Long-Term Reliable Water Supply Strategy Phase 1 Scoping Report*, (May 27, 2010) at p. 2-6, available at http://bawasca.org/uploads/userfiles/files/BAWSCA%20Strategy%20Final%20Report%202010_05_27.pdf (hereinafter "BAWSCA Phase 1 Scoping Report").

⁶ San Francisco Public Utilities Commission, *Draft May 2016 2040 WaterMAP: A Water Management Action Plan for the SFPUC*, (May 2016) at p. 4.

⁷ See Declaration of Matt Moses in *Support of Comments by the City and County of San Francisco to the Draft Substitute Environmental Document in Support of Potential Changes to the Bay-Delta Plan* (Moses Decl.), attached as Appendix 2, see Attachment 1 to the Moses Decl., *SFPUC Analysis of Proposed Changes to Tuolumne River Flow Criteria*, Matt Moses, P.E., Water Resources Engineer, San Francisco Public Utilities Commission, March 2017 (referred to as "SFPUC Analysis of Changes to Flow Criteria"), Table 2 at p. 10; see also Water Supply Agreement Between The City And County Of San Francisco And Wholesale Customers In Alameda County, San Mateo County And Santa Clara County, July 2009 (WSA), Attachment H, "Water Shortage Allocation Plan," hereafter referred to as the "Tier 1 Plan," available at <https://sfwater.org/modules/showdocument.aspx?documentid=8632>.

⁸ BAWSCA Phase II Final Report at p. 2-8, available at http://bawasca.org/uploads/userfiles/files/BAWSCA_Strategy_Phase_II_Final_Report_Feb_2015.pdf

⁹ BAWSCA Phase II Final Report at p. 2-8.

supplies. This assumption is incorrect as proven during the most recent/current drought. For example, State Water Project (SWP) supplies were also cutback (5% allocation was unprecedented) concurrent with the cutbacks on the RWS, this resulted in certain BAWSCA member agencies relying more heavily on the RWS supplies, which in turn impacted the rest of the BAWSCA member agencies. Moreover, under drought conditions where the alternative flows proposed in the 2016 Draft SED impact water supplies from the LSJR, local water supplies that are part of the RWS, as well as individual BAWSCA agencies alternative water supplies, will also be negatively impacted by a drought.

b. The SED Alternative Flows Will Have A Significant Impact On BAWSCA

LSJR Alternatives 2, 3, and 4 in the 2016 Draft SED include an unimpaired flow range, (*i.e.*, 20 percent, 40 percent, and 60 percent respectively), between February and June, all of which would have a severe impacts on the RWS. The 2016 Draft SED defines “[u]nimpaird flow” as “the flow that would accumulate in surface waters in response to rainfall and snowmelt, and flow downstream if there were no reservoirs or diversions to change the quantity, timing, and magnitude of flows.”¹⁰ When compared to the baseline, the results show that increased instream flow requirements on the Lower Tuolumne River potentially required as a result of water quality certification associated with FERC relicensing, and required under Phase 3 of the SED proposed to implement the Bay-Delta Plan changes through water rights actions, would have the greatest impact on CCSF water supply during a drought. The flow requirements would also negatively impact the water bank account balance at New Don Pedro Reservoir. Reductions in the water bank account balance are replenished in average years; however, the results show that during multi-year droughts the balance is further diminished under the LSJR Alternatives.¹¹

Specifically, implementation of LSJR Alternatives 3 or 4 would cause severe water shortages in the RWS service territory during a sequential year drought.¹² The 2016 Draft SED estimates that, assuming a reoccurrence of 1987-1992 hydrology at a 2010 baseline RWS demand of 226 mgd¹³, the average annual additional water supply reduction CCSF could experience if the State Board implemented a 40 percent unimpaired flow objective on the Tuolumne River would be 119,000 AF/year for each year of a 6-year drought.¹⁴ However, the water supply reduction to the RWS, as calculated by the SFPUC water supply operations models, would be far greater.¹⁵ In addition, the supply available to the Wholesale Customers under the Tier 1 Plan would be a subset of the total available to the RWS.¹⁶

Per the SFPUC’s analysis, under a 40 percent unimpaired flow objective, the RWS supply would be reduced by 129,884 AF/year for each of the 6 years, resulting in a loss of an additional 10,884 AF/year, or 65,304 AF in total for the 6-year period beyond the water supply reduction identified in the 2016 Draft SED.¹⁷ Figures 5 and 6 illustrate the reductions in RWS supply for the Wholesale Customers during a repeat of the historic 6-year drought sequence for three unimpaired flow objectives presented in the 2016 Draft SED for two different demand scenarios.

¹⁰ 2016 Draft SED at p. 3-5.

¹¹ 2016 Draft SED, Appendix L, at p. L-20.

¹² See SFPUC Analysis of Changes to Flow Criteria Tables 2-4 at pp. 10 -12; See also Tier 1 Plan, *available at* <https://sfwater.org/modules/showdocument.aspx?documentid=8632> .

¹³ 2016 Draft SED, Appendix L, at p. L-5.

¹⁴ 2016 Draft SED, Appendix L, at p. L-21, Table L.4-2.

¹⁵ SFPUC Analysis of Changes to Flow Criteria, Table 3 at p. 11..

¹⁶ See Tier 1 Plan

¹⁷ SFPUC Analysis of Changes to Flow Criteria, Table 3 at p. 11.

Figure 5: Wholesale Customer Cutback Percentage at Current (Pre-Drought) Demands of 223 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives

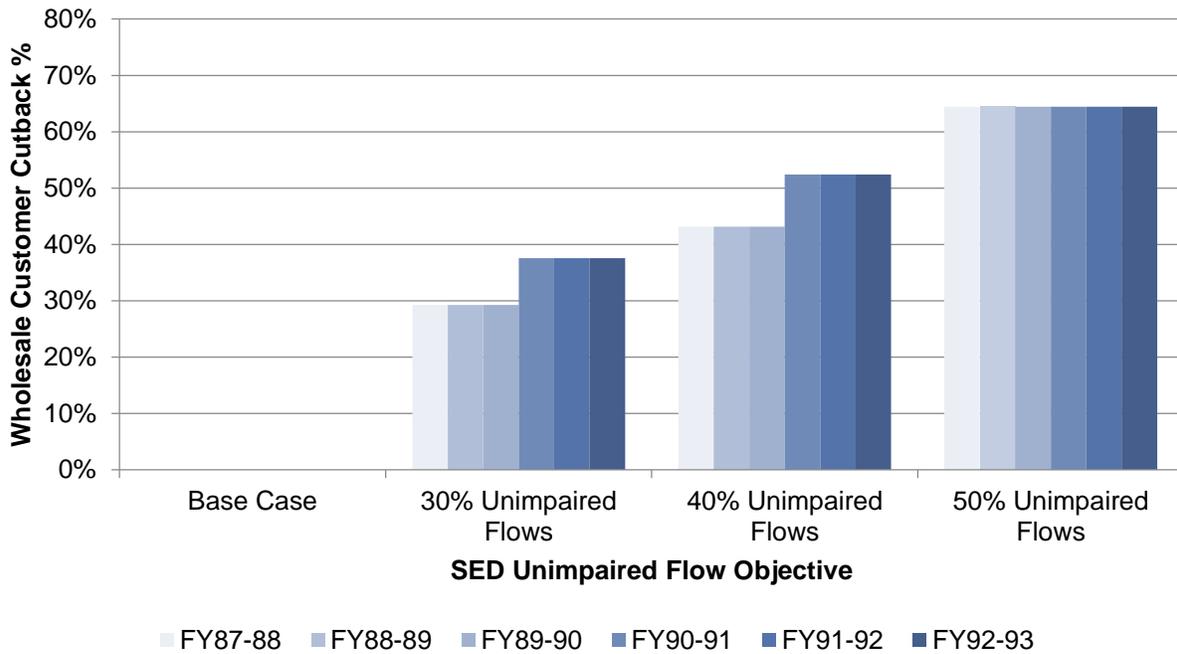
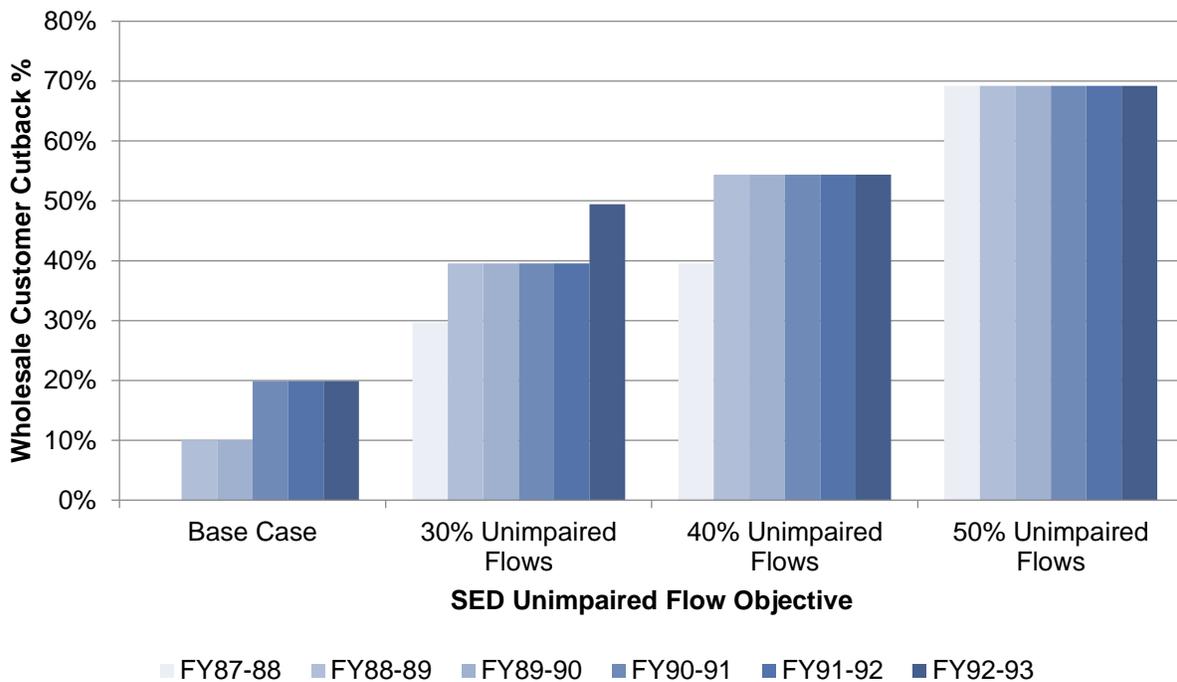


Figure 6: Wholesale Customer Cutback Percentage at Full System Demands of 265 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives



Assuming the full system demand of 265 mgd, this reduction in RWS supply would result in a 46 percent reduction in deliveries to Wholesale Customers for the first year of the drought, and a 59 percent reduction in deliveries in each of the subsequent 5 years. (See Figure 6). Further, using the same assumptions and level of demand, under a 50 percent unimpaired flow objective, the deliveries to the Wholesale Customers would be cutback by 72 percent in each of the 6 years of the drought. In addition, in this scenario, drought cutbacks would be three times as frequent as the current, base case conditions in the RWS.¹⁸

Shortages to the Wholesale Customers would also be significant when current (pre-drought) deliveries are assumed. (See Figure 5). For example, using system-wide annual deliveries of 223 mgd, which is equivalent to Fiscal Year 2012-2013 RWS demand, if a 40 percent unimpaired flow objective were implemented on the Tuolumne River, the RWS deliveries to the Wholesale Customers would be cutback by 43 percent during the first 3 years of the drought, followed by 52 percent reductions in deliveries for the next 3 years. Using the same assumptions and level of demand, implementation of a 50 percent unimpaired flow objective on the Tuolumne River would lead to cutbacks to the BAWSCA agencies of 64 percent in each of the 6 years of the drought.¹⁹

BAWSCA member agencies did an exceptional job at conserving water during the recent drought, achieving an overall savings of 27 percent in Fiscal Year 2015-2016, as compared to 2013. Even using this level of reduced water use of 175 mgd in the RWS service territory during the recent drought, high levels of rationing would still be required under the SED. Using the same set of assumptions, if the State Board implemented a 40 percent unimpaired flow objective on the Tuolumne River, the deliveries to Wholesale Customers would be reduced by a further 21 percent during the first 3 years of the drought, and followed by 33 percent cutbacks in the next 3 years. In this scenario, a 50 percent unimpaired flow objective would lead to a cutback of deliveries to the Wholesale Customers of an additional 40 percent in the first 3 years of the drought, and by 62 percent in the next 3 years.²⁰ As described in detail below, demand hardening from past conservation efforts would lessen the effect of additional conservation, thereby increasing the overall impacts from the proposed water supply reductions.

The 2016 Draft SED acknowledges the impacts to CCSF's water supply but, as discussed throughout this Letter, insufficiently analyzes these impacts. In acknowledgement of impact to the RWS, the 2016 Draft SED states that “[i]t is reasonable to assume . . . that CCSF’s water supply from the Tuolumne River could be reduced because (1) SFPUC would have less available water supply to divert under CCSF’s water rights, or (2) more flows would be released to comply with the irrigation districts’ FERC license, potentially leaving SFPUC with less water.”²¹ The Draft 2016 SED identifies three “potential actions SFPUC could take to replace reductions in water supply resulting under the LSJR Alternatives: (1) Water transfer; (2) In-Delta diversion(s); and (3) Water supply Desalination Project.”²² Yet, the Draft 2016 SED concedes the specific ultimate effect on CCSF's water supply cannot be determined.²³ Specifically, the 2016 Draft SED concedes that “the largest uncertainty involves how water supply for the CCSF and other areas served by the [SFPUC] could be affected.”²⁴

¹⁸ SFPUC Analysis of Changes to Flow Criteria, Table 2 at p. 10; Tier 1 Plan.

¹⁹ See SFPUC Analysis of Changes to Flow Criteria, Table 3 at p. 11; Tier 1 Plan.

²⁰ See SFPUC Analysis of Changes to Flow Criteria, Table 4 at p. 12; Tier 1 Plan.

²¹ 2016 Draft SED, Appendix L, p. L-22.

²² 2016 Draft SED, Appendix L, p. L-22.

²³ 2016 Draft SED, Appendix L, p. L-1.

²⁴ 2016 Draft SED, Executive Summary, at p. ES-29.

Imposition of LSJR Alternatives 3 or 4 also impacts the SFPUC's ability to take on San Jose and Santa Clara as permanent wholesale customers with a combined current demand of 9 mgd. Currently, San Jose and Santa Clara are temporary, interruptible customers of the SFPUC under the 2009 Water Supply Agreement. In order to make San Jose and Santa Clara permanent customers, the SFPUC would need to develop water supplies to enable them to provide permanent individual supply guarantees to the two cities. The significant water supply reductions that would occur to the RWS and the probability of SFPUC not being able to meet the 184 mgd water supply assurance to the wholesale customers under the LSJR Alternatives 3 or 4 would have to be considered by the SFPUC before permanent status was granted to the cities.

Overall, the SED proposes substantial changes to flow objectives for the Tuolumne River. These changes are anticipated to result in reduced surface water available for diversions, thereby causing significant, potentially unavoidable impacts to water supply. These significant impacts to water supply would lead to significant rationing of the water supply available to the BAWSCA member agencies during droughts.

II. SUMMARY OF BAWSCA'S COMMENT LETTER

- BAWSCA supports the objectives of the Bay-Delta Plan to protect water quality in the Bay-Delta Water Quality Control Plan for humans, fish, and other wildlife.
- However, the 2016 Draft SED fails to adequately analyze the impacts the Bay Area and BAWSCA's member agencies who provide water originating in the Tuolumne River to 1.78 million customers. LSJR Alternatives 2, 3, and 4 in the 2016 Draft SED include an unimpaired flow range, (*i.e.*, 20 percent, 40 percent, and 60 percent respectively), between February and June, which would cause water shortages to the RWS and would have a severe impacts on the RWS which are not adequately analyses in the SED.
- The Draft 2016 SED fails to consider and analyze the reasonably foreseeable actions of the BAWSCA member agencies as provided in their publically available Urban Water Management Plans; including:
 - Increased reliance on groundwater, surface water supplies, and imported water;
 - Inability to conserve additional water as a result of past conservation efforts and demand hardening; and
 - Severe rationing and moratoriums on new development.
- The 2016 Draft SED fails to adequately analyze the reasonably foreseeable reduction in the water supplies and the resulting significant impact on the Bay Area's economy.
- The 2016 Draft SED impermissibly assumes that the significant water supply impacts to the RWS service territory that would result from imposition of LSJR Alternatives 3 and 4 could be completely mitigated by CCSF's development and/or procurement of the replacement water supplies identified in the 2016 Draft SED. Specifically, based on BAWSCA's experience, it is unreasonable to assume a Delta transfer can be completed to supply the volume of water necessary to reduce water supply impacts and at the costs presented in the 2016 Draft SED.

- The 2016 Draft SED fails to adequately analyze increasing Bay Area population growth and housing needs, the impacts from displaced low-density growth, and the environmental costs of foregoing smart growth development.
- As discussed in further detail below, the 2016 Draft SED is not supported by substantial evidence, does not consider all reasonably foreseeable impacts, and should not be adopted by the State Board

III. BAWSCA'S ANALYSIS OF THE SED

Prior to adopting the 2016 Draft SED as a state regulatory program, the State Board must perform an environmental analysis that identifies all significant or potentially significant adverse environmental effects and include an analysis of the reasonably foreseeable environmental impacts, reasonably foreseeable mitigation measures, and reasonably foreseeable alternative means of compliance.²⁵ The CCSF SED Comments includes a comprehensive alternative (SFPUC Alternative) focusing on improving fish populations while better protecting water supply reliability. The SED analysis must "take into account a reasonable range of environmental, economic, and technical factors, population and geographic areas, and specific sites."²⁶ However, as discussed in further detail below, the 2016 Draft SED is not supported by substantial evidence, does not consider all reasonably foreseeable impacts, and should not be adopted by the State Board.

The 2016 Draft SED must also comply with the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). In particular, the State Board must consider a number of factors in establishing the water quality objectives contained in the 2016 Draft SED, including but not limited to "(a) [p]ast, present, and probable future beneficial uses of water[;] (b) [e]nvironmental characteristics of the hydrographic unit under consideration, including the equality of water available thereto[;] (c) [w]ater quality conditions that could reasonably be achieved through coordinated control of all factors which affect water quality in the area[;] (d) [e]conomic conditions[; and] (e)the need for developing housing within the region."²⁷ Moreover, under the Porter-Cologne Act, the State Board must "consider costs of compliance" when establishing water quality conditions.²⁸ However, as discussed in further detail below, the State Board failed to comply with the Porter-Cologne Act in establishing the water quality conditions under the 2016 Draft SED.

a. The 2016 Draft SED Is Inadequate Because It Entirely Fails To Analyze The Reasonably Foreseeable Actions Of The Individual BAWSCA Member Agencies In Response To Reduced Availability Of Water

The 2016 Draft SED fails to consider all reasonably foreseeable environmental impacts, mitigation measures, or alternative means of compliance.²⁹ Most notably, the State Board entirely failed to account for the reasonably foreseeable actions of the 26 BAWSCA agencies in response to the reduced available water supplies and increased costs to the RWS attributable to the decreased flows proposed in the 2016 Draft SED. While the 2016 Draft SED concedes

²⁵ Pub. Resources Code, §§ 21159, subd. (a)(1)-(3), 21159.2; Cal. Code Regs., tit. 23, § 3777.

²⁶ Pub. Resources Code, § 21159(c); Cal. Code Regs., tit. 14, § 15187.

²⁷ Wat. Code, § 13241.

²⁸ *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 623 [26 Cal.Rptr.3d 304, 310, 108 P.3d 862, 867].

²⁹ Pub. Resources Code, § 21159; Cal. Code Regs., tit. 23, § 3777; Cal. Code Regs., tit. 14, § 15187.

that impacts to municipal service providers must be analyzed,³⁰ it failed to actually analyze such impacts to CCSF and its wholesale customers, the BAWSCA member agencies.³¹ Rather, the 2016 Draft SED only considers CCSF's potential actions in response to decreased flows to meet water supply demand,³² including a water transfer between SFPUC and the irrigation districts,³³ in-delta diversion by SFPUC³⁴ and a SFPUC desalination project.³⁵ As discussed below, these actions are not reasonably foreseeable and not likely to occur.

The State Board has a statutory obligation to carefully evaluate the recommendations of concerned local agencies during the process of formulating or revising state policy for water quality control.³⁶ Without considering the reasonably foreseeable impacts, mitigation measures, or alternative means of compliance of the BAWSCA agencies independent from CCSF, the 2016 Draft SED is inadequate and the impacts analysis is not supported by substantial evidence, or reasonable inferences predicated on fact.³⁷

i. The SED Did Not Consider The BAWSCA Agencies' Urban Water Management Plans, Which Represent The Reasonably Foreseeable Actions Of BAWSCA Agencies In Responding To Decreased Supply

Under the Urban Water Management Planning Act, many BAWSCA agency must prepare an Urban Water Management Plan (UWMP) for submittal to the Department of Water Resources (DWR) every five years.³⁸ The UWMPs provide the long-term resource planning of each agency and ensure that adequate water supplies are available to meet existing and future needs.³⁹ Not only are such plans publicly accessible, the DWR must actively review the submitted plans to ensure compliance with the Water Code and report out to the Legislature on the status of California's planning efforts.

In analyzing the impacts of the proposed water shortages identified in the 2016 Draft SED, the State Board should have considered those reasonably foreseeable actions of the BAWSCA agencies as presented in the UWMP and failure to do so renders the analysis inadequate as it is not based on substantial evidence.⁴⁰ Specifically, the 2016 Draft SED fails to assess the significant environmental impacts that would result if the CCSF were compelled to drastically reduce water deliveries throughout the RWS service territory in response to the State Board's implementation of a 30, 40 or 50-percent unimpaired flow objective on the Tuolumne

³⁰ 2016 Draft SED, at p. 13-49 ("While substantially reducing existing surface water supplies of service providers can be considered an impact, the extent to which service providers are affected is a function of their ability to use existing alternative supplies (e.g., groundwater) or develop alternative water supplies.")

³¹ 2016 Draft SED, Executive Summary, at p. ES-29, (State Board expressly concedes that "the largest uncertainty involves how water supply for the CCSF and other areas served by the [SFPUC] could be affected.")

³² 2016 Draft SED, Appendix L, at p. L-5.

³³ 2016 Draft SED, Appendix L, at p. L-22 – L-23.

³⁴ 2016 Draft SED, Appendix L, at p. L-23 – L-24.

³⁵ 2016 Draft SED, Appendix L, at p. L-24 - L-25.

³⁶ Wat. Code, § 13144 ("During the process of formulating or revising state policy for water quality control the state board shall consult with and carefully evaluate the recommendations of concerned federal, state, and local agencies.")

³⁷ Pub. Resources Code, § 21159, subd. (c).

³⁸ Wat. Code, § 10610 et seq.

³⁹ Wat. Code, §§ 10610.2, 10610.4.

⁴⁰ See *Chawanakee Unified School Dist. v. County of Madera* (2011) 196 Cal.App.4th 1016, 1029, as modified on denial of reh'g (July 19, 2011) [EIR failed to consider reasonably foreseeable impacts of construction on the physical environment beyond the school facilities]; see also *County Sanitation Dist. No. 2 of Los Angeles County v. County of Kern* (2005) 127 Cal.App.4th 1544, 1586 [27 Cal.Rptr.3d 28, 57] ["Predicting the physical changes a project will bring about is an inescapable part of CEQA analysis."]; see also *Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892, 919, as modified on denial of reh'g (Oct. 16, 2000) ["CEQA does compel reasonable forecasting."]; Pub. Resources Code, § 21168.5.

River. This critical omission constitutes an abuse of discretion because the 2016 Draft SED failed to proffer any justification for why these impacts are not significant under CEQA, and, in fact failed to present any analysis whatsoever regarding such impacts.⁴¹

This section analyzes the reasonably foreseeable actions BAWSCA agencies may take in response to water shortages and the current conservation efforts of BAWSCA agencies as detailed in the UWMPs. For further detail of the reasonably foreseeable actions of BAWSCA agencies, including information on the local supplies, surface and groundwater, and potential transfers, increased imported water, rationing, and development moratoriums, please refer to the BAWSCA agencies' comment letters separately submitted and incorporated herein by reference.

BAWSCA Agencies' Would Respond To Water Shortages With Foreseeable Actions That Were Not Adequately Analyzed In The SED.

The 2016 Draft SED assumes that the only impact to the BAWSCA agencies would be economic costs of securing additional water supplies as a result of shortages; CCSF would pass through its costs to BAWSCA agencies for obtaining an alternative supply. Specifically, the Draft 2016 SED assumes in the regional impact assessment that CCSF would pass the costs to its retail customers in the form of a temporary rate surcharge and to its wholesale customers, *i.e.*, BAWSCA agencies, in the form of higher wholesale water rates. In turn, Wholesale Customers must pass their higher costs to their retail customers through a temporary rate surcharge.⁴²

What the SED failed to consider is that the BAWSCA agencies would not necessarily purchase water at an increased cost from CCSF. Instead, the BAWSCA agencies reasonably foreseeable actions, as put forth in the UWMPs submitted to the DWR, include taking other steps to avoid the increased cost, such as fully utilizing local supplies (*e.g.*, surface water and groundwater) and finding alternative, less costly supplies than what CCSF could offer. Already about one-third of the BAWSCA agencies' supply is from alternative sources outside of CCSF's RWS, including water recycling, local groundwater and desalination. Figure 3 illustrates the BAWSCA agencies water supply portfolio for Fiscal Year 2014-2015 and Figure 4 illustrates the projected water supply sources going forward. Reliance on alternate supplies would increase as a result of the reduced flows proposed in the Draft SED.

⁴¹ Pub. Resources Code, § 21168.5 (emphasis added) [explaining that standard for judicial review of non-adjudicative decisions involving CEQA “shall extend only to whether there was a prejudicial abuse of discretion. *Abuse of discretion is established if the agency has not proceeded in a manner required by law* or if the determination or decision is not supported by substantial evidence.”]; Pub. Resources Code, § 21100, subd. (b)(1) [requiring lead agencies to prepare EIR for any project that they propose to carry out or approve that may have a significant effect on the environment that includes a detailed statement setting forth “[a]ll significant effects of the proposed project.”]; Pub. Resources Code, § 21159, subd. (a)(1) [requiring agencies to perform environmental analysis at time of adoption of performance standard that must include “[a]n analysis of the reasonably foreseeable environmental impacts of the methods of compliance”; Cal. Code Regs., tit. 23, § 3777, subd. (b)(2) [requiring that a draft SED prepared by the State Board include “identification of any significant or potentially significant adverse environmental impacts of the proposed project.”.]

⁴² 2016 Draft SED, Appendix L, at p. L-28.

Figure 7 summarizes the BAWSCA agencies' foreseeable responses to a water shortage derived from the UWMPs, which should have been considered in the 2016 Draft SED.

Figure 7: BAWSCA Agencies' Foreseeable Responses to 50 Percent Shortages



- At least 9 BAWSCA agencies⁴³ would increase reliance on local groundwater, increasing the probability for groundwater basin overdraft, saltwater intrusion, and land subsidence.
- Two BAWSCA agencies⁴⁴ would rely on more local surface water supplies, which could be greatly depleted or completely unavailable during times of drought.
- Two BAWSCA member agencies⁴⁵ would seek to acquire new water supplies.
- Many BAWSCA member agencies would implement a development (e.g. "no new hook up") moratorium which would cause economic impacts and impacts from displaced growth and urban sprawl.

⁴³ ACWD, Daly City, East Palo Alto, Milpitas, San Bruno, Santa Clara, Sunnyvale, Stanford, as stated in 2016 Draft SED comment letters; Palo Alto, per 2015 UWMP.

⁴⁴ Coastside CWD and Stanford, as stated in 2016 Draft SED comment letters.

⁴⁵ ACWD and Hayward, as stated in 2016 Draft SED comment letters.

More specifically, the 2016 Draft SED fails to analyze the environmental impacts that would result from increased reliance on the existing local water supply of the BAWSCA agencies as well as other foreseeable responses to reduced flows. As can be seen from Figure 3, the BAWSCA agencies already have a diverse supply portfolio, including water recycling, local groundwater and desalination. Increased utilization and reliance on these alternative sources could have negative environmental impacts, and such impacts were not analyzed. The 2016 Draft SED entirely fails to consider any impacts that would result from BAWSCA agencies increased reliance on local supply.

Two BAWSCA agencies include in their UWMPs developing or utilizing currently unused local groundwater supplies, under water supply shortages predicted by the alternative flows in the 2016 Draft SED. For example, the City of Palo Alto currently sources 100% of its potable water supply from the RWS, but maintains a network of emergency wells that could be utilized in the event of a drought. The use of groundwater by Palo Alto in the event of a drought could cause undesirable effects to the groundwater basin, such as overdraft, subsidence, and sea water intrusion. Other agencies, such as the City of Santa Clara and the City of Sunnyvale, use local groundwater as a part of their supply, and in the event that supplies from the RWS were drastically cutback, those agencies could be compelled to use significantly more groundwater, potentially leading to undesirable effects in the groundwater basin. These foreseeable impacts, even if indirect, must be analyzed by the SED.

Financing alternative supplies is a significant endeavor, as evidenced by, Alameda County Water District (ACWD), which has invested over \$100M in innovative alternative water supplies and water management practices including brackish groundwater desalination, water use efficiency, conjunctive use groundwater recharge facilities, and off-site groundwater banking.⁴⁶ ACWD has also made significant investments to enhance its operation on Alameda Creek, a source of local surface water, for the restoration of steelhead (*Oncorhynchus mykiss*) fishery.⁴⁷ Those expenditures are significant, yet much greater investment would be required of ACWD if the SED moved forward as proposed.

In addition to putting additional stress and impacting local water supplies as a result of shortages, BAWSCA and its member agencies will likely look at potential water transfers and imported water supplies to make up the deficiency in the RWS. BAWSCA has authority to purchase and transfer water⁴⁸ and has considered water transfers in the past to address short-term drought reliability and long-term water needs. Below in Section III.b.i. we provide a detailed description of BAWSCA's past efforts to transfer water into the RWS and the multitude of issues that arise with such a transfer. Likewise, ACWD has imported water supplies from the SWP and has effectuated transfers in the past. ACWD has indicated that, as a result of the potential reduction in water supply resulting from the SED, it will deplete its groundwater bank in Semitropic requiring the need to acquire new additional water supplies for purposes of banking to ensure reliable supplies during droughts.⁴⁹ Yet, the 2016 Draft SED fails to analyze the environmental impacts resulting from BAWSCA or any member agencies' purchase and transfer of water supplies. Further, the SED fails entirely to consider competition, including competition with CCSF, for any available supplies and for the use of available capacity in facilities to provide water to the Bay Area.

⁴⁶ See ACWD Comment Letter on the 2016 Draft SED.

⁴⁷ See ACWD Comment Letter on the 2016 Draft SED.

⁴⁸ Wat. Code, § 81420.

⁴⁹ See ACWD Comment Letter on the 2016 Draft SED.

BAWSCA Agencies Already Conserve The Maximum Amount Of Water.

The 2016 Draft SED does not take into account the water conservation efforts already in place for BAWSCA agencies. As discussed in Section I.b. above which details the actual impact on the RWS supply available to the BAWSCA agencies imposed by the various flow Alternatives, the 2016 Draft SED would have severe consequences given the BAWSCA member agencies may not be able to conserve beyond the existing levels. Moreover, the 2016 Draft SED fails to analyze the limited, additional yield available from increased water efficiency, conservation efforts to already low per capita water usage throughout the RWS service territory, and the effect of demand hardening.

Specifically, BAWSCA member agencies have implemented various conservation programs resulting in dramatic water conservation for the region. For example, BAWSCA's Regional Water Conservation Program ("Conservation Program") assists the member agencies in meeting water efficiency goals and supports supply reliability for the agencies' customers through a range of regional water conservation measures and initiatives. The Conservation Program includes a core program for general landscape education, water-wise gardening website, and public information and a subscription program funded by the participant agencies. The subscription program includes rebates for high-efficiency toilets, clothes washers, turf replacement, and rain barrels; free high-efficiency sprinkler nozzles; indoor and outdoor water-efficient fixture giveaways; three school education programs; residential water use reports; and large landscape audits. Since Fiscal Year 2001-2002, BAWSCA's Regional Water Conservation Program has expended a total of \$10,674,530 on water conservation actions.⁵⁰

In addition, BAWSCA member agencies directly implement a variety of water conservation measures outside of BAWSCA's conservation programs and 8 agencies implement conservation programs through the Santa Clara Valley Water District ("SCVWD"). These include measures similar to those offered in the BAWSCA Regional Water Conservation Program as well as rebates for irrigation equipment upgrades, graywater systems, commercial upgrades, high-efficiency urinals, and submeters; household water audits; and individual household water budgets.

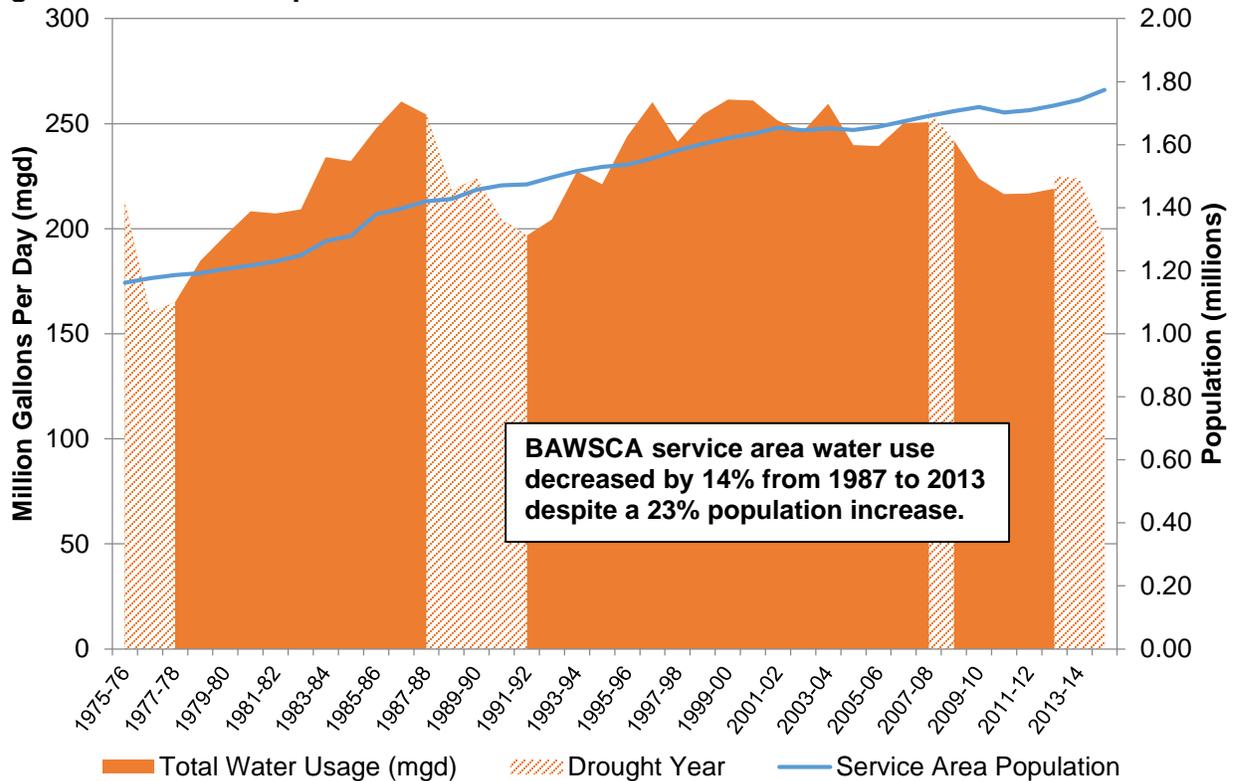
The collective effect of these conservation efforts renders the BAWSCA member agencies among the most efficient water users in California. Despite increasing population growth in the Bay Area, total water use and BAWSCA member agency wholesale purchases from the RWS have remained flat.

Figure 8 illustrates that even prior to the recent drought, the BAWSCA service area water use decreased by 14% from 1987 to 2013, despite a 23% population increase.⁵¹ Since 1986, the residential per capita use decreased 36 percent, from 101.5 gallons per capita per day (GPCPD) in Fiscal Year 1985-1986 to 79 GPCPD in Fiscal Year 2012-2013, which was the last fiscal year before drought rationing occurred.

⁵⁰ Bay Area Water Supply & Conservation Agency, BAWSCA Annual Water Conservation Report: FY 2014-2015, available at http://bawasca.org/uploads/userfiles/files/FY14-15_BAWSCA%20WCP%20Annual%20Report.pdf (hereinafter "BAWSCA FY 2014-15 Annual Survey").

⁵¹ BAWSCA FY 2014-15 Annual Survey.

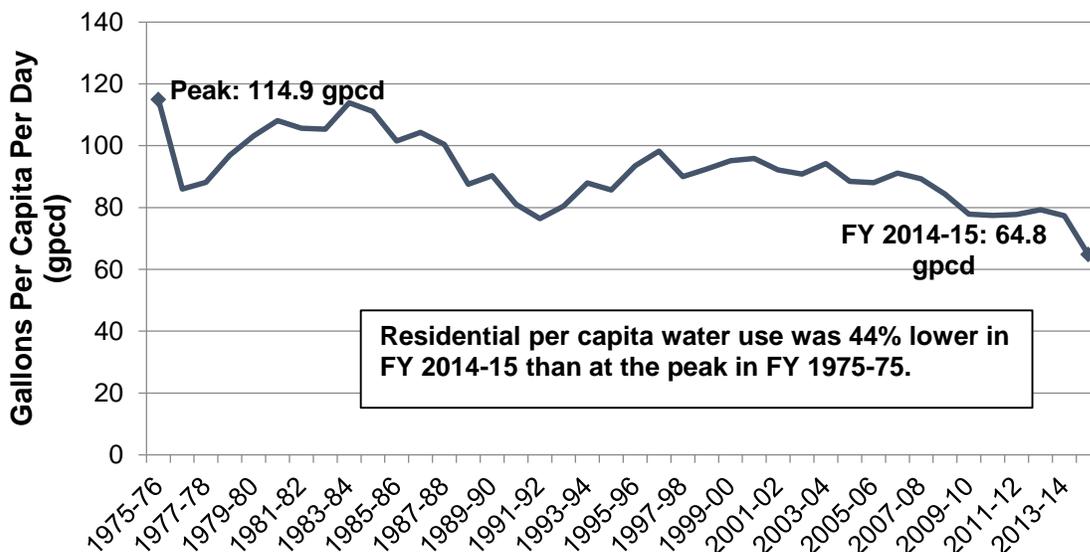
Figure 8: BAWSCA Population and Water Use – 1975 to 2015



Source: BAWSCA FY 2014-15 Annual Survey

Figure 9 illustrates the decline in per capita water use in the BAWSCA service area through time. Residential per capita use was a very low 64.8 GPCPD in Fiscal Year 2014-2015, due to the mandatory rationing imposed in response to State and local conditions.⁵²

Figure 9: BAWSCA Residential Per Capita Water Use – 1975 to 2015

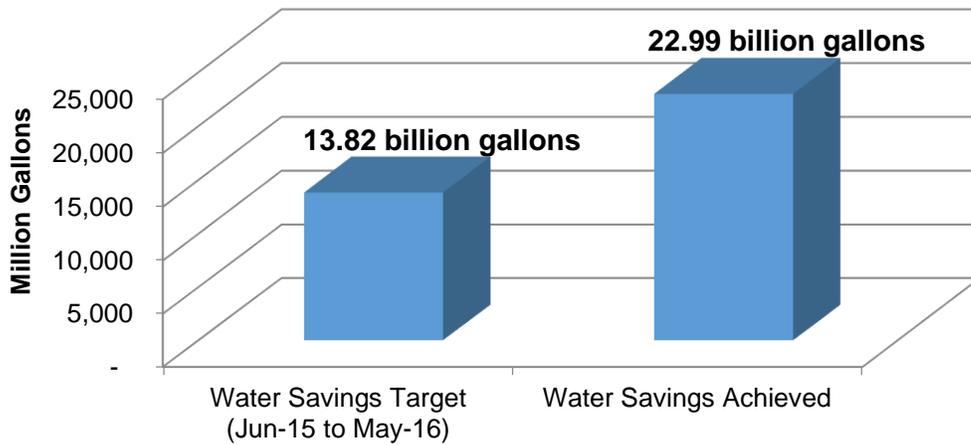


Source: BAWSCA FY 2014-15 Annual Survey

⁵² BAWSCA FY 2014-15 Annual Survey.

With regard to the recent conservation efforts triggered by the drought, Figure 10 illustrates that during the 12-month period for which the State-assigned conservation standards were in effect, BAWSCA agencies achieved a 27 percent reduction in total water use compared to the same months in 2013, saving 23.0 billion gallons or 166 percent of their 15 percent collective savings target. By comparison, total statewide reduction in water use for the 12-month period was 24.5 percent, and the total statewide reduction target was 25 percent.⁵³

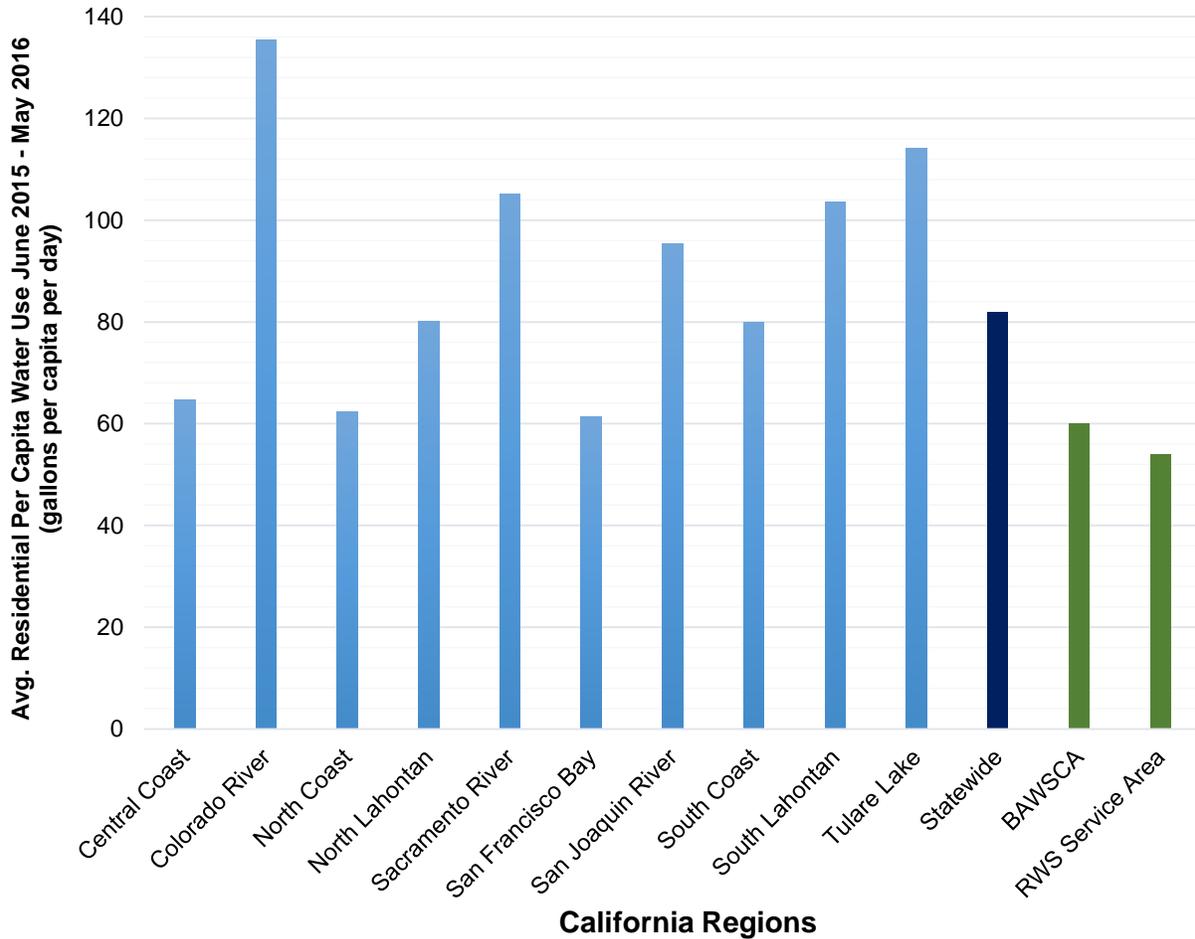
Figure 10: Cumulative BAWSCA Water Savings Target versus Savings Achieved for June 2015 to May 2016 State Water Resources Control Board Compliance Period



⁵³ State Water Resources Control Board, *Statewide Water Conservation Grows to 28 Percent in May; Urban Water Suppliers 'Stress Test' Data Under Review* (July 6, 2016) available at http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/2016jul/pr070616.pdf.

Figure 11 illustrates the average residential per capita use in the BAWSCA service area as compared with the average residential per capita use within the State of California overall and the Bay Area overall. Information depicted on Figure 11 applies to the state mandated conservation period from June 2015 through May 2016.

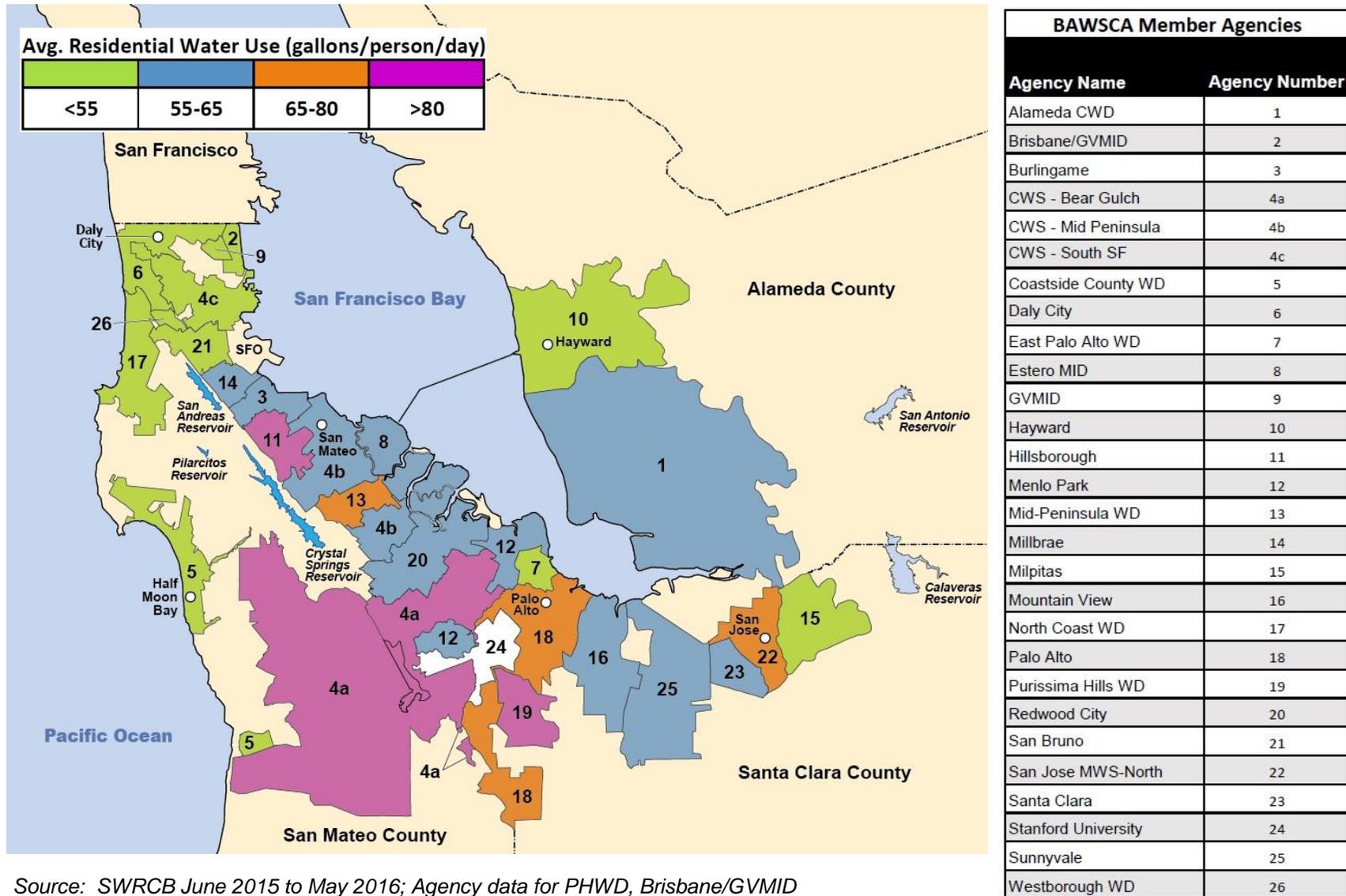
Figure 11: Average Residential Per Capita Water Use by Region June 2015 through May 2016 in Gallons per Capita per Day



Source:
http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.shtml

Figure 12 illustrates the range in per capita usage in individual agencies in the BAWSCA service area during the mandatory conservation period.

Figure 12: Average Residential Customer Water Uses 60 Gallons per Day in BAWSCA Service Area



Source: SWRCB June 2015 to May 2016; Agency data for PHWD, Brisbane/GVMID

In addition to its aggressive conservation actions, BAWSCA completed the Regional Water Demand and Conservation Projections Report in 2014 (“Demand Report”), which quantified the passive and active water conservation savings potential for each BAWSCA member agency through 2040.⁵⁴ Passive conservation savings are those achieved from the installation of water-efficient fixtures required by current plumbing code and building code standards. Active conservation savings are those savings achieved through programs implemented and funded at an agency or regional level, such as rebate programs or installation of advanced metering infrastructure. The Demand Report projected that the BAWSCA agencies will achieve an additional 35 mgd of passive and active conservation savings between 2014 and 2040, and this would partially offset water demand increases associated with projected population and employment increases of 27 percent and 31 percent, respectively, over the same period.⁵⁵

Specifically, the SED neglected to analyze the hardening of demand in the service area, a resulting effect of the agencies' long term effective and sustained conservation programs. Water conservation activities “harden” demand since they incorporate continuous water savings into baseline demands. Therefore, the next increment of water use reduction becomes significantly more difficult to achieve. As discussed in more detail in Section III.a.ii, demand hardening makes droughts harder to bear, such that increased rationing may have significant economic and lifestyle impacts. The 2016 Draft SED, as part of the Regional Impact Analysis, indicates that residential customers could decrease water use in response to water price increases.⁵⁶ However, it failed entirely to analyze the impacts resulting from increased reduction of flows in light of demand hardening.

Given the BAWSCA agencies' customers' current low water use and the conservation and local supply projects already existing or built into the agencies' projections of demand, as detailed in the Demand Report, it is not feasible for BAWSCA agencies to further reduce demand for RWS water. The 2016 Draft SED is entirely devoid of analysis on whether the region can handle such reduced flows in light of the region's current and projected use, including any analyses of the potential impact.

Moreover, as described in detail in the Comments by the City and County of San Francisco, increased conservation and rationing throughout the RWS would result in significant environmental impacts that the 2016 Draft SED did not analyze, such as negatively impacting greenspaces.⁵⁷ The substantial loss in park vegetation, landscaping, and trees resulting from the increased rationing would adversely impact aesthetic and recreational resources, increase the risk of urban wildfires, and adversely impacts to habitat in urban forests and natural areas. That point is of particular concern to some of the BAWSCA member agencies, such as the City of Hillsborough, which has a significant canopy of mature trees and has concerns that limiting water supply could adversely impact that canopy. Similarly, Mountain View noted in their

⁵⁴ Bay Area Water Supply & Conservation Agency, Regional Water Demand and Conservation Projections: Final Report (September 2014) *available at* <http://bawasca.org/uploads/userfiles/files/BAWSCA%20Demand%20and%20Conservation%20Projection%20FINAL%20REPORT.pdf>. (hereinafter “BAWSCA Final Report, September 2014”).

⁵⁵ BAWSCA Final Report, September 2014, at p. 5-1 to 5-4.

⁵⁶ 2016 Draft SED at p. L-29.

⁵⁷ CCSF SED Comments, Argument I (“The Draft 2016 SED Must Analyze the Environmental and Economic Impacts of the Most Reasonably Foreseeable Method of Compliance by San Francisco: Reductions in Deliveries throughout the RWS service territory for the current and projected population through 2040”), Subsection F (“Increased rationing by San Francisco and throughout the RWS service territory would result in significant environmental impacts that the Draft 2016 SED did not analyze.”), pp. 32 – 37.

comments to the SED that potential impacts could include loss of landscaping and trees throughout their community. It is reasonable to assume that the loss of trees, vegetation and other landscaping would also exacerbate the effects of urban heat islands, thereby increasing energy consumption for cooling during elevated summertime temperatures and resulting in increased emissions from power plants due to this additional electricity generation.

BAWSCA Agencies Would Likely Implement Rationing And Restrictions/Moratoriums On New Connections.

The 2016 Draft SED failed to analyze the impacts from rationing of water in the Bay Area in drought conditions under LSJR Alternatives 3 or 4 and possible additional rationing necessary under Alternative 2. Water Code section 353 provides,

When the governing body has so determined and declared the existence of an emergency condition of water shortage within its service area, it shall thereupon adopt such regulations and restrictions on the delivery of water and the consumption within said area of water supplied for public use as will in the sound discretion of such governing body conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.

Water Code section 356 provides that “[t]he regulations and restrictions may include the right to deny applications for new or additional service connections, and provision for their enforcement by discontinuing service to consumers willfully violating the regulations and restrictions.”

Under CEQA, certain large-scale residential, commercial or industrial development projects require the preparation of a Water Supply Assessment (“WSA”).⁵⁸ The WSA is part of the EIR process and is intended to assist local governments in deciding whether to approve proposed projects.⁵⁹ If the projected water demand of the proposed project was not accounted for in the most recently adopted UWMP, or the public water system has no UWMP, the WSA must discuss whether the public water system’s “total projected water supplies available during normal, single dry, and multiple dry water years” for a 20–year period will meet the “projected water demand [for] the proposed project,” taking into account the agency’s “existing and planned future uses, including agricultural and manufacturing uses.”⁶⁰ Significantly, if the WSA does not identify sufficient available water, then the lead agency must include that determination in its findings in the EIR for the project.⁶¹

Based on the history of BAWSCA agencies’ actions during past droughts, it can be reasonably assumed that some agencies would require increasing levels of rationing and may ultimately need to impose a moratorium on new development if LSJR Alternatives 3 or 4 were

⁵⁸ See Wat. Code, § 10912 (defining “Project” to mean a proposed large-scale residential, commercial or industrial development, *i.e.*, “residential development of more than 500 dwelling units”; “shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space”; “commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space”; “hotel or motel, or both, having more than 500 rooms”; “industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area”; “mixed-use project that includes one or more of the projects specified in this subdivision,” or, a “project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.”); *see also* Cal. Code Regs., tit. 14, § 15155, subd. (a)(1) (similarly defining a “water-demand project”).

⁵⁹ Pub. Resources Code, § 21151.9; Cal. Code Regs., tit. 14, § 15155, subd. (e) (lead agency shall include water assessment in the EIR); *O.W.L. Foundation v. City of Rohnert Park* (2008) 168 Cal.App.4th at 576.

⁶⁰ Wat. Code, § 10910, subd. (c)(3).

⁶¹ Cal. Code Regs., tit. 14, § 15155, subd. (e).

implemented and a sequential year drought occurred. It is also feasible that water rationing could occur if Alternative 2 was implemented.

For example, as described in the BAWSCA member agency UWMPs and highlighted in the member agencies' comment letters on the 2016 Draft SED, 12 of BAWSCA's 26 member agencies have specifically stated in their SED comment letters that they'd be forced to impose a moratorium on new connections at the level of shortages prescribed by the 2016 Draft SED, which would be greater than a 50 percent reduction during multi-year droughts for many of the agencies. All agencies would impose water rationing to comply with shortages described above in Section I.b. that would result from implementing the SED. Such actions are reasonably foreseeable and should have been analyzed because the actions are included in various planning documents of the BAWSCA agencies, such as the UWMPs.

These impacts were not considered in the 2016 Draft SED, including the economic impacts and impact from displaced growth and urban sprawl resulting from the widespread moratorium on building in the BAWSCA service area. Moreover, imposition of a development moratorium by BAWSCA agencies during a water shortage emergency, and under circumstances in which significant rationing had already been implemented, would be consistent with the State Board's own practice.⁶² The State Board should have considered such planning documents and analyzed the reasonably foreseeable actions of the BAWSCA agencies.

ii. The 2016 Draft SED Fails To Consider The Public Health Impacts Caused By Shortages

The California Legislature has made clear that public health and safety are of "great importance" in CEQA's statutory scheme.⁶³ For example, Public Resources Code section 21083(b)(3) requires a finding of a "significant effect on the environment" whenever "[t]he environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly." No single definition exists for the volume of water necessary to meet basic water needs.⁶⁴ California policy dictates that all humans have a right to water adequate for human consumption, cooking, and sanitary purposes.⁶⁵ Prior State Board emergency regulation established an exemption from a prohibition on diverting water, under specified circumstances, up to a maximum of 50 gallons per capita daily in order to meet "minimum health and safety needs."⁶⁶ The Water Efficiency Act of 2009 identifies 55 GPCPD as a provisional conservation standard for "indoor residential water use" by 2020.⁶⁷ The mean indoor household use in California was 63 GPCPD in 2007-2009.⁶⁸ Dr. Peter Gleick, founder of the Pacific Institute, identifies 200 liters per person per day, or 52 GPCPD, for solely drinking, sanitation, bathing

⁶² See State Water Board Issues Moratorium on New Water Connections, *available at* <http://www.dailydemocrat.com/article/ZZ/20141105/NEWS/141103990> (explaining that in 2014 the SWRCB "slapped" 22 water districts with development moratoriums due to lack of adequate water supply).

⁶³ Pub. Resources Code, §§ 21000, subdvs. (b), (c), (d), (g); §§ 21001(b), (d); *California Bldg. Industry Assn. v. Bay Area Air Quality Management Dist.* (2015) 62 Cal.4th 369, 386.

⁶⁴ Feinstein, Laura, Phurisamban, Rapichan, Ford, Amanda, Tyler, Christine, and Crawford, Ayana, *Drought and Equity in California*, Pacific Institute and The Environmental Justice Coalition for Water (January 2017) at p. 28 http://pacinst.org/app/uploads/2017/01/PI_DroughtAndEquityInCA_Jan_2017.pdf

⁶⁵ Wat. Code, § 106.3.

⁶⁶ Cal. Code Regs., tit. 23, § 878.1, subds. (a)-(b) [operative March 30, 2015 and repealed Dec. 29, 2015]

⁶⁷ Wat. Code, § 10608.20, subd. (b)(2)(A)).

⁶⁸ DeOreo, William B., Peter W. Mayer, Leslie Martien, Matthew Hayden, Andrew Funk, Michael Kramer-Duffield, Renee Davis, James Henderson, Bob Raucher, and Peter Gleick. 2011. "California Single-Family Water Use Efficiency Study." Aquacraft Water Engineering and Management, *available at* <http://water.cityofdavis.org/Media/PublicWorks/Documents/PDF/PWWater/Documents/California-Single-Family-Home-Water-Use-Efficiency-Study-20110420.pdf>.

and cooking in moderately industrialized countries.⁶⁹ Homes equipped with best available technologies and high-efficiency appliances and fixtures are estimated to use 32 GPCPD.⁷⁰ These numbers do not take into consideration outdoor water use.

Prior to the recent drought, average residential per capita water use for the BAWSCA service area was 79.3 GPCPD. Per the SFPUC's analysis, under a 50% unimpaired flow objective at a RWS demand of 223 mgd, maximum shortages to single-family residential and multi-family residential customers for the Wholesale Customers would be 50% and 41%, respectively. As a result, BAWSCA average per capita water use would be limited to approximately 41.6 GPCPD. However, residential customers of those BAWSCA agencies that are on the lower end of the BAWSCA residential per capita use range, in particular those agencies without access to alternative water supplies, would face more significant limits to residential per capita use. It is anticipated that several BAWSCA agencies would need to limit residential water use to 25 GPCPD or less, which is substantially lower than minimum indoor water use requirements for homes equipped with best available technologies.

BAWSCA agencies required to prepare UWMPs have analyzed the water supply impacts of a 50 percent shortage as part of the preparation of their UWMPs. As described above in Section I.b., assuming current normal-year water demands, BAWSCA agencies collectively would be subject to a 43 percent reduction in RWS supplies during the first year of a drought as a result of the proposed 40 percent unimpaired flow objective in the SED. In addition, during a 6-year extended drought, the BAWSCA agencies collectively would see a 43 percent cutback during the first three years and a 52 percent cutback in RWS supplies for the last three years of drought. Thus, the 15 agencies that receive 100% of their potable supply from the RWS would be subject to these shortages for their overall water supply. These agencies, and likely others who are subject to drought shortages in their alternative supplies, would be subject, even under current, pre-drought demand conditions, to greater than 50 percent supply shortages as a result of the SED Alternatives 3 or 4.

Fifty percent reduction in supply from the RWS would make it impossible for some communities in the wholesale service area to deliver a minimum of 50 gallons per day to their residents, even if they were to completely shut off water to commercial and industrial customers, such as schools, hospitals, and parks. A community without any functioning industry, hospitals or public institutions, is not sustainable. In their SED comments, 11 of the 26 BAWSCA member agencies have specifically cited health and safety concerns due to lack of potable water supplies resulting from shortages, described above in Section I.b., due to implementation of the SED. It is likely that the remaining BAWSCA member agencies could also have similar health and safety concerns, due to the fact that all face challenges associated with the impact of shortages.

The Bay Area cannot be expected to continue to thrive with such low water usage, and the impact to public health and safety on the 1.78 million residential customers and over 40,000 businesses in the BAWSCA member agency service area was not adequately analyzed in the 2016 Draft SED.

⁶⁹ Peter H. Gleick, Basic Water Requirements for Human Activities: Meeting Basic Needs, Water International, 21 (1996) Table 9, p. 88., [available at http://pacinst.org/app/uploads/2012/10/basic_water_requirements-1996.pdf](http://pacinst.org/app/uploads/2012/10/basic_water_requirements-1996.pdf).

⁷⁰ DeOreo, Heberger, Matthew, Heather Cooley, and Peter H. Gleick. 2014. "Issue Brief: Urban Water Conservation and Efficiency Potential in California." Pacific Institute and the Natural Resources Defense Council, June. <http://pacinst.org/app/uploads/2014/06/ca-water-urban.pdf>

b. It Is Not Reasonably Foreseeable That The Significant Water Supply Impacts To The RWS Could Be Completely Mitigated By San Francisco's Development And/Or Procurement Of The Replacement Water Supplies

The 2016 Draft SED impermissibly assumes that the significant water supply impacts to the RWS service territory that would result from imposition of LSJR Alternatives 3 and 4 could be completely mitigated by CCSF's development and/or procurement of the replacement water supplies identified in the 2016 Draft SED. This assumption is not supported by substantial evidence or reasonable inferences predicated on fact.

i. The 2016 Draft SED Incorrectly Assumes That CCSF Could Effectuate Water Transfers To Purchase The Requisite Volume Of Replacement Water From The Modesto And Turlock Irrigation Districts

The State Board's assumption that CCSF would be able to mitigate water supply impacts to the RWS service territory by purchasing the requisite volume of replacement water from the Modesto Irrigation District (MID) and the Turlock Irrigation District (TID) (collectively referred to as the "Districts") is not supported by substantial evidence, or reasonable inferences predicated on fact.

Under the Wheeling Statutes a public agency may not be denied the use of the unused capacity of water conveyance facilities, if fair compensation is paid for its use.⁷¹ However, the wheeling statute does not address the sources of supply or supply availability, just conveyance capacity. In a practical sense the transfer of water is limited by competition for any unused capacity and the purchase price of the water. These limiting factors make transfers impractical in times of drought.

The 2016 Draft SED acknowledges the uncertainty of such transfers. For example, the Draft SED concedes that "[t]he number and location of surface water transfers that entities would undertake in response to surface water reductions as a result of approving the LSJR Alternatives *is speculative and unknowable*."⁷² Moreover, the 2016 Draft SED specifically identifies that transfers from Districts to CCSF are unreliable, noting that in 2012, "the MID Board of Directors rejected a proposal for long-term transfers to SFPUC. This rejection makes future temporary drought transfers uncertain."⁷³ The SED further acknowledges that "[a] possible water transfer between SFPUC and irrigation districts relies on numerous unknown variables (e.g., willingness of irrigation districts to enter into a transfer agreement, the price of the water, and the volume of water needed)."⁷⁴ And, even if a transfer could be effectuated, "it cannot be predicted whether and how CCSF and the Districts would agree to apportion responsibility for meeting future flow requirements."⁷⁵ As discussed in section III.a above, in the event a water transfer is unsuccessful, CCSF and each BAWSCA agency's responses are reasonably foreseeable as outlined in each agency's UWMP. Thus, the State Board's lack of analysis concerning what is reasonably foreseeable to occur should a transfer not be effectuated could have and should have been analyzed in the 2016 Draft SED.⁷⁶

⁷¹ Wat. Code, § 1810.

⁷² 2016 Draft SED, at p.16-9 (emphasis added).

⁷³ 2016 Draft SED, Appendix L, at p. L-20.

⁷⁴ 2016 Draft SED, Appendix L, at p. L-22.

⁷⁵ 2016 Draft SED, Appendix L, at p. L-13.

⁷⁶ See *Chawanakee Unified School Dist. v. County of Madera* (2011) 196 Cal.App.4th 1016, 1029 [126 Cal.Rptr.3d 859, 868], as modified on denial of reh'g (July 19, 2011) [EIR failed to consider reasonably foreseeable impacts of construction on the physical environment beyond the school facilities]; see also *County Sanitation Dist. No. 2 of Los*

Based On BAWSCA's Experience, It Is Unreasonable To Assume A Delta Transfer Could Be Completed.

The information and conclusions presented in the 2016 Draft SED are not consistent with BAWSCA's experience with water transfers, which have proven difficult. BAWSCA has been investigating the possibility of water transfers to meet member agencies' long term water reliability needs since 2002, when BAWSCA's predecessor began working on a Water Transfers Work Plan.⁷⁷ BAWSCA continues to work on the implementation of water transfers as a part of its Long-Term Reliable Water Supply Strategy, which has been ongoing since 2010.⁷⁸ For example, the Long-Term Reliable Water Supply Strategy Phase IIA Report identified water transfers from sources (sellers) outside the BAWSCA service area as a promising option to address the dry year reliability needs of the BAWSCA member agencies.⁷⁹

As part of the Long-Term Reliable Water Supply Strategy, BAWSCA evaluated several options for the source of supply and conveyance to the BAWSCA agencies, which are the two critical components of any transfer aside from identifying a willing seller. BAWSCA considered two options as a transfer supply source: (1) the Sacramento Valley, north of the Delta and (2) the San Joaquin Valley, in and south of the Delta. For supplies originating outside of the Bay Area, there are limited existing conveyance facilities that could be used to wheel water to the BAWSCA member agencies. The potential options evaluated include: State Water Project (SWP) and Central Valley Project (CVP) facilities; SFPUC-SCVWD emergency intertie and SCVWD facilities; and with SFPUC-East Bay Municipal Utilities District (EBMUD)-City of Hayward Emergency Intertie (Hayward Intertie) and EBMUD facilities.

Significant work has been done by BAWSCA in trying to implement a pilot water transfer in partnership with EBMUD and others since the publication of the Long-Term Reliable Water Supply Strategy Phase IIA Report. In May 2012, EBMUD identified water projects to meet its future dry year water supply needs including the newly completed Freeport Regional Water Project (FRWP) that diverts water from the Sacramento River and conveys it to EBMUD's service area. In September 2012, EBMUD and BAWSCA entered into a Memorandum of Understanding to prepare the BAWSCA–EBMUD Short-Term Pilot Water Transfer Plan.⁸⁰ The purpose of the Pilot Plan was to evaluate the feasibility of partnering as buyers on long-term water transfer projects to improve future water supply reliability for the respective agencies. The Pilot Plan, published in September 2013, studied the potential to conduct a one-year pilot water transfer of 1,000 AF in a future dry-year when EBMUD is planning to operate the Freeport Regional Water Project (FRWP).

As shown on Figure 13, a water transfer involving EBMUD and BAWSCA would involve purchasing water from a willing seller, diverting the water using the FRWP intake, conveying the water through the FRWP facilities, the U.S. Bureau of Reclamation's (USBR) Folsom South

Angeles County v. County of Kern (2005) 127 Cal.App.4th 1544, 1586 ["Predicting the physical changes a project will bring about is an inescapable part of CEQA analysis."]; see also *Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892, 919, as modified on denial of reh'g (Oct. 16, 2000) ["CEQA does compel reasonable forecasting."]; Pub. Resources Code, § 21168.5.

⁷⁷ Bay Area Water Users Association, [BAWSCA's predecessor agency], Water Quality Evaluation for a Dry Year Water Transfer (June 30, 2003).

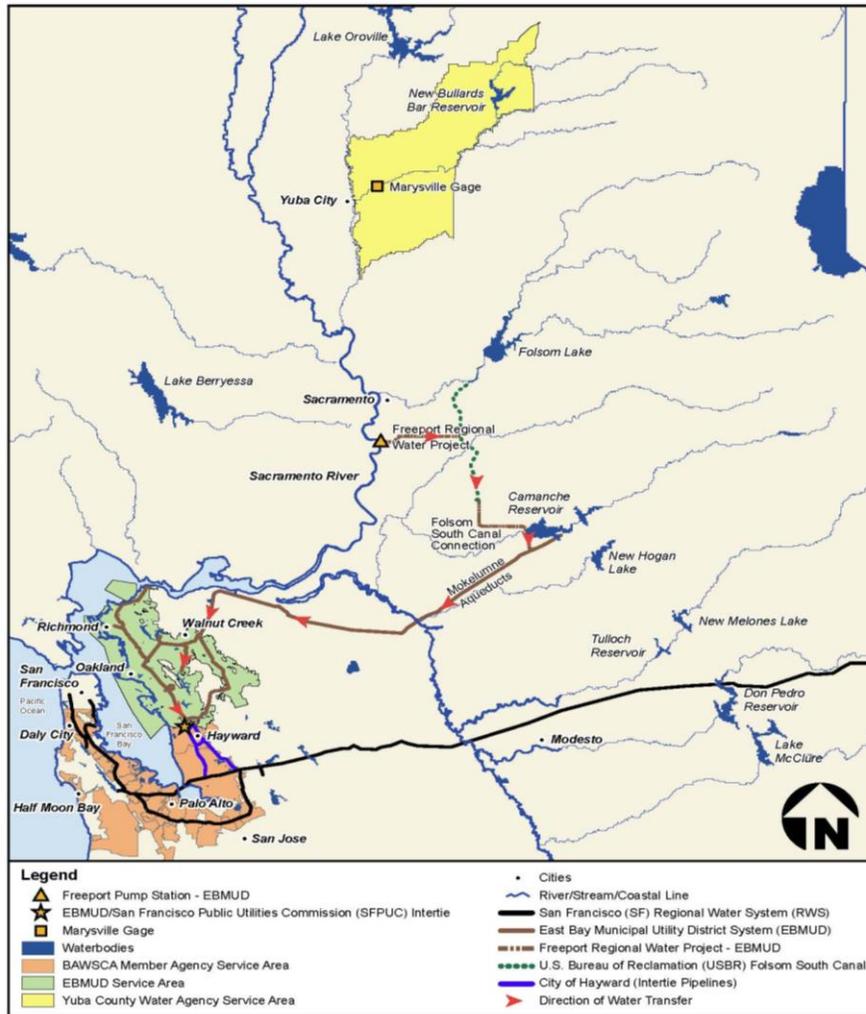
⁷⁸ BAWSCA Phase I Scoping Report.

⁷⁹ BAWSCA's 2015 Technical Memorandum: BAWSCA-EBMUD Pilot Water Transfer Phase II Pilot Plan (hereinafter "BAWSCA-EBMUD Technical Memorandum"). Available starting at p. 61 of the following: http://bawasca.org/uploads/agendas/15_07_16_Agenda_FINAL_PACKET.pdf

⁸⁰ BAWSCA-EBMUD: Short-Term Pilot Water Transfer Plan (September 19, 2013) available at http://bawasca.org/docs/BAWSCA-EBMUD%20Water%20Transfer%20Plan_Final%20Sept.pdf (hereinafter "BAWSCA-EBMUD Pilot Water Transfer Plan").

Canal, and EBMUD's raw water and treated water distribution systems, and delivering the transfer water to the BAWSCA service area via the Hayward Intertie, located in the City of Hayward (Hayward), which is jointly owned by EBMUD and the SFPUC. Transfer water delivered from EBMUD through the Hayward Intertie would be directly used by Hayward in lieu of taking delivery of a like amount of water from the RWS.⁸¹ It was assumed, based on seasonal availability of transfer water, that BAWSCA would have at most six months of water transfers per year.⁸²

Figure 13: BAWSCA-EBMUD Water Transfer Map



Source: BAWSCA's Long-Term Reliable Water Supply Strategy Phase II Final Report, February 2015.

⁸¹ BAWSCA-EBMUD Pilot Water Transfer Plan; BAWSCA-EBMUD Technical Memorandum.

⁸² BAWSCA-EBMUD Technical Memorandum.

The recent historic drought highlighted challenges for water transfer implementation and resulted in BAWSCA unable to implement a pilot water transfer.⁸³ For example, BAWSCA encountered the following challenges as detailed in the EBMUD-BAWSCA Technical Memorandum:

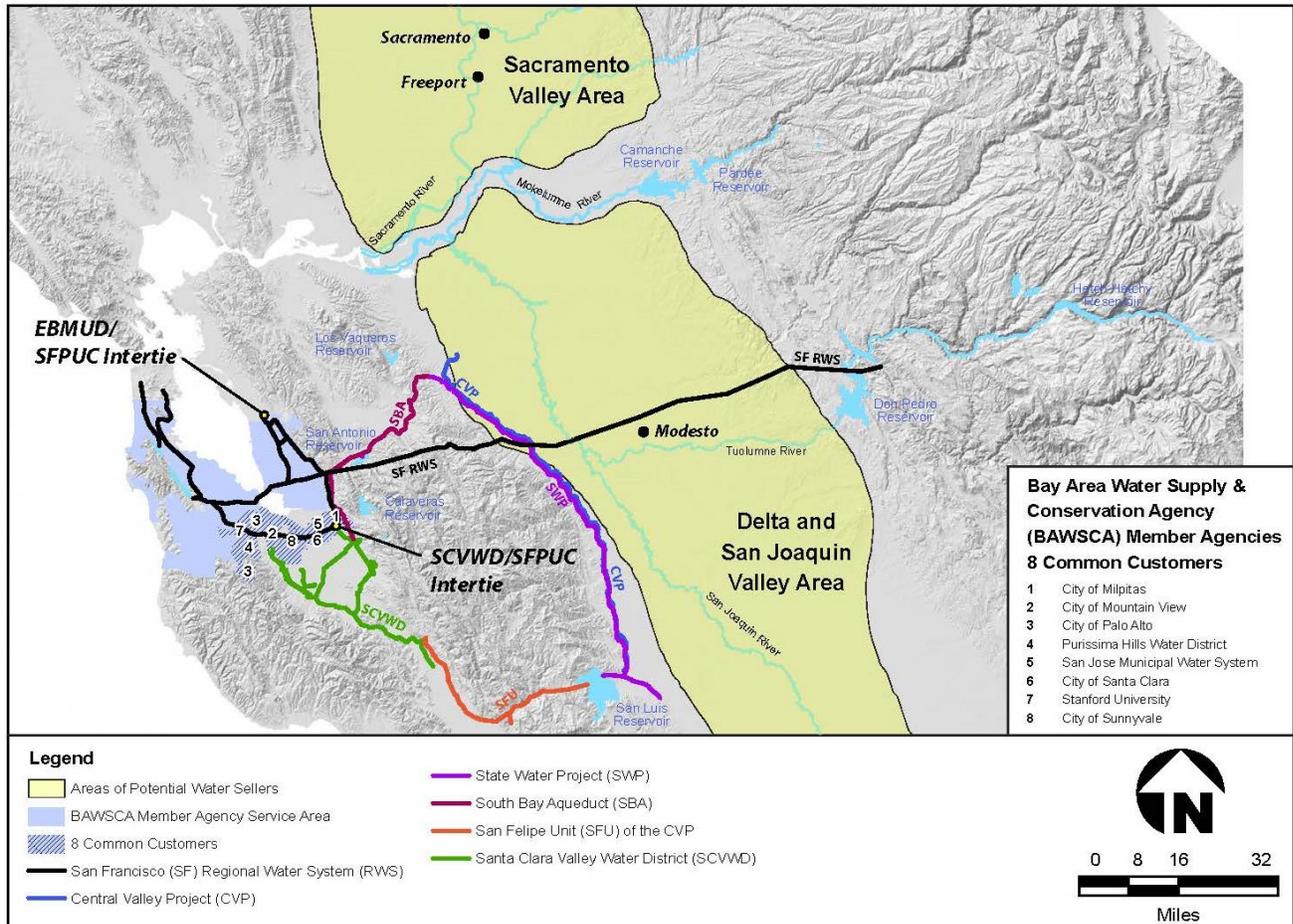
- Access to capacity is a serious issue in drought years, as EBMUD may need to use the entire capacity of the FRWP to deliver their own supplies.
- During the drought conditions, sellers may have less supply to sell, increasing the competition for purchase of transfer water and increasing the price of transfer water.
- Transfer water is only available at certain times of the year, based on agency availability and environmental constraints, which may not correspond to the time when capacity is available to transfer the water.
- The availability of transfer water changes with type of water year (i.e., wet or dry), adding complexity to scheduling a water transfer to BAWSCA.
- Drought conditions created difficulty for agencies in getting Warren Act contracts from the USBR for use of the Folsom South Canal, as USBR staff prioritized water transfers to CVP contractors and areas in critical drought conditions.
- Drought conditions increased the requirements for both State and Federal environmental compliance analyses that are prerequisite to implementing a water transfer.
- There was not sufficient time to complete all the required regulatory approvals and environmental reviews. One-year transfers that require State approval are exempt from CEQA, however, federal approval and National Environmental Policy Act requirements of the USBR have no similar statutory exemption.
- Wheeling costs through the EBMUD system are higher than anticipated during Phase I of the Pilot Plan.
- During the extreme drought conditions, BAWSCA and EBMUD could be competing for the purchase of the same water supplies and potentially the same conveyance capacity.

A similar water transfer study is planned between BAWSCA and the Santa Clara Valley Water District (SCVWD) to explore the benefits of partnering on future water transfer projects to improve long-term and dry year water supply reliability in each of their service areas. Figure 14 illustrates the potential path of water from SCVWD to BAWSCA agencies.⁸⁴

⁸³ BAWSCA-EBMUD Technical Memorandum.

⁸⁴ BAWSCA-EBMUD Technical Memorandum

Figure 14. BAWSCA-SCVWD Water Transfer Map



Source: BAWSCA's Long-Term Reliable Water Supply Strategy Phase II Final Report, February 2015.

Similar to the BAWSCA-EBMUD transfer described above, there are challenges with a potential SCVWD-BAWSCA transfer. More specifically, agreements take time to negotiate (water transfer agreements, intertie use agreements, conveyance and treatment agreements, etc.); environmental considerations and permitting concerns are significant (i.e., the level of environmental documentation is proportional to the complexity of the transfer proposed); the timing of the transfer is subject to agency-specific constraints regarding available capacity, the period when transfer water is available, etc.; the cost of the transfer must be weighed against the needs, willingness, and/or ability to pay of the recipient of the water; and finally there are political considerations as well as public outreach that often needs to be taken into account. All told, it takes considerable time and effort to negotiate even what may be considered a straight-forward transfer.

The 2016 Draft SED fails to account for any of the challenges to a water transfer that BAWSCA experienced directly, as described above. These same challenges would be faced by the SED proposed CCSF water transfer. Thus, the proposed large-scale water transfer from the Districts to San Francisco cannot be considered a reasonably foreseeable method of compliance by San Francisco with the LSJR Alternatives.⁸⁵

⁸⁵ Pub. Resources Code, § 21159, subd. (a); Cal. Code Regs., tit. 23, § 3777, subd. (b)(4).

BAWSCA Agencies Have Also Had Difficulties With Planning And Implementing Water Transfers.

ACWD, as part of developing their own water transfer agreements and use of the South Bay Aqueduct (SBA), has evaluated the potential available capacity for transfers of additional supply through the SBA and has identified a limited capacity, with a variable and narrow time window, to transfer surplus, non-ACWD supplies, through the SBA during droughts and normal years. In ACWD's SED comment letter, they provide a discussion that sheds further light on the complexity of executing a transfer during droughts, citing a recently failed transfer opportunity:

ACWD also questions the notion within the SED that any water supply shortfall can simply be mitigated with water transfers. Water transfers are temporary in nature, unpredictable in cost and quantity, complicated to obtain and implement, and are dependent on regulatory approvals. During the recent drought, and despite the State Water Resource Control Board's support (which we greatly appreciated), ACWD and the Contra Cost Water District were unable to execute a transfer of 5,000 AF of our own, secured water supply. Despite having all regulatory approvals, the Central Valley Project and State Water Project Coordinated Operations were not willing to execute the transfer due to temporary and unpredictable Delta flow conditions. By the time suitable conditions returned, the permits had expired. Given the uncertainties of water transfers, ACWD does not believe that dependence on unsecured transfers is a responsible approach to meet the needs of customers during normal, dry, and multiple dry water years.⁸⁶

Based on the limited ability of the BAWSCA member agencies (with the exception of ACWD) to be able to purchase transfer supply from the State Water Project (SWP) system, and the potential capacity limitations on transfer through the SBA, it is highly unlikely that the SBA could be used by BAWSCA to transfer purchased supply from the Sacramento Valley, Delta, or San Joaquin Valley to the other member agencies.⁸⁷

ii. The 2016 Draft SED Incorrectly Assumes that the Irrigation Districts Would Agree to Transfer the Required Volume of Water at the Assumed Price

The SED concedes that the "assumed price is key to the analysis, and is derived based on a review of recent water purchases involving both MID and TID, as well as by other agricultural districts in California."⁸⁸

The total costs associated with suggested transfer in the 2016 Draft SED must be determined, including purchase, possible storage, transfer, or wheeling and distribution costs to the BAWSCA member agencies. These costs will vary depending on the type and location of the supply source, and the agreements and infrastructure required to wheel the transfer supplies to the BAWSCA service area. Based on BAWSCA's experience, the costs may be higher if there are contract requirements requiring payment for supply even if the supply is not taken every year, or maintaining wheeling capacity through other agency water systems.⁸⁹

⁸⁶ See ACWD's SED Comment Letter.

⁸⁷ BAWSCA Phase I Scoping Report.

⁸⁸ 2016 Draft SED at pp. 20-48; see also 2016 Draft SED at pp.16-7, 16-8 (identifying water transfers between other water agencies that occurred in 2002-2004 and 1997-2005, and concluding that based on this information, "a reasonable cost of \$1,716 per acre-foot is assumed for a [Environmental Water Account] contract sale or \$310 per acre-foot for a long-term transfer.").

⁸⁹ BAWSCA Phase I Scoping Report.

Moreover, other agencies (including BAWSCA and its member agencies) would compete with CCSF for available supplies resulting in increased prices.

Based on BAWSCA's experience, the 2016 Draft SED assumed cost of \$1,000 per acre foot is not realistic for purchase and conveyance of transfer water. When BAWSCA began investigating water transfers, the price of water alone, not including associated wheeling and distribution costs, was estimated to be between \$75 and \$275 per acre foot. When the drought hit and BAWSCA began negotiations with water agencies, the price increased to \$450 per acre foot in 2014 and \$500 per acre foot in 2015 for the same supply. Based on the data gathered during 2015, the cost of water and cost of conveyance was estimated to be up to \$2,300 per acre foot to transfer approximately 1,000 acre feet to BAWSCA via EBMUD, FRWP and the City of Hayward, which includes the RWS cost of distributing the transfer water. BAWSCA staff is willing to discuss with State Board staff in detail the limitations BAWSCA has experienced in attempting to purchase water and facilitate a transfer into the RWS.

Finally, the 2016 Draft SED improperly incorporates WSIP PEIR environmental analysis of a potential 2 mgd transfer with Districts and states that a larger water transfer would undergo project-level CEQA review at time it is proposed.⁹⁰ An accurate, stable, and finite project description is an indispensable component of an informative and legally sufficient EIR.⁹¹ A "project" is the "whole of an action" that has the potential to result in a physical change to the environment "directly or indirectly".⁹² An agency cannot chop up a project into pieces to avoid analyzing and discussing in the EIR the sum of environmental impacts resulting from the project.⁹³ The impacts of the proposed transfer must be fully evaluated in the 2016 Draft SED. For further analysis regarding the deficient analysis contained in the 2016 Draft SED concerning large-scale transfer, please see CCSF SED Comments, starting on page 80, incorporated herein by reference.

iii. It Is Not Reasonably Foreseeable That CCSF Could Develop The Identified In-Delta Diversion Facility

The State Board's assumption that CCSF would be able to mitigate water supply impacts to the RWS service territory by developing the identified in-Delta diversion facility and associated infrastructure is not supported by substantial evidence, or reasonable inferences predicated on fact. The environmental review of the in-Delta diversion facility improperly relies on the analysis in the WSIP PEIR. The Draft WSIP EIR found that "because of numerous institutional and regulatory uncertainties associated with this alternative (largely dependent on how and where the SFPUC would purchase the water), it is unknown if this alternative could achieve the WSIP level of service goals for delivery and water supply reliability.⁹⁴ Therefore, since this alternative would have uncertain water supply reliability and an unknown ability to reduce impacts on Tuolumne River resources, as well as significant additional environmental impacts, it was eliminated from further consideration."⁹⁵

⁹⁰ 2016 Draft SED, Appendix L, at p. L-23.

⁹¹ Cal. Code Regs., tit. 23, § 15124.

⁹² Cal. Code Regs., tit. 23, § 15378(a).

⁹³ *Christward Ministry v. Superior Court* (1986) 184 Cal.App.3d 180, 193

⁹⁴ San Francisco Planning Department, City and County of San Francisco, Water System Improvement Plan, Program Environmental Impact Report (October 2008), at 9-126, available at <http://sf-planning.org/sfpuc-negative-declarations-eirs>, (hereinafter "Water System Improvement Plan, Program Environmental Impact Report")

⁹⁵ Water System Improvement Plan, Program Environmental Impact Report at pp. 9-125 to 9-126.

For further description of why the In-Delta diversion facility is highly speculative and not reasonably foreseeable, please see the CCSF SED Comments.⁹⁶

iv. It Is Not Reasonably Foreseeable That San Francisco Could Develop A Desalination Plant

The SWRCB's assumption that San Francisco would be able to mitigate water supply impacts to the RWS service territory by developing a 56,000 AF/year desalination plant located at Mallard Slough is not supported by substantial evidence, or reasonable inferences predicated on fact. For a further description of why a desalination facility is highly speculative and not reasonably foreseeable, please see the CCSF SED Comments.⁹⁷

c. The 2016 Draft SED Fails To Adequately Analyze The Reasonably Foreseeable Reduction In The Water Supplies And The Resulting Significant Impact On The Bay Area's Economy

The 2016 Draft SED incorrectly assumes that SFPUC would replace water supplies rather than impose shortages, despite having information that this is unlikely. The 2016 Draft SED restricts the impact analysis to the unlikely development of new water supplies, despite acknowledging that shortages would be more expensive and without analyzing the resulting economic impact to the Bay Area from reduced water supplies. Implementation of LSJR Alternatives 3 or 4 would cause severe water shortages in the RWS service territory during a sequential year drought.⁹⁸

i. The 2016 Draft SED Contains An Inadequate Economic Analysis

The 2016 Draft SED contains an inadequate economic analysis in Chapter 20, and although it acknowledges the requirement to include economic considerations when establishing water quality objectives under Water Code section 13241,⁹⁹ it qualifies this requirement by the lower level of detail required by a programmatic CEQA document:

The economic analysis presented in this SED will help inform the State Water Board's consideration of potential changes to the 2006 Bay-Delta Plan related to LSJR flow and southern Delta water quality objectives. Any project-level changes to water rights or other measures that may be needed to implement any approved updates to the 2006 Bay-Delta Plan will be considered in subsequent proceedings and would require project-level analysis, as appropriate. Therefore, the economic analyses presented in this chapter, which also summarize results from resource analyses presented elsewhere in this SED and its appendices, are limited by the programmatic nature of this document.¹⁰⁰

A thorough economic analysis is required under Water Code section 13241.¹⁰¹

⁹⁶ CCSF SED Comments at pp. 95-97

⁹⁷ CCSF SED Comments at pp. 86-95.

⁹⁸ See SFPUC Analysis of Changes to Flow Criteria, Table 2-4 at pp. 10-12.

⁹⁹ 2016 Draft SED at p. 20-1.

¹⁰⁰ 2016 Draft SED at p. 20-3.

¹⁰¹ *City of Arcadia v. State Water Resources Control Bd.*, 191 Cal. App. 4th 156, 176 [Cal. App. 4th Dist. 2010] ["Water Code section 13241 does impose obligations that can be enforced by a writ of mandate," separate and apart from any CEQA requirement or cause of action."].

In general, within the BAWSCA service area, the first 20 to 30-percent of water supply reductions can be borne by the residential sector alone.¹⁰² The economic losses from these shortages are experienced as welfare losses by the consumer, and manifest as consumers not being able to receive the water supply reliability that they have paid for through their water rates. Over time, these welfare losses result in dissatisfaction by customers with their respective local water providers and City Councils because they are paying for something – water supply reliability – that they are not receiving.¹⁰³

Significantly, as described in more detail below, once water shortages reach a level that can no longer be borne by the residential sector alone, further water supply reductions require water rationing by the commercial and industrial sectors that, in turn, manifest in the form of reduced economic output and job losses. The threshold at which water supply reductions can no longer be solely absorbed by the residential sector – a point that will necessarily vary depending on the alternative water supplies available to each BAWSCA agency – represents a critical juncture.

As detailed above in Section I.b., implementation of LSJR Alternatives 3 or 4 would cause severe water shortages in the RWS supply during multi-year droughts. Agencies' other water supplies would also be subject to reductions during multi-year droughts. These water supply reductions would be too severe to be borne by only the residential sector, so there would also be cutbacks on water supply to the commercial and industrial sectors. These major shortages to the commercial and industrial sectors would result in significant losses of jobs and economic output in the BAWSCA service area.

Assuming the full system demand of 265 mgd, a recurrence of 1988 hydrology, and a 40 percent unimpaired flow on the Tuolumne River; the incremental impacts anticipated in the BAWSCA service area (over and above those that would occur in the base case) would be the loss of 71,315 jobs and loss in economic output of over \$36 billion.¹⁰⁴ Similar major losses would occur each year of a multi-year drought. Over a six-year drought sequence that mimics the 1987-1992 drought, incremental job losses would total 374,886 and incremental loss of economic output would total more than \$199 billion in the BAWSCA service area alone, using the same assumptions for water demand.¹⁰⁵ Figures 15 and 16 illustrate the anticipated incremental loss of jobs and loss in economic output, respectively, over a recurrence of the 6-year drought sequence, assuming a full system demand of 265 mgd.

¹⁰² CCSF SED Comments, pp. 28-32.

¹⁰³ CCSF SED Comments, pp. 28-32 and “*Bay Area Socioeconomic Impacts Resulting from Instream Flow Requirements for the Tuolumne River*,” The Brattle Group, prepared by David Sunding, Ph.D., attached as Appendix 3 to the CCSF SED Comments (referred to as the “2017 Socioeconomic Impacts Analysis”).

¹⁰⁴ See 2017 Socioeconomic Impacts Analysis, Tables 9 and 11 at pp. 10-11.

¹⁰⁵ 2017 Socioeconomic Impacts Analysis, Tables 9 and 11 at pp. 10-11.

Figure 15: Annual Incremental Job Losses to Wholesale Customers at Full RWS Demands of 265 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives

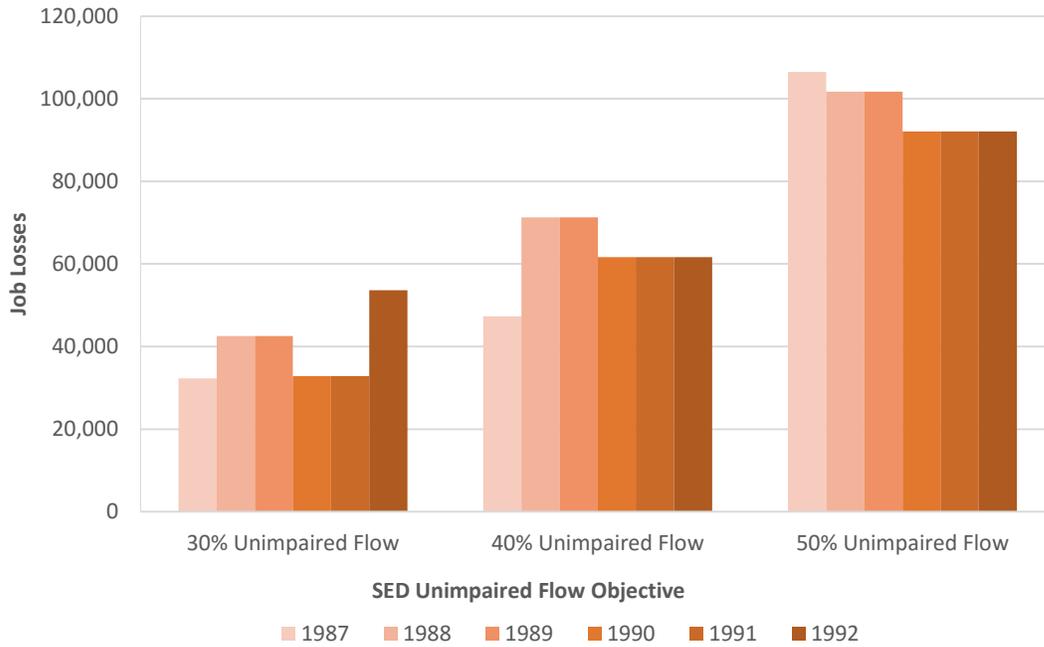
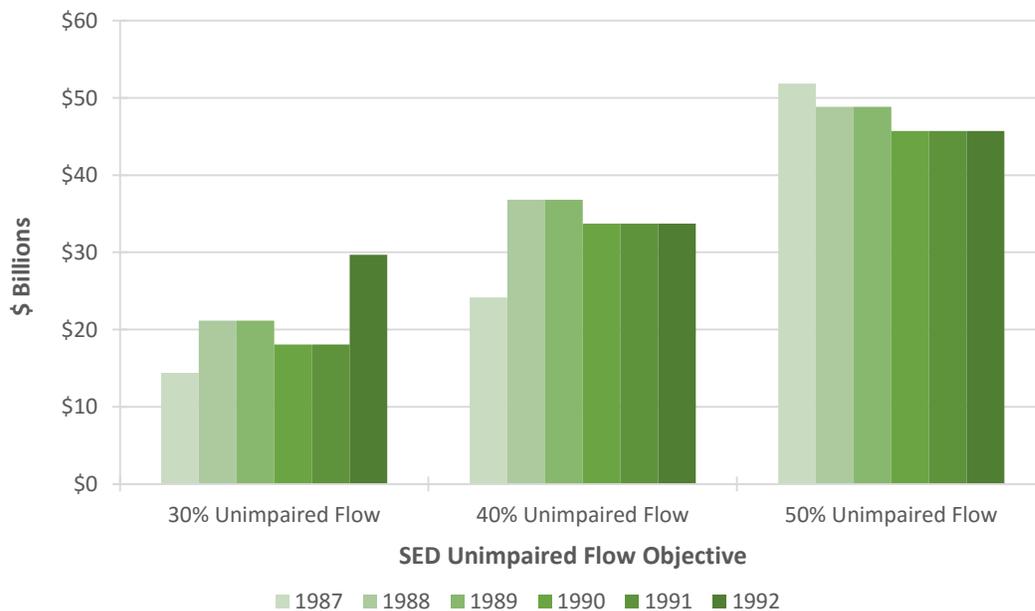


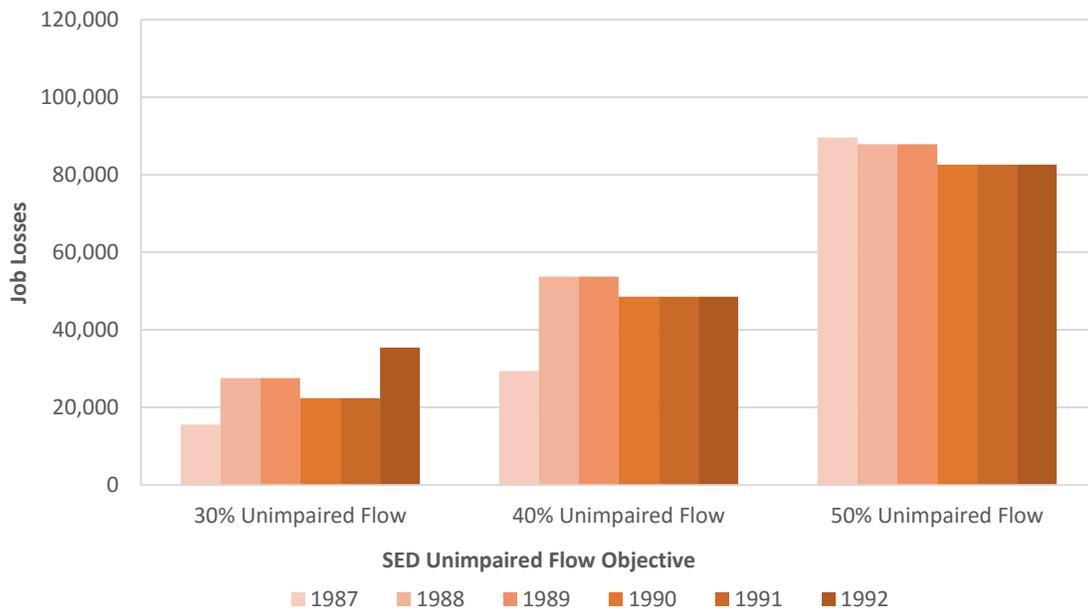
Figure 16: Annual Incremental Economic Output Losses to Wholesale Customers at Full RWS Demands of 265 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives



Assuming the current (pre-drought) system demand of 223 mgd, a recurrence of the 1988 hydrology, and a 40 percent unimpaired flow mandated by the SED: the incremental impacts anticipated in the BAWSCA service area (over and above those that would occur in the base case) would be the loss of 53,729 jobs and loss in economic output of over \$18 billion. Similar major losses would occur each year of a multi-year drought. Over a six-year drought sequence that mimics the 1987-1992 drought, incremental job losses would total 282,368 and incremental loss of economic output would total more than \$98 billion in the BAWSCA service area alone, using the same assumptions for water demand.¹⁰⁶

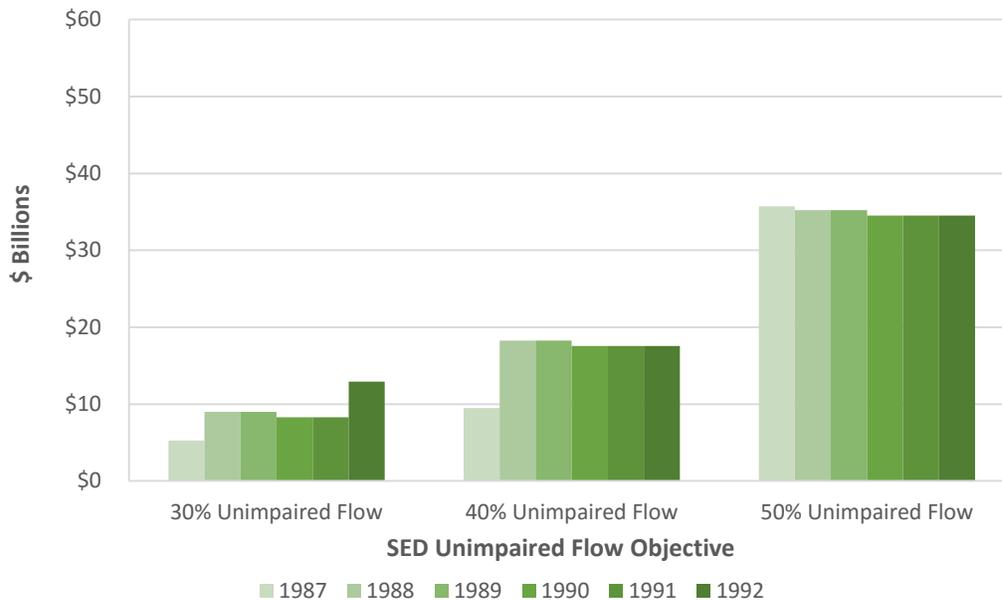
Figures 17 and 18 illustrate the anticipated incremental loss of jobs and loss in economic output, respectively, over a recurrence of the 6-year drought sequence, assuming a RWS demand of 223 mgd.

Figure 17: Annual Incremental Job Losses to Wholesale Customers at Current (Pre-Drought) RWS Demands of 223 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives



¹⁰⁶ 2017 Socioeconomic Impacts Analysis, Tables 8 and 10 at pp. 10-11.

Figure 18: Annual Incremental Economic Output Losses to Wholesale Customers at Current (Pre-Drought) RWS Demands of 223 MGD during Historic 6-Year Drought Sequence for Three Unimpaired Flow Objectives



Economic and job losses would be even greater if a 50 percent unimpaired flow was mandated on the Tuolumne River, as shown in Figures 15, 16, 17, and 18.

ii. The 2016 Draft SED Fails To Consider The Economic Impact To BAWSCA Agencies' Rates

The 2016 Draft SED fails to analyze the economic impacts resulting from BAWSCA agencies' reasonably foreseeable actions to the proposed reduced flows. The Draft 2016 SED failed to analyze the impacts from increased competition due to the shortages and how prices will be inflated by a drought and reduced flows available to supply the Bay Area.

Wholesale water rates are based upon the Wholesale Customers' collective share of the expenses incurred by CCSF in delivering water to them on the basis of proportional annual use. This collective share of expenses is defined as the "Wholesale Revenue Requirement." Wholesale rates are set prospectively based on the budget of the Wholesale Revenue Requirement and estimates of water purchases in the following fiscal year. After the close of each fiscal year, the difference of the actual costs allocable to the Wholesale Customers and the amounts billed to the Wholesale Customers for that fiscal year will be posted to a "balancing account". The amount in the balancing account shall be taken into consideration in establishing the following year's wholesale rates. As such, if total water deliveries by CCSF decrease, the effective water rate (\$ per acre-foot) will increase.

SFPUC's water rates for its 27 wholesale customers derive from the Water Supply Agreement executed in 2009 between the SFPUC and the Wholesale Customers.¹⁰⁷ Based on the 2009 Water Supply Agreement, Wholesale Customers pay a proportionate share of RWS operating expenses, debt service on bonds sold to finance regional system improvements, and other regional system improvements funded from current revenues, along with the repayment of previously constructed capital assets that were not otherwise fully depreciated.¹⁰⁸ In general, costs are apportioned to Wholesale Customers based on proportionate water use, and rates are reset annually to cover costs as mandated by the 2009 Water Supply Agreement.¹⁰⁹ Based on SFPUC wholesale water costs, costs for other water supplies, and other budgetary conditions faced by the 27 agencies that purchase water from SFPUC, each wholesale customer then sets the retail water rates for the end-use customers (e.g., residential, commercial, and industrial).¹¹⁰

For the BAWSCA Agencies, rates will need to increase by 6% in the 2016 Draft SED's 30% unimpaired flow case, by 9% in the 40% unimpaired flow case, and by 15% in the 50% unimpaired flow case.¹¹¹ Although raising water rates is seen by state regulatory agencies and some environmental organizations as a viable method to encourage lower water use, water agencies must approach the rate setting process with considerable planning and care. State law requires utilities to notify all property owners in writing of proposed rate changes well in advance and to hold a public hearing to receive protests. It also requires water charges to be limited to the actual cost of service, and hence using rates to manage drought supplies is complicated.¹¹² For water utilities that are in the midst of performing cost-of-service studies, taking any rate action is subject to legal scrutiny until and unless those studies are completed (and/or considered current).

Even with these significant rate increases, the BAWSCA agencies will be forced to make heavier use of balancing accounts and other financial reserves to cope with the budgetary instability caused by less reliable water supplies.¹¹³ Agencies may find themselves having to cut operating expenses (laying off workers for example) and / or delaying needed capital spending aimed at maintaining their water systems to counter that instability.¹¹⁴

d. The 2016 Draft SED Fails To Adequately Analyze Increasing Bay Area Population Growth And Housing Needs, The Impacts From Displaced Low-Density Growth, And The Environmental Costs Of Foregoing Smart Growth Development

Notwithstanding a reduction in water supplies projected in the 2016 Draft SED, the Bay Area faces substantial projected increases in employment and population between now and 2040.¹¹⁵ As the housing market has recovered from the recession, thousands of new workers

¹⁰⁷ The SFPUC has individual wholesale contracts with 27 agencies, 26 of which are BAWSCA members. The Cordilleras Mutual Water Company ("Cordilleras MWC") is also a wholesale customer of the SFPUC but is not BAWSCA member. (San Francisco Public Utilities Commission, City and County of San Francisco, 2015 Urban Water Management Plan (June 2016) at p. 2-2).

¹⁰⁸ Water Supply Agreement Between The City And County Of San Francisco And Wholesale Customers In Alameda County, San Mateo County And Santa Clara County, July 2009 (WSA) *available at* <https://sfwater.org/modules/showdocument.aspx?documentid=8632>

¹⁰⁹ *Id.*; 2016 Draft SED, Appendix L, at p. L-10.

¹¹⁰ *Id.*; 2016 Draft SED, Appendix L, at p. L-11.

¹¹¹ 2017 Socioeconomic Impacts Analysis at p. 12.

¹¹² Cal. Const., arts. XIII C, XIII D.

¹¹³ 2017 Socioeconomic Impacts Analysis at p. 12.

¹¹⁴ See California water prices set to rise next year: Fitch (Reuters, August 18, 2015) <http://www.reuters.com/article/us-california-water-rates-idUSKCN0QN1PH20150818>

¹¹⁵ Memorandum to the Joint MTC Planning Committee/ABAG Administrative Committee at 2 (September 2, 2016).

have been attracted to the high-paying tech economy of the Bay Area.¹¹⁶ The resulting increase in housing costs has not only had a direct economic impact on many Bay Area families, it has also increased incentives to build on greenbelt land, with development proposals on open space and farmland on the periphery of the Bay Area.¹¹⁷ If affordable housing is not located close to these high demand jobs, people will commute from a distance where there are less expensive homes.¹¹⁸ ("Affordability" refers to households' ability to purchase essential goods such as food, housing, transportation and healthcare.¹¹⁹) As discussed below, the costs of urban sprawl are hidden, and include more than increased transportation costs.¹²⁰

i. The 2016 Draft SED Fails To Adequately Analyze Bay Area Population Growth And Resulting Displaced Low-Density Growth From The Proposed SED Alternative Flows

An EIR must discuss any inconsistencies between the proposed project and applicable general plans, specific plans and regional plans.¹²¹ Plan Bay Area was adopted by the Association of Bay Area Governments ("ABAG") and the Metropolitan Transportation Commission ("MTC") in 2013 in accordance with "The California Sustainable Communities and Climate Protection Act of 2008" (California Senate Bill 375 ["SB 375"], Steinberg), which requires each of California's 18 metropolitan areas – including the Bay Area – to reduce greenhouse gas emissions from cars and light trucks.¹²² SB 375 directs "the Bay Area and other California regions [to] develop a Sustainable Communities Strategy (SCS) – a new element of the regional transportation plan (RTP) – to strive to reach the greenhouse gas (GHG) reduction target established for each region by the California Air Resources Board."¹²³ SB 375 also "requires regions to plan for housing that can accommodate all projected growth, by income level, so as to reduce the pressures that lead to in-commuting from outside the nine-county region."¹²⁴ Plan Bay Area 2013 is the region's first RTP subject to SB 375.¹²⁵

Although Plan Bay Area 2013 has multiple performance targets, "[t]wo of the targets are not only ambitious—they are mandated by state law."¹²⁶ The first mandatory target addresses climate protection by requiring the Bay Area to reduce its per-capita CO₂ emissions from cars and light-duty trucks by 7-percent by 2020 and 15-percent by 2035.¹²⁷ "The second mandatory target addresses adequate housing by requiring the region to house 100 percent of its projected population growth by income level."¹²⁸ In order to help achieve the Bay Area's GHG emissions

¹¹⁶ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at pp. 7 - 8. (2017) *available at* <http://www.greenbelt.org/at-risk-2017/>

¹¹⁷ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at 3.

¹¹⁸ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at 29.

¹¹⁹ Todd Litman. 2015. "Understanding Smart Growth Savings: Evaluating Economic Savings and Benefits of Compact Development, and How They Are Misrepresented By Critics." Victoria Transport Policy Institute *available at* http://www.vtpi.org/sq_save.pdf at p. 16.

¹²⁰ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at 29.

¹²¹ Cal. Code Regs., tit. 14, § 15125(d); *Joshua Tree Downtown Business Alliance v. County of San Bernardino* (2016) 1 Cal.App.5th 677, 695, review denied (Oct. 12, 2016.)

¹²² Plan Bay Area: A Strategy for a Sustainable Region, July 18, 2013, Association of Bay Area Governments, Metropolitan Transportation Commission, *available at* <http://mtc.ca.gov/sites/default/files/0-Introduction.pdf> ("referred to below as "Plan Bay Area 2013"), at p. 4.

¹²³ Plan Bay Area 2013.

¹²⁴ Plan Bay Area 2013 at p. 99.

¹²⁵ Plan Bay Area 2013 at p. 4.

¹²⁶ Plan Bay Area 2013 at p. 5.

¹²⁷ Plan Bay Area 2013 at p. 4-5.

¹²⁸ Plan Bay Area 2013 at p. 5; *See also* Plan Bay Area 2013 at pp. 19, 43 (explaining that SB 375 requires that the Bay Area identify a land use pattern for projected growth (from a 2010 baseline year) that will, *inter alia*, house 100-percent of the region's projected 25-year population growth by income level (very-low, low, moderate, above-moderate) without displacing current low-income residents.)

reduction and housing targets, Plan Bay Area 2013 identifies a land use pattern that “directs new growth within locally adopted urban growth boundaries to existing communities along major transit corridors.”¹²⁹

Due to the high cost of housing in the region, for decades “an ever-increasing number of people who work in the Bay Area” have been compelled “to look for more affordable housing in the Central Valley or other surrounding regions.”¹³⁰ To address this incongruity, Plan Bay Area 2013 calls for the majority of projected growth to occur in Priority Development Areas (“PDAs”) that are “transit-oriented, infill development opportunity areas within existing communities”¹³¹

Plan Bay Area 2040 is the update to Plan Bay Area 2013, in which the ABAG and the MTC revised regional growth forecast in the Draft Preferred Scenario projects by an estimated additional 1.3 million jobs and 2.4 million people in the Bay Area by 2040. This population increase will require over 800,000 housing units in the Bay Area.¹³²

The 2016 Draft SED fails to account for this population growth and the resulting impacts from water supply shortages to the Bay Area caused by the alternative proposed flows. Not only is there a failure to account for impacts from population growth and increased housing needs as projected by Plan Bay Area as required by Cal. Code Regs., tit. 14, § 15125(d), the 2016 Draft SED fails entirely to account for displaced growth as a result of water shortages to the Bay Area and development moratoriums.

An EIR must discuss growth-inducing impacts from a project.¹³³

Depending on the circumstances, a government agency may reasonably anticipate that its placing a ban on development in one area of a jurisdiction may have the consequence, notwithstanding existing zoning or land use planning, of displacing development in other areas of the jurisdiction.¹³⁴

CEQA broadly defines the relevant geographical environment as “the area which will be affected by a proposed project.”¹³⁵ Consequently, “the project area does not define the relevant environment for purposes of CEQA when a project’s environmental effects will be felt outside the project area.”¹³⁶ Indeed, “the purpose of CEQA would be undermined if the appropriate governmental agencies went forward without an awareness of the effects a project will have on areas outside of the boundaries of the project area.”¹³⁷

¹²⁹ Plan Bay Area 2013 at pp. 43, 45.

¹³⁰ *Id.* at 99; *id.* at p. 45 (noting that “past trends saw the outward expansion of urban growth in the region and spillover growth in surrounding regions”); See also Draft 2016 SED, at pp. 11-12 (“spillover from the Bay Area is causing growth stress in the San Joaquin Valley as commuters seek affordable housing. Over the past 35 years, the northern San Joaquin Valley, including San Joaquin, Stanislaus and Merced Counties, has experienced explosive growth in the numbers of workers who commute north and west out of the valley each day. By 2010, that was estimated to be about 24 percent of workers working outside their county of residence with about 46,000 heading towards the Bay Area”).

¹³¹ *Id.*

¹³² Memorandum to the Joint MTC Planning Committee/ABAG Administrative Committee at 2 (September 2, 2016) available at <http://planbayarea.org/the-plan/Draft-Preferred-Scenario.html>

¹³³ Pub. Resources Code, § 21100(b)(5); 14 CCR § 15126(d).

¹³⁴ *Muzzy Ranch Co. v. Solano County Airport Land Use Com'n* (2007) 41 Cal. 4th 372, 383. (“*Muzzy Ranch*”).

¹³⁵ Pub. Resources Code, § 21060.5.

¹³⁶ *County Sanitation Dist. No. 2 of Los Angeles County v. County of Kern* (2005) 127 Cal.App.4th 1544, 1582–1583; *Muzzy Ranch*, 41 Cal.4th 372, 387.

¹³⁷ *Napa Citizens for Honest Government v. Napa County Bd. of Supervisors* (2001) 91 Cal.App.4th 342, 369.

The 2016 Draft SED plan area encompasses the areas where the proposed plan amendments apply to protect beneficial uses. For example, the LSJR flow objectives would require flows in the salmon-bearing tributaries of the LSJR below the rim dams on the Stanislaus, Tuolumne, and Merced Rivers, and the mainstem of the LSJR between its confluence with the Merced River and downstream to Vernalis to protect fish and wildlife beneficial uses in those reaches.¹³⁸ The Bay Area is considered outside of the plan area. The 2016 Draft SED failed to evaluate the likely environmental impacts from increased population and housing needs in the Bay Area while experiencing a decreased water supply proposed by the SED's alternative flows.

The imposition of a moratorium on development in the BAWSCA service area would exacerbate the existing housing issues and further push housing growth out of the high-density areas of the Bay Area to the eastern and southern most portions of the Bay Area and to the western San Joaquin Valley. Most of the region's farmlands and natural areas that are threatened by sprawl are in communities at the edges of the region, such as southern Santa Clara County, eastern Contra Costa County, and Solano County.¹³⁹ As explained by ABAG and MTC, past development trends saw the outward expansion of growth within the Bay Area and spillover of growth into surrounding regions, including the Central Valley.¹⁴⁰ The 2016 Draft SED recognizes that the spillover from the Bay Area will be to San Joaquin Valley, but fails to analyze the environmental impacts from such spillover.¹⁴¹

Section 13241 of the Water Code requires suitable consideration of "[t]he need for developing housing within the region" and the current analysis in the 2016 Draft SED does not meet this obligation. The 2016 Draft SED discusses growth-inducing impacts, concluding that the potential effects of the LSJR and SDWQ Alternatives on growth would not directly or indirectly foster economic, population, or housing growth; remove obstacles to growth; or facilitate or encourage other such activities.¹⁴² However, it fails to consider the effects of displaced growth as a result of reduced water supplies to the Bay Area, specifically to the RWS.

ii. The 2016 Draft SED Fails To Analyze The Environmental Harm From Foregoing Smart Growth Strategies And Encouraging Urban Sprawl

The California Department of Finance forecasts that, by 2030, more than 44 million people will live in California, an increase of 30% over the State's population in 2000.¹⁴³ These people will live somewhere. With an anticipated increase in employment and population in the Bay Area, the resulting moratorium on development from the anticipated reduced water supplies in the 2016 Draft SED would result in displaced growth. The individuals filling the increasing number of jobs will need to commute from their homes to their jobs. As a result, it is reasonable to expect that housing development will be pushed to farmlands and open space conservation areas, which are currently threatened by sprawl in response to the Bay Area's affordable housing crisis.¹⁴⁴ This likely includes land in the periphery of the Bay Area (outside of the RWS), and eastward into western San Joaquin Valley.¹⁴⁵

"Smart Growth" is a development philosophy based on creative development strategies that prioritize the preservation of the environment and critical ecosystems, improving water and

¹³⁸ 2016 Draft SED, Executive Summary, at p. ES-5.

¹³⁹ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 29.

¹⁴⁰ Plan Bay Area 2013 at pp. 42, 45, 99.

¹⁴¹ 2016 Draft SED at pp. 11-12.

¹⁴² 2016 Draft SED at pp. 17-70.

¹⁴³ Cal. Dept. of Finance Projections available at <http://www.dof.ca.gov/>.

¹⁴⁴ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 29.

¹⁴⁵ 2016 Draft SED at pp. 11-12.

air quality, and leveraging existing development to create compact, transit-oriented development with diverse housing choices.¹⁴⁶ Comprehensive Smart Growth policies create neighborhoods where high quality walking, cycling, public transit and carsharing services allow households to minimize their vehicle ownership and use.¹⁴⁷ Smart Growth tends to increase economic development, including productivity, business activity, property values and tax revenues.¹⁴⁸ Smart Growth can positively affect housing affordability by supporting more affordable housing types and can reduce development fees and taxes for more compact development, reflecting the lower costs of providing public services.¹⁴⁹

The Bay Area has adopted Smart Growth strategies to protect the environment, preserve public health, and to build more diverse communities. Bay Area residents have consistently chosen Smart Growth approaches over suburban sprawl and displaced growth. In 2014 alone, six Bay Area cities either rejected measures that would have curtailed Smart Growth strategies or approved measures to reinforce Smart Growth approaches.¹⁵⁰ Displaced growth, largely low-density and dispersed, would have different and far greater impacts than those associated with the high-density, infill development in the existing RWS area.

In the Bay Area 293,100 acres of natural and agriculture land are at risk from sprawl development over the next 30 years as a result of existing increased housing costs and incentives to build on green belt land around the region. The most acute threat exists to 63,500 acres that will likely be developed in the next 10 years.¹⁵¹ The existing threats to these natural and agriculture land as a result of urban sprawl and the resulting environmental impacts that will be exacerbated as a result of water shortages to the RWS were not adequately analyzed in the 2016 Draft SED. The Bay Area has a total of 2.3 million acres of agricultural land, 1.8 million acres of lands that provide water resources (watersheds and wetlands), and 2.5 million acres of lands that function as wildlife habitat, corridors, and areas rich in biodiversity. Not only were the environmental impacts resulting from development of this land not considered in the 2016 Draft SED, but the SED failed entirely to consider the reduced environmental benefits from forgoing smart growth while encouraging urban sprawl.

¹⁴⁶ See EPA web page entitled "What is Green Infrastructure?", available at <https://www.epa.gov/green-infrastructure/what-green-infrastructure> (explaining that "Green infrastructure uses vegetation, soils, and other elements and practices to restore some of the natural processes required to manage water and create healthier urban environments. At the city or county scale, green infrastructure is a patchwork of natural areas that provides habitat, flood protection, cleaner air, and cleaner water. At the neighborhood or site scale, stormwater management systems that mimic nature soak up and store water.").

¹⁴⁷ Todd Litman. 2015. "Understanding Smart Growth Savings: Evaluating Economic Savings and Benefits of Compact Development, and How They Are Misrepresented By Critics." Victoria Transport Policy Institute at p. 3 available at http://www.vtpi.org/sq_save.pdf.

¹⁴⁸ Understanding Smart Growth Savings: Evaluating Economic Savings and Benefits of Compact Development, and How They Are Misrepresented By Critics. Victoria Transport Policy Institute at p. 29.

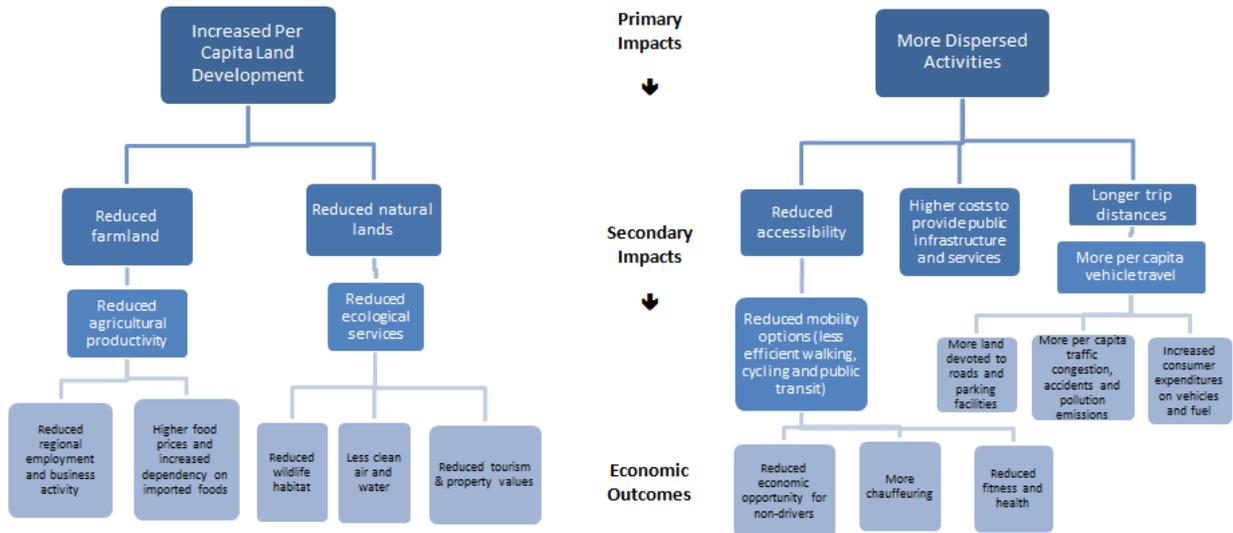
¹⁴⁹ Understanding Smart Growth Savings: Evaluating Economic Savings and Benefits of Compact Development, and How They Are Misrepresented By Critics. Victoria Transport Policy Institute. at p. 16.

¹⁵⁰ San Francisco Bay Area Planning and Urban Research Association (SPUR), Bay Area Voters Approve Smart Growth, Reject Sprawl, November 12, 2014 available at <http://www.spur.org/news/2014-11-12/bay-area-voters-approve-smart-growth-reject-sprawl> .

¹⁵¹ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at pp. 3, 8.

Urban Sprawl has two primary impacts: 1) it increases per capita land consumption, and 2) it disperses development, which increases the distances between common destinations, increasing the costs of providing public infrastructure and services, and the transportation costs required to access services and activities.¹⁵²

Figure 19: Sprawl Resource Impacts



Source: *Understanding Smart Growth Savings Evaluating Economic Savings and Benefits of Compact Development, and How They Are Misrepresented By Critics*, 27 February 2017, Todd Litman, Victoria Transport Policy Institute

As shown in Figure 19 the primary impacts have a number of secondary impacts and economic costs including reduced agricultural production and ecological services; increased infrastructure and transport costs borne by governments, businesses and households; reduced economic productivity, reduced economic opportunities for disadvantaged people; more traffic congestion and accidents, higher per capita energy consumption and pollution emissions, plus reduced public fitness and health. The 2016 Draft SED fails to adequately analyze the impacts of this displaced low-density growth.

The California Legislature recognizes the social and environmental values of green infrastructure.¹⁵³ The proposed reduced flows in the 2016 Draft SED will cause displaced growth and suburban sprawl, forgoing the numerous benefits of the Smart Growth strategies favored by residents of the Bay Area. Smart Growth strategies, and compact development in particular, have numerous environmental benefits. The benefits from natural landscapes include: 1) clean, plentiful drinking water, 2) protections from floods and storms, 3) food production and food security, 4) building and medicinal materials, 5) carbon storage and climate

¹⁵² Understanding Smart Growth Savings: Evaluating Economic Savings and Benefits of Compact Development, and How They Are Misrepresented By Critics. Victoria Transport Policy Institute at p. 5

¹⁵³ See Gov. Code, § 65593(d) ["[I]andscapes are essential to the quality of life in California by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development."].)

regulations, 6) recreation and tourism, health benefits from clean air and recreational opportunities.¹⁵⁴

Potentially significant project effects on energy consumption, human health, water quality, air quality, and, more specifically, greenhouse gas emissions, must be analyzed under CEQA.¹⁵⁵ The 2016 Draft SED does not compare the impacts of displaced growth with the impacts of planned Smart Growth strategies in San Francisco and its immediate adjacent neighboring communities.

Displaced Growth Outside The RWS Service Area Will Impact Water Quality and Water Supplies.

The CEQA Guidelines require identification of project effects that will substantially degrade water quality.¹⁵⁶ Impacts to water supply and water quality from displaced urban sprawl would include: 1) wasted water from less efficient pipes required to serve low-density suburban areas, 2) water pollution from increased driving as particles from tailpipes, tires, and breaks are deposited on roadways, leaving a toxic residue that is captured and washed into waterways by rainfall, 3) and increased stress on the water supplies of hotter inland counties, which already have substantially higher per-capita water use than the Bay Area.

"Roads and parking lots can account for as much as 70 percent of the total impervious cover in most urban areas and can easily capture pollution from vehicles."¹⁵⁷ Based on data collected by the National Stormwater Quality Database, "open space shows consistently low concentrations of all pollutants and other constituents examined"¹⁵⁸ In contrast, residential areas have the highest concentrations of dissolved and total phosphorus and high levels of fecal coliform.¹⁵⁹ "Highway drainage has the highest concentrations of total suspended solids, chemical oxygen demand . . . oil and grease, and ammonia."¹⁶⁰ Compact development reduces the amount of impervious surface, which results in less stormwater runoff.¹⁶¹ Urban sprawl threatens open spaces and, in turn, harms water quality.

Urban sprawl also has the potential to impact local drinking water supplies, which as discussed above, will already be stressed as a result of the reduced flows anticipated in the 2016 Draft SED. The farmlands and natural areas within the Bay Area that are at risk from sprawl capture rainwater and replenish the region's groundwater supplies. 46 billion gallons of water are at risk from potential development in the Bay Area's natural areas and farmlands.¹⁶² Floodplains, in particular, protect water quality, reduce sedimentation, and reduce flood risk on other properties by storing and better conveying floodwaters.¹⁶³ As drought conditions and water scarcity becomes the norm, the Bay Area will become more reliant on its local water

¹⁵⁴ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 27.

¹⁵⁵ Pub. Resources Code, § 21100(b)(1); Cal. Code Regs., tit. 14, § 15064.4(b).

¹⁵⁶ See CEQA Environmental Checklist Form, Appendix G, VIII(f), available at http://resources.ca.gov/ceqa/guidelines/Appendix_G.html.

¹⁵⁷ EPA. 2013. "Our Built and Natural Environments: A Technical Review of the Interactions Among Land Use, Transportation, and Environmental Quality" at 51 available at <https://www.epa.gov/sites/production/files/2014-03/documents/our-built-and-natural-environments.pdf> (hereinafter "A Technical Review").

¹⁵⁸ A Technical Review.

¹⁵⁹ A Technical Review.

¹⁶⁰ A Technical Review at p. 52.

¹⁶¹ <https://www.epa.gov/smartgrowth/smart-growth-and-water> .

¹⁶² At Risk: The Bay Area Greenbelt : 2017 Greenbelt Alliance at p. 28.

¹⁶³ Batker, D., Schwartz, A., Schmidt, R., Mackenzie, A., Smith, J., Robins, J.. 2014. Healthy Lands & Healthy Economies: Nature's Value in Santa Clara County at p. 13. (2014) available at http://www.openspaceauthority.org/about/pdf/NaturesValue_SCC_int.pdf .

resources.¹⁶⁴ Low-density development threatens the 1.2 million acres of watershed and groundwater infiltration zones.¹⁶⁵ Reduced urban sprawl development will help prevent the common harms to our water resources, such as saltwater intrusion in rivers and aquifers and land subsidence.¹⁶⁶

As discussed above, a number of BAWSCA agencies will depend more on local groundwater supplies as a result of the predicted water supply shortages in the 2016 Draft SED. Not only will these groundwater supplies be impacted as a result of potential over use, but the anticipated urban sprawl may impact the quality of this water source. "For example, a study of how land use affects water quality of an aquifer in east-central Minnesota found that sewered residential and commercial or industrial areas had higher concentrations of total dissolved solids – including calcium, potassium, sulfate, and magnesium- relative to agricultural, unsewered residential, or undeveloped areas."¹⁶⁷ Undeveloped Bay Area lands catch and filter rain, replenishing groundwater supplies. But this service is threatened by development; if lands are paved over, they cannot collect water.¹⁶⁸ Groundwater is a critical issue in California's long drought where groundwater is a source of drinking water. The reduced groundwater infiltration and impacts to water quality will negatively impact local agencies ability to achieve groundwater sustainability in compliance with the Sustainable Groundwater Management Act (SGMA).¹⁶⁹

Displaced growth outside of the RWS service area will not only impact water quality, but will also put increased stress on water supplies. People living in the hotter inland counties have substantially higher per-capita water use than those living in more urbanized coastal areas. Unlike the Smart Growth within the RWS service area, characterized by dense, compact housing, inland areas generally have single family homes on large lots. These larger lots have higher water use--especially outdoor water use. In fact, outdoor water demand for typical residential lots in an inland area is between two and three times higher than in the more compactly developed areas that make up most of the RWS service area.¹⁷⁰

The 2016 Draft SED does not adequately analyze the environmental impacts of low-density development, specifically to water quality and water supplies, driven by displaced growth.

Displaced Growth Outside Of The RWS Service Area Will Create Increased Air Pollution, CO₂ Emissions And Global Warming.

In looking at the increasingly dramatic effects of climate change, Smart Growth strategies, which focus on energy-efficient buildings, compact development, and preserving open space, can mitigate the effects of climate change by reducing vehicle use and emissions

¹⁶⁴ Madsen, J., Being Smarter About Land Use Can Help Fight Against Drought, San Jose Mercury News, November 11, 2015, available at <http://www.mercurynews.com/2015/11/11/jeremy-madsen-being-smarter-about-land-use-can-help-fight-against-drought/> .

¹⁶⁵ Madsen, J., Being Smarter About Land Use Can Help Fight Against Drought, San Jose Mercury News, November 11, 2015.

¹⁶⁶ Deborah L. Myerson. 2002. "Water and the Future of Land Development" at p. 2 (2002) available at http://uli.org/wp-content/uploads/2012/07/Water_LandDev.ashx_.pdf .

¹⁶⁷ EPA. 2013. "Our Built and Natural Environments: A Technical Review of the Interactions Among Land Use, Transportation, and Environmental Quality" at p. 53 available at <https://www.epa.gov/sites/production/files/2014-03/documents/our-built-and-natural-environments.pdf>

¹⁶⁸ At Risk: The Bay Area Greenbelt : 2017 Greenbelt Alliance at p. 28.

¹⁶⁹ Wat. Code, §10720.

¹⁷⁰ San Francisco: Public Policy Institute of California. Hanak, Ellen, and Matthew Davis. 2006. "Lawns and Water Demand in California." California Economic Policy available at http://www.pplic.org/content/pubs/cep/EP_706EHEP.pdf

and by sequestering CO₂.¹⁷¹ The CEQA Guideline on Determining the Significance of Impacts from Greenhouse Gas Emissions provides that a lead agency should attempt to "describe, calculate or estimate" the amount of greenhouse gases the project will emit, but recognizes that agencies have discretion in how to do so.¹⁷²

People driving to the fringes of the Bay Area and inland counties will increase vehicle miles traveled as employees are required to drive long distances from their homes to their places of employment. Sprawling development is "car-dependent" and residents not only must make long commutes to work, but drive more to meet daily needs.¹⁷³ People living in these areas will rely on their vehicles for both commuting and everyday responsibilities.¹⁷⁴ "More than 38 percent of national carbon monoxide emissions and 38 percent of nitrogen oxide emissions come from highway vehicles."¹⁷⁵ Sprawl also impacts air quality trends. A 2008 study found that "most sprawling cities were found to experience over 60% more high ozone days than most compact cities."¹⁷⁶

A 2007 Urban Land Institute Study found that "compact development has the potential to reduce [vehicle miles traveled] per capita by anywhere from 20 to 40 percent relative to sprawl."¹⁷⁷ Specifically, as it pertains to vehicle emissions, people living in highly walkable communities drive 26 fewer miles per day than people living in sprawling communities.¹⁷⁸ Smart growth could, by itself, reduce total transportation-related CO₂ emissions from current trends by 7 to 10 percent as of 2050.¹⁷⁹ If 60 percent of growth is directed to compact development, this would save 85 million metric tons of CO₂ each year as of 2030.¹⁸⁰ Smart Growth also reduces per capita energy consumption and pollution emissions by reducing infrastructure requirements, building energy use and vehicle travel.¹⁸¹

Furthermore, to reduce greenhouse-gas emissions, it is critical to increase opportunities for public transportation. Clearly the number of miles driven impacts air pollution, but "the amount of infrastructure needed to accommodate cars contributes to air pollution regardless of the number of miles driven. A study that computed the lifecycle emissions of sulfur dioxide and PM₁₀ for cars showed that adding parking lot construction and maintenance to the calculations raises emissions by as much as 24 percent and 89 percent respectively.¹⁸² Energy use in road construction was found to equal "the energy used by traffic on the road for one to two years."¹⁸³ Prioritizing opportunities for public transportation and foregoing sprawl should minimize these

¹⁷¹ EPA at <http://www.epa.gov/smartgrowth/smart-growth-and-climate-change>.

¹⁷² Cal. Code Regs., tit. 14, § 15064.4(a); *Center for Biological Diversity v. California Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204, 217, as modified on denial of reh'g (Feb. 17, 2016).

¹⁷³ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 29.

¹⁷⁴ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 29.

¹⁷⁵ EPA. 2013. "Our Built and Natural Environments: A Technical Review of the Interactions Among Land Use, Transportation, and Environmental Quality" at 58 available at [<https://www.epa.gov/sites/production/files/2014-03/documents/our-built-and-natural-environments.pdf>]

¹⁷⁶ Brian Stone Jr. 2006. "Urban Sprawl and Air Quality in Large U.S. Cities." *Journal of Environmental Management* 86 (2008) 688-698 at p. 689 available at http://urbanclimate.gatech.edu/pubs/Urban%20Sprawl%20and%20AQ_Stone2.pdf .

¹⁷⁷ Urban Land Institute, *Growing Cooler: The Evidence on Urban Development and Climate Change*, at p. 1.7.2 (2007) available at https://www.nrdc.org/sites/default/files/cit_07092401a.pdf .

¹⁷⁸ Urban Land Institute, *Growing Cooler: The Evidence on Urban Development and Climate Change*, at p. 17 (2007) available at https://www.nrdc.org/sites/default/files/cit_07092401a.pdf .

¹⁷⁹ *Growing Cooler: The Evidence on Urban Development and Climate Change*, at p. 21.

¹⁸⁰ *Growing Cooler: The Evidence on Urban Development and Climate Change*, at p. 21.

¹⁸¹ Understanding Smart Growth Savings: Evaluating Economic Savings and Benefits of Compact Development, and How They Are Misrepresented By Critics. Victoria Transport Policy Institute available at http://www.vtppi.org/sq_save.pdf at p. 27

¹⁸² Technical Review at p. 58.

¹⁸³ Technical Review at p. 58.

impacts. Public transportation ridership depends upon population and job concentration near transit stops. Both of which would be adversely impacted by displaced growth. Land within walking distance of public transportation is precious. Such a scarce resource should be fully utilized and leveraged.

The Bay Area's lands store 111 million tons of carbon, helping to regulate and protect the climate.¹⁸⁴ Development in natural lands in the Bay Area will result in a release of carbon into the atmosphere and reduced ability to sequester carbon. As an example, 750,000 acres of oak forest and woodland are at risk of elimination by 2040.¹⁸⁵ In Santa Clara County alone, oak forests and oak woodlands sequester 3,577,048 metric tons of carbon.¹⁸⁶ Development that eliminates oak forest and woodland areas in Santa Clara and other counties will result in a release of the carbon sequestered by these trees and will reduce our ability sequester carbon in the future. Displaced growth and urban sprawl into the Bay Area's greenbelt places at risk landscapes that store more than 6 million metric tons of carbon. The development of these lands would release the equivalent amount of carbon as putting 1.3 million cars on the road every year.¹⁸⁷

The 2016 Draft SED must analyze these air quality impacts.

Displaced Growth Outside Of The RWS Service Area Will Impact Wildlife And Recreation Preservation.

Under CEQA, the lead agency must analyze potentially significant adverse environmental effects resulting from loss of open space, forests, habitat and agriculture.¹⁸⁸ Compact development better protects open space, parks, and critical ecosystems than disjointed, reactionary preservation approaches. While preserving critical land, reactionary preservation approaches create small conservation areas, which do not function well as wildlife corridors and are not as accessible to residents.¹⁸⁹ One of the four comprehensive objectives of Plan Bay Area 2013 is to conserve open space, natural resources and agriculture lands in the region by concentrating new development in existing urban areas and locally adopted urban growth boundaries.¹⁹⁰ To this end, Plan Bay Area 2013 identifies "over 100 regionally significant open spaces about which there exists broad consensus for long-term protection but which face nearer-term development pressures."¹⁹¹ Rather than a preservation strategy that protects the "last" of an important open space area, Smart Growth strategies create and preserve more valuable and functional open space areas.¹⁹²

¹⁸⁴ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 27.

¹⁸⁵ Tom Gaman, 2008. "An Inventory of Carbon and California Oaks." California Oak Foundation at 5 *available at* <http://californiaoaks.org/wp-content/uploads/2016/04/CarbonResourcesFinal.pdf> .

¹⁸⁶ Tom Gaman, 2008. "An Inventory of Carbon and California Oaks." California Oak Foundation at 2 and 4.

¹⁸⁷ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 28. (2017); California Landscape Conservation Cooperative, U.S. Geological Survey. 2014. California Basin Characterization Model. https://ca.water.usgs.gov/projects/reg_hydro/projects/dataset.html

¹⁸⁸ Pub. Resources Code, § 21100(b)(1); *see also* Appendix G of the CEQA Guidelines [requiring lead agency to identify potentially significant adverse environmental effects resulting from conversion of farmland to non-agriculture use.]; *available at* http://resources.ca.gov/ceqa/guidelines/Appendix_G.html .

¹⁸⁹ EPA at <https://www.epa.gov/smartgrowth/smart-growth-and-open-space-conservation> .

¹⁹⁰ Plan Bay Area 2013 at pp. 42, 45.

¹⁹¹ Plan Bay Area at p. 45.

¹⁹² EPA at <http://epa.gov/smartgrowth/smart-growth-and-open-space-conservation>.

Under CEQA, a “potential substantial impact on endangered, rare or threatened species is per se significant.”¹⁹³ At present, 293,100 acres of natural and agricultural lands in the Bay Area “are at risk of sprawl development over the next 30 years. . . . The total land at risk is about 458 square miles, nearly 10 times the size of San Francisco.”¹⁹⁴ “Habitat destruction and degradation contribute to the endangerment of more than 85 percent of the species listed or formally proposed for listing under the federal Endangered Species Act.”¹⁹⁵ When urban development results in loss of open space, forests, and natural habitats, both plant and animal species are at risk as they are pushed out of their natural habitats. Coyote Valley in Santa Clara County functions as a rare and critical corridor for wildlife including coyotes, bobcats, and foxes.¹⁹⁶ In Alameda County, development on wetlands threatens endangered salt march harvest mice, birds, and burrowing owls.¹⁹⁷ Contra Costa County is home to 41 percent of the Bay Area's at-risk Critical Habitat and is home to burrowing owls, kit foxes, and other species.¹⁹⁸ The future of these and other rare species depends on the counties' growth decisions.”¹⁹⁹

The 2016 Draft SED fails to include any analysis of the reasonably foreseeable loss of open space, forests, habitat and agriculture that will result from displacement of growth in the urban core in the Bay Area assuming CCSF is responsible for bypassing flows in compliance with LSJR Alternatives 3 or 4.

Failure To Analyze The Impacts Of Displaced Growth Outside Of The RWS Ignores The Economic Benefits That Result From High Density Development.

Communities built on farm land and natural areas pay more for infrastructure and services including water, roads, sewers, libraries, parks and recreation, and governance. For example, annual per-household costs for roads can be 4,000 percent more in sprawling areas than in dense communities. Further, services cost more and serve fewer. A fire station in a low-density neighborhood serves just one-quarter of households at four times the cost of one in a more compact neighborhood.²⁰⁰ The cost of infrastructure for compact neighborhoods can be as much as 20-50% less than low density areas.²⁰¹ More compact development reduces the length of roads and utility lines, and travel distances needed to provide public services such as garbage collection, policing, emergency response, and school transport.²⁰² Additionally, compact housing can be served by shorter water pipes, resulting in less lost water due to leaking pipes.²⁰³

Furthermore, developing in farm land and natural areas eliminates the natural value and benefit that these farm and natural areas currently provide. In Santa Clara County, a recent comprehensive study added up the economic value provided by the county's natural

¹⁹³ Cal. Code Regs., tit. 14, § 15065(a)(1); *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 449, as modified (Apr. 18, 2007).

¹⁹⁴ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 3.

¹⁹⁵ EPA. 2013. "Our Built and Natural Environments: A Technical Review of the Interactions Among Land Use, Transportation, and Environmental Quality" at p. 53 available at <https://www.epa.gov/sites/production/files/2014-03/documents/our-built-and-natural-environments.pdf> .

¹⁹⁶ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 21.

¹⁹⁷ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 11.

¹⁹⁸ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 13.

¹⁹⁹ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 13.

²⁰⁰ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 30

²⁰¹ "Close to Home: The Benefits of Compact, Walkable, Transit-Friendly Neighborhoods." at 4 (2016) available at <http://www.pembina.org/reports/closetohome-final.pdf> .

²⁰² Todd Litman. 2015. "Understanding Smart Growth Savings: Evaluating Economic Savings and Benefits of Compact Development, and How They Are Misrepresented By Critics." Victoria Transport Policy Institute at p. 12, available at http://www.vtpi.org/sg_save.pdf .

²⁰³ EPA at <https://www.epa.gov/smartgrowth/smart-growth-and-water> .

landscapes. It found that the benefits people obtain from ecosystems—filtering water, growing food, providing recreation opportunities, and more—are worth up to \$3.9 billion per year. The county's natural capital—the infrastructure that provides these benefits—is worth up to \$386 billion.²⁰⁴

There are also social costs related to greater reliance on vehicles associated with low-density development. These social costs include air pollution, GHG emissions, noise pollution, increased traffic congestion and delays, and vehicle collisions.²⁰⁵ A 2006 study found that the social costs of road transportation in Canada cost \$39.82 billion in that year.²⁰⁶ The cost of air pollution and GHGs alone in 2006 was \$17.81 billion.

The failure of the 2016 Draft SED to consider the impacts of displaced growth as compared to growth in San Francisco and its neighboring communities does two things: (1) it fails to adequately identify significant impacts that must be considered as part of a decision, and (2) discounts the significant environmental benefits of the execution of Smart Growth strategies in the Bay Area and overlooks the comparative environmental harms of sprawl. The proposed reduction in water supplies to the Bay Area could result in a moratorium on development and negatively impact the implementation of the Bay Area's Smart Growth strategies. As the proposed water supply reduction likely will not impact the anticipated regional growth, this growth will be pushed out of the periphery of the Bay Area and San Joaquin Valley resulting in greater suburban sprawl and forgoing the environmental benefits of the Plan Bay Area and Smart Growth strategies.

iii. The 2016 Draft SED Fails To Analyze The Impacts Disadvantaged Communities in the Bay Area

The California Department of Water Resources defines disadvantaged communities (DACs) as communities with an annual median household income (MHI) less than 80 percent of the statewide average.²⁰⁷ As part of the development of the Bay Area Integrated Regional Water Management Plan (IRWMP) which was last updated in September of 2013, DACs were identified in three BAWSCA Member Agency service areas (East Palo Alto, Redwood City, and the City of Hayward) as based on 2010 U.S. Census track data.²⁰⁸

As officials from East Palo Alto highlighted in their comment letter to the SED, there is significant concern that, due to limitations on water supply, they will need to use fines and/or penalties to enforce lower water use, and that such practices could prove to be a significant burden to their lower-income residents.²⁰⁹ The City of Hayward detailed how the SED could negatively impact the economic health of area residents and businesses.²¹⁰ Redwood City

²⁰⁴ At Risk: The Bay Area Greenbelt: 2017 Greenbelt Alliance at p. 26; David Batker, Aaron Schwartz, Rowan Schmidt, Andrea Mackenzie, Jake Smith, and Jim Robins. 2014. "Nature's Value in Santa Clara County." Earth Economics and the Santa Clara Valley Open Space Authority *available at* http://www.openspaceauthority.org/about/pdf/NaturesValue_SCC_int.pdf.

²⁰⁵ David, Thompson. 2013. "Suburban Sprawl: Exposing Hidden Costs, Identifying Innovations." Sustainable Prosperity at p. 6 *available at* http://thecostofsprawl.com/report/SP_SuburbanSprawl_Oct2013_opt.pdf.

²⁰⁶ Bruno Jacques. 2011. "Estimates of the Full Cost of Transportation in Canada: An Overview. Mobility Pricing Conference at p. 20 *available at* http://www.transportfutures.ca/sites/default/files/FCL_Mobility_Pricing_2010.pdf.

²⁰⁷ California Department of Water Resources Disadvantaged Communities (DAC) Mapping Tool *available at* http://www.water.ca.gov/irwm/grants/resources_dac.cfm

²⁰⁸ Final 2013 Bay Area Integrated Regional Water Management Plan *available at*: <http://bairwmp.org/docs/2013-bairwmp-plan-update/2013-final-plan/final-bairwmp-2013>; DAC Maps for the Bay Area IRWM Subregions *available at* <http://bairwmp.org/dac/dac-info>

²⁰⁹ See East Palo Alto Comment Letter on the 2016 Draft SED.

²¹⁰ See City of Hayward Comment Letter on the 2016 Draft SED.

commented that the SED could result in displacement of jobs and residents to other parts of California.²¹¹ That displacement of residents would likely hit their low-income population to a greater degree.

Aside from the above noted impacts to identified DACs, in broader terms, the impacts of the SED on the regions lower income residents could be significant. ABAG is currently in the process of preparing their plans for the future growth of the Bay Area (through their Plan Bay Area 2040 efforts). Developed as part of their draft preferred land use scenarios, as released in the fall of 2016, it is noted that areas served by BAWSCA member agencies must allow for the inclusion of additional low income housing, particularly along key transportation corridors. Without that inclusion, low-income residents risk having to move outside of the region.²¹² Growth moratoriums that many BAWSCA member agencies have expressed they will need to implement to accommodate the SED directly limit the ability of the region to address those ABAG-proposed set-asides.

IV. CONCLUSION

Thank you for the opportunity to comment on the Draft Revised Substitute Environmental Document In Support of Potential Changes to the Water Quality Control Plan for the Bay-Delta: San Joaquin River Flows and Southern Delta Water Quality. BAWSCA supports the objectives of the Bay-Delta Plan and is committed to continuing to work with other stakeholders to protect water quality in the Bay-Delta Water Quality Control Plan for humans, fish, and other wildlife.

Sincerely,



Nicole Sandkulla
Chief Executive Officer/General Manager

cc: San Francisco City Attorney's Office
SFPUC

²¹¹ See Redwood City Comment Letter on the 2016 Draft SED.

²¹² Plan Bay Area 2040 Final Preferred Scenario Approved available at <http://planbayarea.org/news/news-story/plan-bay-area-2040-final-preferred-scenario-approved>