

16.0 Summary Comparison of Alternatives

A summary comparison of a number of important socioeconomic impacts is provided in Figure 16-0. This figure provides information on the magnitude of the most pertinent and quantifiable socioeconomic impacts, both adverse and beneficial, that are expected to result from all alternatives. Important impacts to consider include changes in employment and income, and impacts on agricultural economics.

As depicted in Figure 16-0, regional employment and income would benefit from each action alternative. During construction, Alternative 1B would result in the greatest annual increase in employment and income, peaking at 12,985 construction-related jobs, whereas Alternative 5 would result in the lowest annual increase in employment, with 3,059 construction-related jobs at its lowest year. Construction-related employment under Alternative 4A would peak at 8,673 jobs. During operations and maintenance, Alternatives 1B, 2B, and 6B would result in the greatest increase in employment with a total of 294 full-time equivalent (FTE) jobs, and Alternative 4A would increase employment by 183 jobs. Alternative 9 would result in the fewest operation and maintenance jobs, with 177 jobs. Alternatives 4A, 4, 2D, and 5A would bring 183 operations and maintenance jobs.

Each alternative, with the exception of the No Action Alternative, would result in permanent losses in agricultural employment as a result of the conversion of agricultural lands necessary to construct water conveyance facilities. During construction, Alternatives 1B, 2B, and 6B would result in the greatest permanent losses, estimated at 340 jobs, whereas Alternatives 9 and 5A would result in fewest losses, estimated at 38 and 37 jobs, respectively. Alternatives 4 and 4A would result in the loss of 47 jobs. During operations and maintenance, Alternatives 1B, 2B, and 6B would result in the greatest permanent losses at 321 agricultural jobs, and Alternatives 4, 9, 4A, 2D, and 5A would result in the smallest loss of agricultural jobs, 39.

Each alternative would result in a loss of agricultural cropland due to construction, and operation and maintenance of the conveyance facilities. During construction, Alternatives 1B, 2B, and 6B would result in the largest loss of agricultural cropland, 19,600 acres. Alternative 9 would result in the smallest loss, 2,600 acres. Alternatives 4, 4A, 2D, and 5A would result in a loss of 4,700 acres. During operation and maintenance of the project, Alternatives 1B, 2B, and 6B would result in the largest loss of cropland, 17,700 acres. Alternative 9 would result in the smallest, 2,900 acres of lost cropland. Alternative 4A, along with 2D, 5A, and 4 would result in a loss of 3,400 acres of cropland.

Table ES-8 in the Executive Summary provides a summary of all impacts disclosed in this chapter.

16.1 Environmental Setting/Affected Environment

This section discusses the socioeconomics study area (the area in which impacts may occur), which comprises Sacramento, San Joaquin, Yolo, Solano, and Contra Costa Counties, collectively referred to as the Delta region in this chapter. This area includes the entire Plan Area (the area covered by the

1 BDCP and the California WaterFix); which is largely formed by the statutory borders of the Delta,
 2 along with areas in Suisun Marsh and the Yolo Bypass. The Delta is a maze of islands and channels at
 3 the confluence of the Sacramento and San Joaquin rivers. The Delta is located within portions of
 4 Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties and includes portions or all of the
 5 cities of Sacramento, Isleton, Elk Grove, West Sacramento, Rio Vista, Pittsburg, Antioch, Oakley,
 6 Brentwood, Stockton, Lathrop, Manteca, Tracy, and Lodi. Most of the population resides along the
 7 boundaries of the Delta. The Delta has a distinctive social, cultural, and natural heritage that reflects
 8 a long history of agricultural and recreational industries and water supply and flood control
 9 infrastructure including canals, sloughs, and pipelines conveying water from the Delta to the Central
 10 Valley, San Francisco Bay, and southern California.

11 Existing socioeconomic conditions in the Delta region and the effect of 18 action alternatives and the
 12 No Action Alternative on socioeconomic conditions are discussed in this chapter for the chapter's
 13 study area. The description is both quantitative and qualitative, and focuses on community
 14 character, social and economic characteristics, population, housing, employment, and income at
 15 regional levels, and satisfies NEPA's requirements regarding socioeconomic impacts. CEQA does not
 16 require a discussion of socioeconomic effects, except where they would result in reasonably
 17 foreseeable adverse physical changes to the environment. Under CEQA social or economic effects
 18 alone shall not be treated as significant effects (State CEQA Guidelines §§ 15064(f), 15131). The
 19 California Department of Water Resource's (DWR's) *Economic Analysis Guidebook* (California
 20 Department of Water Resources 2008a) also provides guidance regarding the economic
 21 assessments that should be conducted from project formulation through implementation. These
 22 include cost effectiveness, benefit-cost, socioeconomic impacts, risk and uncertainty, and financial
 23 analyses. Additional information on individual racial/ethnic groups, low-income populations, and
 24 poverty levels is presented in Chapter 28, *Environmental Justice*, Section 28.2.

25 **16.1.1 Potential Socioeconomics Effects Area**

26 This chapter describes socioeconomic effects in the Delta region. The study area for the
 27 socioeconomic analysis comprises Sacramento, San Joaquin, Yolo, Solano, and Contra Costa
 28 Counties, collectively referred to as the Delta region. The discussion of the Delta region describes the
 29 existing socioeconomic conditions of the statutory Delta and the surrounding Delta counties.
 30 Potential effects related to changes in State Water Project (SWP) and Central Valley Project (CVP)
 31 deliveries are also described for those hydrologic regions that receive water from the Delta: San
 32 Francisco Bay, Sacramento River, San Joaquin River, Central Coast, South Coast, Tulare Lake, South
 33 Lahontan, and Colorado River. For more information on these regions, see Chapter 30, *Growth*
 34 *Inducement and Other Indirect Effects*, Section 30.1.3, and for a map of the hydrologic regions, see
 35 Figure 6-1 in Chapter 6, *Surface Water*.

36 **16.1.1.1 Statutory Delta**

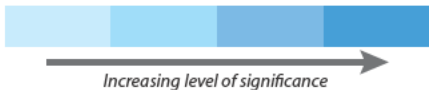
37 Socioeconomic conditions in the Delta region are described below for population and housing,
 38 employment and labor force trends, prominent business and industry types, government and
 39 finance, and additional discussion of the recreation and agriculture sectors based on their
 40 contributions to the regional economy.

41 The socioeconomic conditions are described for a larger area than the statutory Delta, because it is
 42 anticipated that construction and operation of BDCP conservation measures, or Environmental
 43 Commitments for the non-HCP alternatives (Alternatives 4A, 2D, and 5A), as described in Chapter 3,

Chapter 16 – Socioeconomics		Alternative																			
		Existing Condition	No Action	1A	1B	1C	2A	2B	2C	3	4	5	6A	6B	6C	7	8	9	4A	2D	5A
ECON-1: Temporary effects on regional economics and employment in the Delta region during construction of the proposed water conveyance facilities.	Total FTE jobs during construction (peak year)	n/a	n/a	12,716	12,985	11,698	≈Alt1A	≈Alt1B	≈Alt1C	10,297	8,673	5,073	≈Alt1A	≈Alt1B	≈Alt1C	11,018	11,018	6,371	8,673	9,818	7,528
	Total FTE jobs - Agriculture (over 14-year construction period)	n/a	n/a	-100	-340	-240	-100	-340	-240	-88	-47	-83	-100	-340	-240	-94	-94	-38	-47	-44	-37
		n/a	n/a	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA
ECON-6: Effects on agricultural economics in the Delta region during construction of the proposed water conveyance facilities.	Total Crop Acreage Change from EC and NAA during Construction (thousand acres)	n/a	n/a	-5.6	-19.6	-14.3	-5.6	-19.6	-14.3	-5.1	-4.7	-5	-5.6	-19.6	-14.3	-5.3	-5.3	-2.6	-4.7	-4.9	-4.3
		n/a	n/a	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA
ECON-7: Permanent regional economic and employment effects in the Delta region during operation and maintenance of the proposed water conveyance facilities.	Total FTE jobs during Operations and Maintenance	n/a	n/a	269	294	269	269	294	269	269	183	269	269	294	269	269	269	177	183	183	183
	Total FTE jobs - Agriculture during Operations and Maintenance	n/a	n/a	-86	321	-216	-86	-321	-216	-86	-39	-86	-86	-321	-216	-86	-86	-36	-39	-39	-39
		n/a	n/a	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA
ECON-12: Permanent effects on agricultural economics in the Delta region during operation and maintenance of the proposed water conveyance facilities.	Total Crop Acreage Change from EC and NAA during Operation (thousand acres)	n/a	n/a	-4.4	-17.7	-11.7	-4.4	-17.7	-11.7	-4.3	-3.4	-4.3	-4.4	-17.7	-11.7	-4.4	-4.4	-2.3	-3.4	-3.4	-3.4
		n/a	n/a	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA	LTS/NA

Key

Level of significance or effect **before** mitigation (Quantity of impact: number of sites, structures, acres, etc. affected)



n/a not applicable
> greater than
< less than
≈ about equal to

Level of significance or effect **after** mitigation (CEQA Finding / NEPA Finding)

<p>CEQA Finding</p> <p>NI No Impact</p> <p>LTS Less than significant</p> <p>S Significant</p> <p>SU Significant and unavoidable</p>	/	<p>NEPA Finding</p> <p>B Beneficial</p> <p>NE No Effect</p> <p>NA Not Adverse</p> <p>A Adverse</p>
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Figure 16-0
Comparison of Impacts on Socioeconomics

1 *Description of Alternatives*, Section 3.3.1, would potentially affect not only the statutory Delta, but
 2 also a larger area that covers parts of the Delta counties surrounding the statutory Delta.
 3 Additionally, data for some conditions, such as employment-by-industry information, are available
 4 only at the county level. As a result, discussion of the Delta region covers specific characteristics of
 5 the communities in the statutory Delta and a summary of information at the county level. Figure 1-1
 6 in Chapter 1, *Introduction*, shows the counties and communities in the Delta region. The following
 7 discussion is focused on Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties.

8 **Delta Community Overview**

9 Numerous communities with populations ranging from thousands (e.g., Pittsburg) to a few hundred
 10 (e.g., Locke) are located in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties.
 11 Surrounding these communities are farms, ranches, orchards, and vineyards, most of which have
 12 residences associated with them that are not in a delineated community, but are socially tied to a
 13 community through general proximity or public services (e.g., school district boundaries and public
 14 service delivery areas). The Delta Reform Act of 2009 designated a number of unincorporated
 15 Legacy Communities in the Delta, including Bethel Island, Clarksburg, Courtland, Freeport, Hood,
 16 Isleton, Knightsen, Rio Vista, Ryde, Locke, and Walnut Grove. These communities exemplify the
 17 Delta's unique cultural history and contribute to the sense of the Delta as a place. In addition to
 18 recognized cities and communities, the Delta also includes numerous small, recreational areas
 19 (including campgrounds, marinas, recreational vehicle parks, and vacation homes) that are popular
 20 throughout the spring and summer months.

21 Many Delta residents, whether full time or seasonal, are drawn to the area by the recreational
 22 opportunities afforded by the approximately 1,000 miles of waterways and multiple islands of the
 23 Delta. For many Delta residents, especially those arriving in more recent years, choosing to reside in
 24 the Delta is based on a desire to combine the urban lifestyles in nearby Sacramento and the Bay Area
 25 with a physical setting that provides relatively easy access to an extensive system of waterways.

26 The unique landscape, heritage, and recreational opportunities found in the Delta combine to create
 27 a distinctive environment that supports its own social and cultural character. The combination of
 28 the physical and biological environment with the social, economic, and cultural character of the
 29 Delta communities creates a unique regional framework.

30 Beyond the physical boundaries of the Delta, there are people who are connected to the Delta
 31 because of their business needs, their recreation interests, and social activities. For the people who
 32 reside outside the Delta, there is a sense of being part of the community because of the social
 33 interaction, common ties, and common appreciation of the Delta environment shared among
 34 residents and visitors. Different user groups may have a sense of being part of the larger Delta
 35 community because of shared values that are linked to the Delta landscape and resources.

36 **Geographic Distribution and Characterization of Population in the Delta**

37 The demographic composition of the Delta varies greatly. It can be characterized by small towns and
 38 dispersed rural residences in the interior of the Delta, and large urban areas on the periphery. In
 39 general, the population density of the inner Delta is very low. Most of the population resides in or
 40 near the peripheral urban areas. The highest concentration of people is in the urban centers of
 41 Sacramento to the north, Antioch and Pittsburg to the west, and Stockton and Tracy to the southeast.
 42 The small rural communities of Freeport, Isleton, and Thornton also are in the interior of the Delta.

1 The population in the interior of the Delta is centered around several rural communities, including
2 Clarksburg, Courtland, Hood, Isleton, and Walnut Grove/Locke/Ryde (Delta Protection Commission
3 2012). These communities have experienced land use restrictions that inhibit urban development
4 within the Primary Zone of the Delta, an area generally representing the inner Delta, defined by the
5 Delta Protection Commission for the purposes of land use planning (see Figure 13-1 in Chapter 13,
6 *Land Use*, for a map of the Primary Zone of the Delta and the Secondary Zone, another area identified
7 for land use planning purposes, which lies outside of the Primary Zone). As a result of passage of the
8 Delta Protection Act of 1992 and implementation of the Delta Protection Commission's *Land Use and*
9 *Resource Management Plan for the Primary Zone of the Delta* in 1995, expansion of urban
10 development in these communities is generally not allowed unless proponents can demonstrate that
11 implementing their projects would not result in loss of wetlands or riparian habitat, will not degrade
12 water quality, will not interfere with migratory birds or public access, will not harm agricultural
13 operations, and will not degrade levees or expose the public to increased flood hazards (Delta
14 Protection Commission 2005). The Delta Protection Act requires the Delta Protection Commission to
15 prepare, adopt, review, and maintain a comprehensive long-term resource management plan for
16 land uses within the Primary Zone. The most recent *Land Use and Resource Management Plan* (Delta
17 Protection Commission 2011) was adopted in 2011.

18 In addition to more densely populated Delta communities in the Primary Zone, numerous residences
19 are scattered throughout the Delta islands and are either associated with agricultural parcels or are
20 more estate-style residences used as vacation or leisure residences. Among the Delta islands in the
21 interior of the Delta, Brannan-Andrus Island, Bethel Island, Byron Tract, New Hope Tract, and
22 Sargent Barnhart Tract historically have had the highest populations (California Department of
23 Water Resources 1995), although determining the populations of these individual islands is difficult
24 because of seasonal changes in the recreation-associated residency and the presence of temporary
25 agricultural workers on some islands, which can skew census tabulations. Some islands in the Delta
26 are dedicated solely to agriculture or natural habitat, including McCormack-Williamson Tract,
27 Kimball Island, and Coney Island.

28 The population of the Delta is relatively diverse as a result of its unique cultural history, the
29 presence of seasonal farm workers, and increasing development within the larger Delta
30 communities. There are high proportions of minority residents in both urban and rural areas.
31 Historically, many of the agricultural areas in the interior of the Delta exhibit high proportions of
32 minority residents, including Hispanics, Asians, and African-Americans because of a combination of
33 historical and recent settlement trends. Chapter 28, *Environmental Justice*, Sections 28.2.1 and
34 28.2.2, further discusses the demographics of minority populations in the Delta. Population
35 estimates and growth trends for counties and communities located in the Delta are provided in
36 Section 16.1.1.2, *Population of the Delta*. Photographs included in Appendix 16B, *Community*
37 *Characterization Photographs*, also provide context for the character of Delta communities.

38 **Economy**

39 The economy of the interior of the Delta generally revolves around agriculture and tourism. This
40 contrasts with the economies of the more urban and suburban communities on the periphery of the
41 Delta that are generally tied to the more urban, diversified economies of Sacramento and the San
42 Francisco Bay Area and are less dependent on tourism and agriculture.

43 The economy of the Delta is rooted in agriculture. For decades, the agricultural fields grew some of
44 California's most well-known crops, including asparagus and pears. Agriculture became the primary

1 economic driver in the Delta because of the rich soil, ample water supply, and proximity of urban
 2 markets; and agriculture fostered a diverse population in terms of race and ethnicity. The
 3 waterways of the Delta have been used to transport agricultural products to urban centers, such as
 4 Stockton or Sacramento for processing, packing, and shipment.

5 Today, the agricultural sector is still important in the Delta, but changes in mechanization and
 6 processing have resulted in a much smaller proportion of residents participating in agriculture than
 7 during the early part of the 20th century. Viniculture is growing in economic importance for some
 8 Delta communities. Concentrated around Clarksburg, 11 different appellation vintners have either
 9 lands or wineries in the Delta.

10 Tourism and recreation are the next most important economic drivers in the Delta. The Delta is a
 11 recreation destination for boating, fishing, waterskiing, and windsurfing. Because the communities
 12 in the interior of the Delta were established primarily for their easy access to the water, Delta
 13 communities are easily reached destinations for boaters and recreationists traveling through the
 14 area. As some areas have become key destinations for recreational users, the tourist activity
 15 supports additional services and businesses. Some of the recreational-oriented communities have
 16 restaurants, cafes, retail shops, and service providers near the local dock or marina.

17 **County Profiles**

18 Key socioeconomic characteristics of each county and the main communities in the Delta region are
 19 described based on available data, as presented in Section 16.1.1.2 through Section 16.1.1.7.

20 **Contra Costa County**

21 The southwestern portion of the Delta lies in Contra Costa County, which extends from the Delta on
 22 its eastern and northeastern boundary to San Francisco Bay and San Pablo Bay on the west.
 23 Identified communities in Contra Costa County that are in the statutory Delta are Bay Point,
 24 Discovery Bay, and Knightsen. Communities in Contra Costa County that are partially in the
 25 statutory Delta include Antioch, Bethel Island, Brentwood, Byron, Oakley, and Pittsburg.

26 In 2010, more than 290,000 people, almost 28% of the county's population, resided in communities
 27 located partially or completely in the Delta. Of these, Antioch has the largest population, at 102,372
 28 residents, and Byron has the smallest, at 1,277 residents.

29 As shown in Table 16-1, approximately 60% of the county's population is between the ages of 20
 30 and 64. The county as a whole is 52% minority,¹ with communities that are partially located in the
 31 Delta ranging from 20 to 80% minority composition (U.S. Census Bureau 2011). The minority
 32 population in these communities ranges from 20% in Bethel Island to a high of 80% in Pittsburg.

33 More than 20% of residents in the communities of Antioch, Bay Point, Brentwood, Knightsen,
 34 Oakley, and Pittsburg were in the age range of 5 to 19 years, with larger proportions between the
 35 ages of 20 and 64. In contrast, Bethel Island, an age-restricted community, was the only one of these

¹ The Council on Environmental Quality (CEQ) defines the term "minority" as persons from any of the following U.S. Census Bureau categories for race: Black/African American, Asian, Native Hawaiian and Other Pacific Islander, and American Indian or Alaska Native. Additionally, for the purposes of this analysis, "minority" also includes all other nonwhite racial categories, such as "some other race" and "two or more races." The CEQ also concluded that persons identified by the U.S. Census Bureau as ethnically Hispanic, regardless of race, should be included in minority counts (CEQ 1997).

1 communities with more than 20% in the age range of 65 years and above. Most residents in these
2 communities live in owner-occupied housing (U.S. Census Bureau 2011).

3 The 2006-2010 average per capita income in Contra Costa County was \$37,818, and the median
4 household income was \$78,385, with 9% of the population living below the poverty level.² The
5 communities that are partially located in the Delta are similar in income profile to the county as a
6 whole, and have from 3 to 22% of the population living below the poverty line. Both the per capita
7 income and median household income of the county were higher than the state as a whole, and the
8 percentage of persons living below the poverty level was lower than that of the state (U.S. Census
9 Bureau 2012a).

10 From 2000 through 2012, the county's labor force grew at a rate of 0.5%, with 525,400 residents in
11 the labor force as of 2012. Of these, 474,900 are employed, resulting in a current unemployment
12 rate of 9.6%, lower than the statewide unemployment rate (California Employment Development
13 Department 2012a). Contra Costa County is home to a wide range of businesses. Various major
14 corporations have their headquarters in the county, including Chevron, The PMI Group Inc., and Bio-
15 Rad. The county has a substantial heavy industrial and manufacturing sector. Business, professional,
16 and financial services are another large portion of the economy (California Employment
17 Development Department 2008).

18 **Sacramento County**

19 Sacramento County extends from the low Delta lands between the Sacramento and San Joaquin
20 Rivers north to about 10 miles beyond the State Capitol and east to the foothills of the Sierra Nevada.
21 The Sacramento, Mokelumne, and San Joaquin Rivers form the southern border of Sacramento
22 County in the Delta.

23 The Delta lies in the southwestern region of the county. Sacramento County communities completely
24 within the Delta include Courtland, Freeport, Hood, Isleton, Locke, and Walnut Grove. Additionally,
25 small portions of the cities of Sacramento and Elk Grove lie partially within the Delta. In 2010,
26 469,498 people, or 33% of Sacramento County's population, resided in communities lying at least
27 partially within the Delta. Most of the county population resides in Sacramento and its suburbs
28 outside the statutory Delta. Of Sacramento County's eight communities in the Delta, Sacramento has
29 the largest population, with 466,488 residents; however, most of the population does not live within
30 the Delta. Freeport and Hood have the smallest populations, each with fewer than 1,000 residents.

31 As shown in Table 16-1, approximately 60% of the county's population is between the ages of 20
32 and 64. The total minority population in the county is about 52%; however, in the communities that
33 are totally located in the Delta, the percentage of the population identified as minority ranges from
34 21% (Freeport) to 66% (Hood).

35 More than 20% of residents in the communities of Courtland, Hood, Isleton, Sacramento, and Walnut
36 Grove were in the age range of 5 to 19 years, with larger proportions between the ages of 20 and 64.
37 In contrast, the community of Freeport was the only one of these communities with more than 20%
38 in the age range of 65 years and above. In Courtland, Freeport, Sacramento, and Walnut Grove, fewer

² The U.S. Census Bureau defines the term "poverty level" by using the Office of Management and Budget's Statistical Policy Directive 14. Income thresholds are used to determine who is in poverty. If a family's total income is less than a specified threshold, the family is considered in poverty. Poverty levels do not vary geographically (U.S. Census Bureau 2010b).

1 than half of residents live in owner-occupied housing units. In Hood and Isleton, a majority of
2 residents live in owner-occupied units (U.S. Census Bureau 2011).

3 The 2006-2010 per capita income in Sacramento County was \$26,953, and the median household
4 income was \$56,439, with 14% of the population living below the poverty line (U.S. Census Bureau
5 2012a). While the income averages are lower than those of the state, the level of poverty roughly
6 matches the state average percentage of persons living below the poverty limit. The communities in
7 the Delta have a range in percentages of persons living below the poverty line, ranging from 10% to
8 about 17%.

9 From 2000 to 2012, the Sacramento County labor force annual growth rate was 0.9%, with
10 667,800 residents in the labor force as of 2012 with an unemployment rate of 11.2%, slightly lower
11 than the state unemployment rate of 11.3% (California Employment Development Department
12 2012a, 2012b). In addition to the State of California, major employers include school districts,
13 healthcare facilities, and the agricultural industry (County of Sacramento 2009a).

14 **San Joaquin County**

15 Communities in San Joaquin County that are located in the Delta include French Camp, Terminous,
16 Thornton, and the cities of Lathrop, Stockton, and Tracy. In 2010, the San Joaquin County population
17 living in communities lying at least partially within the Delta was more than 393,000, about 57% of
18 the county's population. Of San Joaquin County's communities partially or entirely located in the
19 Delta, Stockton has the largest population at 291,707, followed by Tracy with 82,922 residents.
20 Terminous is smallest, with a population of 381.

21 As shown in Table 16-1, approximately 57% of the county's population is between the ages of 20
22 and 64. The total minority population of the county is about 64%. In communities that lie at least
23 partially within the Delta, the minority population ranges from 18% in Terminous to 77% in
24 Stockton.

25 More than 25% of residents in the communities of Lathrop, Stockton, and Tracy were in the age
26 range of 5 to 19 years, with larger proportions between the ages of 20 and 64. In contrast, the
27 community of Terminous was the only one of these communities with more than 20% in the age
28 range of 65 years and above. In all of these communities, more than half of residents live in owner-
29 occupied housing units (U.S. Census Bureau 2011).

30 The 2006-2010 per capita income in San Joaquin County was \$22,851, and the median household
31 income was \$54,341, with 14% of the population living below poverty level (U.S. Census
32 Bureau 2012a). These income figures are lower than the California average and this poverty rate is
33 higher than the state's as a whole. Of the communities that are located in the Delta, the percentage of
34 persons living in poverty ranged from 8% in Lathrop to about 20% in Stockton.

35 In 2012, there were 299,400 residents in the county's labor force. Of these, 249,900 persons were
36 employed, resulting in an unemployment rate of 16.5%. This was far greater than the state's
37 unemployment rate of 11.3% (California Employment Development Department 2012a and 2012b).
38 Major employment sectors in the county include agriculture, manufacturing, and wholesale and
39 retail trade (County of San Joaquin 2009a; California Employment Development Department 2009).

1 **Solano County**

2 Located approximately 45 miles northeast of San Francisco and 45 miles southwest of Sacramento,
3 Solano County supports a mix of agricultural and suburban areas. It covers 909 square miles,
4 including 84 square miles of open water and 675 square miles of rural land (County of Solano
5 2009a). The southeastern part of Solano County lies in the Delta. Rio Vista is the only community in
6 Solano County identified in this analysis as lying partially or completely within the Delta and
7 representing only about 2% of the county's population. As shown in Table 16-1, approximately 61%
8 of the county's population is between the ages of 20 and 64. The total minority population of the
9 county is about 59% while minorities comprise 26% of the population of Rio Vista. In communities
10 that lie at least partially within the Delta, the minority population ranges from 18% in Terminous to
11 77% in Stockton.

12 Fewer than 15% of residents in Rio Vista were in the age range of 5 to 19 years, with 50% between
13 the ages of 20 and 64 and more than 32% aged 65 or older. More than 75% of residents of Rio Vista
14 live in owner-occupied housing units (U.S. Census Bureau 2011).

15 The county's 2006–2010 per capita income was \$28,649, and the median household income was
16 \$68,409. The percentage of persons living below the poverty level was 10% (U.S. Census
17 Bureau 2012a). While the per capita income of Solano County is lower than the state average, the
18 median household income surpasses that of the state and the poverty rate is lower than the
19 statewide rate. The community of Rio Vista had 10% of residents living below the poverty line.

20 In 2012, Solano County reported 217,900 residents in the labor force. Of these, 194,300 persons
21 were employed, resulting in an unemployment rate of 10.8%, lower than the state unemployment
22 rate of 11.3% (California Employment Development Department 2012a). Solano County restricts
23 urban residential and commercial development outside cities, thus preserving approximately 80%
24 of the land for open space or agricultural use. In addition to agriculture, the Solano County is home
25 to biotechnology and other growth industries.

26 **Yolo County**

27 The southeast portion of Yolo County lies in the Delta. The communities in Yolo County that are in
28 the Delta include Clarksburg and West Sacramento. In 2010, the population of these communities
29 was more than 49,000, accounting for about 24% of the county population. Of Yolo County's two
30 communities in the Delta, West Sacramento has the larger population, with 48,744 residents, while
31 Clarksburg supports 418 residents.

32 As shown in Table 16-1, approximately 62% of the county's population is between the ages of 20
33 and 64. The total minority population of the county is about 50%. In communities that lie at least
34 partially within the Delta, the minority population ranges from 33% in Clarksburg to 53% in West
35 Sacramento.

36 About 20% of residents in the communities of Clarksburg and West Sacramento were in the age
37 range of 5 to 19 years, with larger proportions between the ages of 20 and 64. In both of these
38 communities, more than half of residents live in owner-occupied housing units (U.S. Census
39 Bureau 2011).

1 **Table 16-1. Delta Counties and California Age Distribution, 2010**

Population Segment	Contra Costa County	Sacramento County	San Joaquin County	Solano County	Yolo County	Delta Counties	California
Total Population	1,049,025	1,418,788	685,306	413,344	200,849	3,767,312	37,253,956
<5 years ^a	67,018 6.4%	101,063 7.1%	54,228 7.9%	26,852 6.5%	12,577 6.3%	261,738 6.9%	2,531,333 6.8%
5–19 years ^a	220,495 21.0%	303,612 21.4%	169,357 24.7%	86,370 20.9%	44,246 22.0%	824,080 21.9%	7,920,709 21.3%
20–64 years ^a	631,074 60.2%	855,562 60.3%	390,540 57.0%	253,275 61.3%	124,255 61.9%	2,254,706 59.8%	22,555,400 60.5%
65+ years ^a	130,438 12.4%	158,551 11.2%	71,181 10.4%	46,847 11.3%	19,771 9.8%	426,788 11.3%	4,246,514 11.4%
Median Age	38.5	34.8	32.7	36.9	30.4	35.4	35.2

Source: U.S. Census Bureau 2011.

^a Percentages are of the total population.

2

3 The 2006–2010 per capita income in Yolo County was \$27,420, and the median household income
4 was \$57,077 (U.S. Census Bureau 2012a). The percentage of persons living below the poverty level
5 was 17%, compared with the state average of 14% (U.S. Census Bureau 2012a). Additionally, the per
6 capita income and median household income for Yolo County are lower than the state averages.
7 West Sacramento had a similar percentage of residents living below the poverty line, at 17%.

8 In 2012, Yolo County had 99,300 persons in the labor force, and an unemployment rate of 13.9%,
9 more than two percentage points higher than the unemployment rate of the state (California
10 Employment Development Department 2012a). Yolo County is home to the Port of Sacramento,
11 which ships out 1.3 million tons of the county's agricultural products, such as rice, wheat, and
12 safflower seed, to worldwide markets (County of Yolo 2009a). Agriculture, education, health care,
13 and services are leading sources of employment.

14 **16.1.1.2 Population of the Delta**

15 **Population and Growth Trends**

16 The Delta Protection Commission's *Economic Sustainability Plan for the Sacramento-San Joaquin*
17 *Delta* reported a growth rate of about 54% within the statutory Delta between 1990 and 2010, as
18 compared with a 25% growth rate statewide during the same period (Delta Protection Commission
19 2012). The report also indicated that population growth had occurred in the Secondary Zone of the
20 Delta but not in the Primary Zone (see Figure 13-1 for a map of the Primary and Secondary Zones of
21 the Delta, as defined by the Delta Protection Commission), and that population in the central and
22 south Delta areas had decreased since 2000.

23 Table 16-2 illustrates past, current, and projected population trends for the five counties in the
24 Delta. As of 2010, the combined population of the Delta counties was approximately 3.8 million.
25 Sacramento County contributed 37.7% of the population of the Delta counties, and Contra Costa
26 County contributed 27.8%. Yolo County had the smallest population (200,849 or 5.3%) of all the
27 Delta counties.

1 **Table 16-2. Delta Counties and California Population, 2000–2050**

Area	2000 Population (millions)	2010 Population (millions)	2020 Projected Population (millions)	2025 Projected Population (millions)	2050 Projected Population (millions)
Contra Costa County	0.95	1.05	1.16	1.21	1.50
Sacramento County	1.23	1.42	1.56	1.64	2.09
San Joaquin County	0.57	0.69	0.80	0.86	1.29
Solano County	0.40	0.41	0.45	0.47	0.57
Yolo County	0.17	0.20	0.22	0.24	0.30
Delta Counties	3.32	3.77	4.18	4.42	5.75
California	34.00	37.31	40.82	42.72	51.01

Sources: California Department of Finance 2012a.

2

3 For the 10-year period between 2000 and 2010, the population of the Delta counties increased at an
 4 average annual rate of 1.37% (13.7% in total), with the greatest rate of population growth occurring
 5 in San Joaquin County. Population growth in Solano County during this 10-year period was the
 6 slowest (0.43% per year). The state showed about a 1% annual growth rate in population during
 7 this period, slower than that of the Delta counties combined.

8 Growth projections through 2050 indicate that all counties overlapping the Delta are projected to
 9 grow at a faster rate than the state as a whole. Total population in the Delta counties is projected to
 10 grow at an average annual rate of 1.2% through 2030 (California Department of Finance 2012a).

11 Table 16-3 presents more detailed information on populations of individual communities in the
 12 Delta. Growth rates from 2000 to 2010 were generally higher in the smaller communities than in
 13 larger cities such as Antioch and Sacramento. This is likely a result of these communities having
 14 lower property and housing prices, and their growth being less constrained by geography and
 15 adjacent communities.

16 Population density varies widely across the Delta region. Analysis done for the Delta Risk
 17 Management Strategy (California Department of Water Resources 2008c) indicated several Delta
 18 islands with fewer than 20 residents. In contrast, some cities are wholly or partly within the
 19 statutory Delta (e.g., Sacramento and Stockton) and have densities exceeding 3,000 residents per
 20 square mile. Smaller communities in the Delta, such as Walnut Grove, have population densities as
 21 low as 200 residents per square mile (U.S. Census Bureau 2000).

1 **Table 16-3. Delta Communities Population, 2000 and 2010**

Community	2000	2010	Average Annual Growth Rate 2000–2010
Contra Costa County			
<i>Incorporated Cities and Towns</i>			
Antioch	90,532	102,372	1.3%
Brentwood	23,302	51,481	12.1%
Oakley	25,619	35,432	3.8%
Pittsburg	56,769	63,264	1.1%
<i>Small or Unincorporated Communities</i>			
Bay Point	21,415	21,349	-0.0%
Bethel Island	2,252	2,137	-0.5%
Byron	884	1,277	4.5%
Discovery Bay	8,847	13,352	5.1%
Knightsen	861	1,568	8.2%
Sacramento County			
<i>Incorporated Cities and Towns</i>			
Isleton	828	804	-0.3%
Sacramento	407,018	466,488	1.5%
<i>Small or Unincorporated Communities</i>			
Courtland	632	355	-4.4%
Freeport and Hood	467	309 ^a	-3.4%
Locke	1,003	Not available	-
Walnut Grove	646	1,542	13.9%
San Joaquin County			
<i>Incorporated Cities and Towns</i>			
Lathrop	10,445	18,023	7.3%
Stockton	243,771	291,707	2.0%
Tracy	56,929	82,922	4.6%
<i>Small or Unincorporated Communities</i>			
Terminous	1,576	381	-7.6%
Solano County			
<i>Incorporated Cities and Towns</i>			
Rio Vista	4,571	7,360	6.1%
Yolo County			
<i>Incorporated Cities and Towns</i>			
West Sacramento	31,615	48,744	5.4%
<i>Small or Unincorporated Communities</i>			
Clarksburg	681	418	-3.9%

Sources: U.S. Census Bureau 2000; U.S. Census Bureau 2011.

^a Freeport had a population of 38; Hood had a population of 271.

2

1 **Age Distribution**

2 The *Economic Sustainability Plan for the Sacramento-San Joaquin Delta* described a relatively young
 3 age class throughout the Delta with a slightly older population within the Primary Zone (Delta
 4 Protection Commission 2012). The report also indicated that there were a higher percentage of
 5 households with two or fewer residents in the Primary Zone than in the rest of the Delta or
 6 statewide.

7 Age distribution in the Delta is shown in Table 16-1, above. The age composition of people residing
 8 in the Delta was generally similar to that of the state. The median ages in the five Delta counties
 9 ranged from 30 to 38, consistent with the state's median age of 34.5.

10 Most communities in the Delta had an age distribution consistent with that of the counties and state
 11 as a whole. However, a few communities, such as Bethel Island, Terminous, and Rio Vista, had a
 12 greater percentage of the population at or near retirement age (U.S. Census Bureau 2012a).

13 **16.1.1.3 Housing in the Delta**

14 **Housing Unit Trends**

15 Table 16-4 illustrates the distribution of housing units in the Delta as a whole, in each of the five
 16 counties, and in California. It also provides information on housing units for incorporated Delta
 17 communities. As of 2010, there were 1.4 million housing units within Delta counties, representing
 18 10.4% of the housing units in the state. Sacramento County, with the largest population in the five-
 19 county Delta region, also contained the most housing units in the region in 2010. Yolo County, with
 20 the smallest population in the Delta region, also had the fewest housing units. Recent growth in the
 21 number of housing units has been greatest in San Joaquin County. Contra Costa County registered
 22 the lowest increase in housing units. These patterns are consistent with the population growth
 23 discussed previously.

24 From 2000 to 2010, the Delta counties experienced a 1.6% average annual growth in the total
 25 number of housing units. This is higher than the state growth rate of 1.1%. During this 10-year
 26 period, San Joaquin County had the greatest increase in the number of housing units in the Delta
 27 region, with an additional 40,667 units being built (a 21% increase, or 2.15% average annual
 28 growth). However, over the past several years, Delta region counties, along with many other areas,
 29 have experienced a general decline in housing demand.

30 Housing density varies greatly across the Delta region, corresponding to the variation in population
 31 density. Some Delta islands contain fewer than five housing units. As a result, substantial areas in
 32 the statutory Delta contain fewer than 20 housing units per square mile (California Department of
 33 Water Resources 2008c). In contrast, cities that are wholly or partly within the statutory Delta, such
 34 as Sacramento and Stockton, contain more than 1,000 housing units per square mile. The housing
 35 density of small communities in the Delta generally falls in between these extremes; Walnut Grove,
 36 for example, contains about 90 housing units per square mile (U.S. Census Bureau 2000).

1 **Table 16-4. Housing Units in Delta Counties, Delta Communities, and California, 2000 and 2010**

Area	2000	2010	Average Annual Growth Rate 2000–2010
Contra Costa County	354,577	400,268	1.3%
Antioch	30,116	34,146	1.3%
Brentwood	7,788	17,715	12.7%
Oakley	7,946	11,104	4.0%
Pittsburg	18,300	21,056	1.5%
Sacramento County	474,814	556,208	1.7%
Isleton	384	378	-0.2%
Sacramento	163,957	195,446	1.9%
San Joaquin County	189,160	229,827	2.1%
Lathrop	2,991	5,061	6.9%
Stockton	82,042	97,085	1.8%
Tracy	18,087	25,596	4.2%
Solano County	134,513	153,280	1.4%
Rio Vista	1,974	3,771	9.1%
Yolo County	61,587	74,224	2.1%
West Sacramento	12,133	18,677	5.4%
Delta Counties	1,214,651	1,413,807	1.6%
California	12,214,550	13,591,866	1.7%

Source: California Department of Finance 2012b.

Note: Data available for incorporated communities only.

2

3 **Housing Type Trends**

4 Housing type trends among the five counties and selected communities in the Delta are given in
5 Table 16-5. Of the Delta counties, Sacramento County had the highest number of single-family and
6 multifamily homes. In 2010, Sacramento County had 391,958 single-family and 148,453 multifamily
7 homes. Yolo County had the fewest single-family and multifamily homes during the period, with
8 48,012 single-family units and 22,484 multifamily units in 2010. Of the Delta counties, San Joaquin
9 County displayed the greatest annual growth rate in single-family homes over the period (2.7%) and
10 the lowest annual growth rate in multifamily housing (0.6%). Yolo County had the second highest
11 growth rate in single-family housing and the highest growth rate in multifamily housing of the Delta
12 counties.

1 **Table 16-5. Housing Type Trends, by County and Incorporated Communities, 2000–2010**

Area	2000		2010		Average Annual Growth Rate 2000–2010	
	Single-Family	Multifamily	Single-Family	Multifamily	Single-Family	Multifamily
Contra Costa County	261,990	85,008	298,145	94,488	1.4%	1.1%
Antioch	24,283	5,564	28,016	5,861	1.5%	0.5%
Brentwood	6,768	672	16,122	1,242	13.8%	8.5%
Oakley	7,363	164	10,123	560	3.7%	24.1%
Pittsburg	13,240	4,390	15,805	4,570	1.9%	0.4%
Sacramento County	329,308	130,022	391,958	148,453	1.9%	1.4%
Isleton	224	113	223	108	0.0%	-0.4%
Sacramento	107,257	53,029	127,660	64,100	1.9%	2.1%
San Joaquin County	140,524	39,445	178,172	41,852	2.7%	0.6%
Lathrop	2,536	104	4,604	106	8.2%	0.2%
Stockton	55,680	25,074	69,778	26,019	2.5%	0.4%
Tracy	15,076	2,536	22,027	3,093	4.6%	2.2%
Solano County	101,974	27,913	116,866	31,723	1.5%	1.4%
Rio Vista	1,590	274	3,386	274	11.3%	0.0%
Yolo County	38,868	19,110	48,012	22,484	2.4%	1.8%
West Sacramento	7,585	3,017	12,787	4,311	6.9%	4.3%
Delta Counties	872,664	301,498	1,033,153	339,000	1.8%	1.2%
California	7,815,035	3,829,827	8,747,293	4,247,635	1.1%	0.9%

Source: California Department of Finance 2012b.

Note: Excludes mobile homes.

2

3 **Housing Vacancy Rates**

4 Housing vacancy rates among the five counties and selected communities in the Delta are given in
5 Table 16-6. Of the Delta counties, Sacramento County had the highest vacancy rate. In 2010,
6 Sacramento County had a vacancy rate of 4.44%. Contra Costa County had the lowest vacancy rate
7 during the period, with 2.98% in 2010. Of the Delta counties, Solano County displayed the greatest
8 change in vacancy rate between 2000 and 2010 (0.97%).

1 **Table 16-6. Housing Vacancy Rates, by County and Incorporated Communities, 2000–2010**

Area	Vacancy Rate 2000	Vacancy Rate 2010
Contra Costa County	2.95%	2.98%
Antioch	2.58%	2.58%
Brentwood	3.74%	3.67%
Oakley	1.43%	1.54%
Pittsburg	3.05%	3.04%
Sacramento County	4.47%	4.44%
Isleton	10.68%	10.58%
Sacramento	5.72%	5.72%
San Joaquin County	3.98%	3.94%
Lathrop	2.77%	3.18%
Stockton	4.25%	4.25%
Tracy	2.58%	2.58%
Solano County	3.06%	4.03%
Rio Vista	4.71%	4.30%
Yolo County	3.59%	3.52%
West Sacramento	2.83%	6.01%
California	5.83%	5.90%

Source: California Department of Finance 2012b.

Note: Excludes mobile homes.

2

3 **16.1.1.4 Employment, Labor Force, and Industry in the Delta**

4 Employment, labor force, and industry indicators provide useful insight into an area's economy. The
5 following discussion describes recent employment trends, unemployment rates, labor force, and
6 industry data. This section describes the employment and labor force characteristics in the Delta
7 area based on data obtained largely from the California Employment Development Department
8 (EDD) Labor Market Information Division (2009, 2012a, 2012b). Employment and labor force data
9 are only available at the county level; thus, a community-level discussion is not included.

10 Employment, labor, and industry trends are discussed at a broad level for the five counties that
11 make up the Delta. In 2012, the EDD reported a labor force of 1,809,800 people for the Delta
12 counties. This is compared with 18,365,000 people in California's labor force; thus, Delta counties
13 make up about 10% of the state's total labor force. Table 16-7 provides a breakdown of the labor
14 force in each county in the Delta. Sacramento County is the largest contributor, with a labor force of
15 667,800. This is followed by Contra Costa County (525,400) and San Joaquin County (299,400). In
16 2012, Solano County registered 217,900 people in the labor force. Yolo County registered a labor
17 force of 99,300. All counties' labor force numbers have grown since 2000.

18 Table 16-8 displays information on Delta employment by industry, distribution of employment, and
19 annual growth rates. The top three industries in the Delta counties in 2011, based on the number of
20 employees, were services, government, and retail trade. The only industry that experienced positive
21 growth over the 2006–2011 period was agriculture, with an average annual growth rate of 1.1%.

1 Due to the national economic recession that occurred during this period, all other industrial sectors
 2 had negative annual growth rates, ranging from -0.2% for the services sector to -8.2% for the
 3 manufacturing and construction sector.

4 Table 16-9 shows per capita personal income, median household income, and poverty status for the
 5 Delta counties. The per capita personal incomes (in 2010 inflation-adjusted dollars) for the five
 6 counties ranged from a high of \$37,818 in Contra Costa County (30% higher than the state per capita
 7 income of \$29,188) to a low of \$22,851 in San Joaquin County. Contra Costa County also had the
 8 highest median household income in 2010 inflation-adjusted dollars (\$78,385), while San Joaquin
 9 County had the lowest median household income (\$54,341) (U.S. Department of Labor 2009).

10 **Table 16-7. Delta Counties and California Employment Trends, 2000–2012**

Area	2000	2012	Average Annual Growth Rate (2000–2012)
Contra Costa County			
Labor force	495,300	525,400	0.5%
Employed	476,400	474,900	-0.0%
Unemployment rate	3.8%	9.6%	N/A
Sacramento County			
Labor force	602,100	667,800	0.9%
Employed	574,200	592,900	0.3%
Unemployment rate	4.6%	11.2%	N/A
San Joaquin County			
Labor force	251,600	299,400	1.6%
Employed	231,600	249,900	0.7%
Unemployment rate	8.0%	16.5%	N/A
Solano County			
Labor force	191,100	217,900	1.2%
Employed	180,700	194,300	0.6%
Unemployment rate	5.5%	10.8%	N/A
Yolo County			
Labor force	86,200	99,300	1.3%
Employed	80,700	85,500	0.5%
Unemployment rate	6.4%	13.9%	N/A
All Delta Counties			
Labor force	1,626,300	1,809,800	0.9%
Employed	1,543,600	1,597,500	0.3%
Unemployment rate	5.1%	11.7%	N/A
California			
Labor force	16,658,900	18,365,000	0.9%
Employed	15,762,200	16,284,000	0.3%
Unemployment rate	5.4%	11.3%	N/A

Sources: California Employment Development Department 2012a, 2012b.

Note: Unemployment rates are cyclical, so annual growth rates do not apply. Employment data are from January 2000 and 2012.

1 The number of people living in poverty in the Delta counties is largely consistent with the income
 2 data. Contra Costa County had the lowest percentage of the population living below the poverty
 3 level, at 9%. Yolo County, with a slightly higher per capita income and median household income
 4 than San Joaquin County, still registered the highest percentage of the population living below the
 5 poverty level, at 17%. San Joaquin County closely followed at 16%. These percentages are higher
 6 than those of the state, which had 14% of the population living below the poverty level.

7 Chapter 28, *Environmental Justice*, Section 28.2.2, provides greater detail regarding the distribution
 8 of low-income populations within the Delta counties.

9 **Table 16-8. Delta Counties Annual Employment and Shares by Industry, 2006–2011**

Industry	2006	2007	2008	2009	2010	2011	Annual Growth Rate ^b
Agriculture	23,500 (1.7%)	24,000 (1.7%)	24,600 (1.8%)	25,200 (1.9%)	25,300 (2.0%)	25,100 (2.0%)	1.1%
Manufacturing and construction ^a	192,600 (13.6%)	184,100 (13.0%)	167,200 (12.0%)	141,600 (10.7%)	130,800 (10.2%)	129,100 (10.1%)	-6.5%
Transportation, utilities, and warehousing	47,200 (3.3%)	49,200 (3.5%)	49,700 (3.6%)	47,200 (3.6%)	45,000 (3.5%)	45,300 (3.6%)	-0.7%
Trade	209,900 (14.8%)	208,000 (14.6%)	199,800 (14.4%)	185,300 (14.1%)	183,800 (14.4%)	186,100 (14.6%)	-2.0%
Information	33,900 (2.4%)	33,800 (2.4%)	31,800 (2.3%)	29,100 (2.2%)	27,200 (2.1%)	26,000 (2.0%)	-4.3%
Financial, insurance, and real estate services	98,000 (6.9%)	91,700 (6.5%)	84,500 (6.1%)	79,200 (6.0%)	73,400 (5.7%)	70,300 (5.5%)	-5.4%
Services	495,300 (35.0%)	504,700 (35.5%)	503,100 (36.2%)	488,000 (37.0%)	481,600 (37.6%)	489,700 (38.4%)	-0.2%
Government	313,100 (22.2%)	324,400 (22.8%)	328,100 (23.6%)	322,900 (24.5%)	312,800 (24.4%)	303,800 (23.8%)	-0.5%
Total for all Industries	1,413,500	1,419,900	1,388,800	1,318,500	1,279,900	1,275,400	-1.8%

Source: California Employment Development Department 2013.

Note: Numbers in parentheses indicate the share as a percentage of the total employment. Percentages may not add to 100% due to independent rounding.

^a Includes natural resources and mining.

^b Calculated as the total % growth from 2006 to 2011, divided by 6.

1 **Table 16-9. Delta Counties and California Income and Poverty Levels, 2006-2010**

Area	Per Capita Income ^a (dollars)	Median Household Income ^a (dollars)	Persons Living Below Poverty Level	Percentage of Population Living Below Poverty Level
Contra Costa County	37,818	78,385	94,412	9.0%
Sacramento County	26,953	56,439	197,212	13.9%
San Joaquin County	22,851	54,341	109,649	16.0%
Solano County	28,649	68,409	42,988	10.4%
Yolo County	27,420	57,077	34,345	17.1%
Delta Counties (total or population-weighted average)	29,443	63,516	478,606	12.7%
California	29,188	60,883	5,103,792	13.7%

Source: U.S. Census Bureau 2012a.

^a 2010 inflation-adjusted dollars, using Consumer Price Index.

2

3 **16.1.1.5 Government and Finance in the Delta**

4 This section provides background information on local government finance in the Delta region,
5 including counties, cities, and special districts. Public revenues and expenditures are described in
6 more detail for the Delta focuses of Contra Costa, Sacramento, San Joaquin, Solano, and Yolo
7 counties.

8 Total revenues and expenditures vary substantially among the five Delta counties because of their
9 size, population, level of commercial and industrial development, land uses, and the level and types
10 of services provided. Revenue sources include tax receipts (primarily property taxes), rents, license
11 and permit fees, expenditures of state and federal government funds, charges for services (e.g.,
12 water and sewer), and other sources. Revenue ranges from approximately \$253 million in Yolo
13 County for fiscal year (FY) 2010–2011 to more than \$2.1 billion in Sacramento County (California
14 State Controller's Office 2012). Table 16-10 presents the revenues in the Delta counties during FY
15 2010–2011.

1 **Table 16-10. Revenues and Expenditures by Delta Counties during Fiscal Years 2010-2011**

Type of Revenue or Expenditure	Contra Costa County	Sacramento County	San Joaquin County	Solano County	Yolo County
Revenues (all values in millions of dollars)					
Property taxes	282.3	326.3	177.3	108.6	40.3
Other taxes	19.7	106.4	19.7	7.1	4.0
Licenses, permits, fines, forfeitures, etc.	51.9	95.0	16.1	28.1	16.7
Federal, State, other	693.8	1,327.4	506.1	314.3	165.2
Miscellaneous revenue	17.9	51.2	10.4	6.2	4.0
Other financing sources	265.0	241.5	94.4	89.5	22.9
Total revenue	1,330.7	2,147.7	823.9	553.8	253.0
Expenditures (all values in millions of dollars)					
Legislative, administrative, finance, counsel, and general expenditures	107.6	131.5	43.0	50.5	28.5
Police protection, corrections, fire, public protection, etc.	360.3	642.1	261.2	171.2	73.6
Transportation	89.7	99.8	38.6	14.5	10.0
Public health, medical care, etc.	224.7	549.4	106.6	104.9	42.1
Welfare, social services, and other public assistance	390.9	632.1	342.2	157.1	71.6
Education and library services	23.0	10.1	5.7	17.1	5.9
Recreation facilities	0.0	14.3	5.6	1.5	1.7
Principal and interest on long-term debt	67.9	132.1	9.3	29.0	2.6
Other expenditures	42.3	N/A	18.5	N/A	1.4
Total expenditures	1,306.3	2,211.4	830.6	545.7	237.3

Source: California State Controller's Office 2012.

Note: Numbers may not sum due to rounding.

2

3 The revenue generated varies by county depending on state and federal allocations, tax rates,
4 property values, special assessments, and other special taxes. Revenue is generated from real
5 property based on the assessed value of the property (allocated according to formulas set by state
6 law) and by other taxes and assessments. Local agencies in each county are permitted to levy
7 additional ad valorem tax rates for repayment of debt that is approved by voters, such as financing
8 for facilities and services like hospitals and schools. As a result of the levy of additional voter-
9 approved debt, tax rates may vary from area to area within any county, depending on the number
10 and amount of debt. A city, county, or other public entity also can form a special assessment district
11 and levy an assessment on real property to finance public improvements or services, infrastructure,
12 or community services. The special district can finance those public improvements that confer a
13 special, measurable, direct benefit to each parcel of the real property in the district.

14 Special assessment or service districts include benefit assessment districts (e.g., flood control,
15 sewer, and water); abatement districts (e.g., mosquito and vector control); Mello-Roos community

1 facilities districts³; maintenance districts (e.g., levee, open space, park, and playground); reclamation
 2 districts; and community service districts (e.g., fire, police, lighting, and garbage). Special assessment
 3 districts may collect revenues on a one-time basis or on a continuous (usually annual) schedule,
 4 depending on the service. Special assessments are not based on property value. Instead, each
 5 assessment district includes a benefit formula and each parcel in the service area is assessed
 6 according to the specific benefit it receives from the services and improvements. All Delta counties
 7 provide some government services, but rely on the special districts to provide other services.

8 Expenditures by county governments range from approximately \$237 million in Yolo County for
 9 FY 2010-2011 to approximately \$2.2 billion per year in Sacramento County (California State
 10 Controller's Office 2012). Table 16-10 presents the expenditures in Delta counties during FY 2010-
 11 2011. Expenditures include payments made by jurisdictions to buy goods, pay employees, and
 12 provide services to residents. Many of the differences in the county-level expenditure per capita and
 13 the pattern of expenditures result from the counties' demographic composition. Also, the services
 14 provided by county-level governments versus city governments or special districts vary from county
 15 to county. Note that education is a relatively small part of the counties' budgets. Most local education
 16 spending is handled by school districts, not by the counties.

17 **Contra Costa County**

18 In FY 2010-2011, Contra Costa County received more than \$1.33 billion in total revenue. The largest
 19 source of revenue was federal and state funding, which provided more than \$693 million. Property
 20 taxes represented more than \$282 million in revenues. Revenues generated by Contra Costa County
 21 are used for a range of governmental activities.

22 Expenditures in FY 2010-2011 totaled more than \$1.30 billion. Table 16-10 displays the total
 23 expenditures for Contra Costa County in several categories. Welfare, social services, and other public
 24 assistance consistently have been the largest expenditures for Contra Costa County (more than
 25 \$391 million in FY 2010-2011). Police and fire protection and other public safety activities
 26 represented the second largest expenditure category.

27 **Sacramento County**

28 Sacramento County's total revenues exceeded \$2.1 billion in FY 2010-2011. Federal and state
 29 funding sources made up the largest revenue source, with more than \$1.32 billion directed to
 30 Sacramento County. Property taxes provided the second largest revenue source (more than
 31 \$326 million in FY 2010-2011).

32 As shown in Table 16-10, Sacramento County's budget expenditures were similar in pattern to those
 33 of Contra Costa County. The top two expenditures in Sacramento County in FY 2010-2011 were for
 34 public safety programs (\$642 million) and social service programs (\$632 million). A substantial
 35 portion of its budget also funded public health and medical services (\$549 million).

³ The Mello-Roos Act of 1982 provides a mechanism for certain public entities, such as cities, counties, schools, local districts, and joint power authorities, to finance public infrastructure and certain governmental services. The public entity forms a community facilities district and may levy a special tax on the real property within its boundaries. The district can apply the special tax revenues, or proceeds from bonds secured by special taxes, to finance general benefit facilities and services or special benefit improvements.

1 **San Joaquin County**

2 San Joaquin County received more than \$823 million in total revenues in FY 2010–2011. The largest
3 source of revenue was federal and state funding of more than \$506 million. Property taxes
4 represented the second largest revenue source for San Joaquin County at more than \$177 million.

5 Expenditures in FY 2010–2011 totaled more than \$830 million. Welfare, social services, and other
6 public assistance were the largest expenditure at more than \$342 million. Public safety activities
7 represented the second largest expenditure category, with more than \$261 million spent in FY
8 2010–2011.

9 **Solano County**

10 Many of the observations previously discussed for other counties also apply to Solano County.
11 Federal and state funding made up more than half of Solano County’s revenue, totaling more than
12 \$314 million in FY 2010–2011. Property taxes provided another 20% of its revenue at more than
13 \$108 million in FY 2010–2011.

14 Expenditure patterns in Solano County are generally consistent with trends observed in other
15 counties. The top two expenditure categories in Solano County in FY 2010–2011 were social service
16 programs (\$157 million) and public safety programs (\$171 million).

17 **Yolo County**

18 Yolo County revenues were more than \$253 million in FY 2010–2011. The largest source of revenue
19 was federal and state funding, which contributed more than \$165 million. Property taxes
20 represented the second largest revenue source for Yolo County in FY 2010–2011 (more than
21 \$40 million dollars).

22 Expenditures in FY 2010–2011 totaled more than \$237 million. Police protection functions
23 represented the largest expenditures for Yolo County (more than \$73 million in FY 2010–2011).
24 Public assistance activities represented the second largest expenditure category, costing more than
25 \$71 million in FY 2010–2011.

26 **16.1.1.6 Economic Character of Recreation in the Delta**

27 The recreation industry in the Delta is composed primarily of boating, fishing, hunting, camping, and
28 agritourism activities. Specific businesses directly support recreation in the Delta, including
29 marinas, boat rentals, guide services, and wineries. Other businesses, such as hotels, restaurants,
30 specialty stores, and sporting goods retailers, provide general recreation and tourism goods and
31 services to users in the Delta region, including Delta recreationists among others.

32 The recreation-oriented focus of the Delta leads to an interdependent relationship between the
33 different businesses. Fishing guides and boaters depend on the marinas for supplies and fuel.
34 Marinas without food services rely on local food markets or restaurants to serve visitors.
35 Restaurants and wineries depend on hotels to provide accommodations for overnight or extended
36 visits. All the businesses depend on visitors and tourists spending time and money in the Delta.

1 **Source of Contributions to the Delta Economy**

2 Attendance at special events in the Delta typically ranges from several hundred to several thousand
 3 people. In 2010, the Stockton Asparagus Festival, one of the region's largest events, had an
 4 estimated 85,000 people in attendance over the 3-day event. For some events in the Delta, attendees
 5 travel by boat. A portion of the economic activity generated during these events is captured in the
 6 agritourism and the boating-related economic estimates described below.

7 Heritage tourism involves traveling to experience an area's historic, cultural, and natural resources
 8 (National Trust for Historic Preservation 2010). Examples include visits to historic sites, national
 9 and state parks, museums, festivals, and other cultural events (D. K. Shiflett and Associates 2000).
 10 Heritage tourism in the Delta occurs in small historic towns along the Sacramento River that
 11 developed as steamboat landings during the Gold Rush. Freeport, Clarksburg, Hood, Courtland,
 12 Locke, Walnut Grove, Ryde, Isleton, and Rio Vista are all considered legacy towns.

13 There are 98 hotels in the Delta with a total of 5,036 rooms. In the five-county region, there are 406
 14 hotel properties with a total of 33,402 rooms. Slightly less than a quarter of all hotels and roughly
 15 15% of all rooms within the five-county region are in the Delta. There are 2,955 restaurants (Eating
 16 and Drinking Places) within the five-county region. These restaurants employ an estimated 44,073
 17 people, and are concentrated in Sacramento County, primarily in the City of Sacramento.
 18 (AECOM 2011)

19 The Delta provides approximately 7.4 million visitor-days of recreational use (Plater and Wade
 20 2002). Projections indicate that visitation will reach more than 8.0 million visitor-days by 2020
 21 (Plater and Wade 2002). Based on state population growth trends, it was estimated that Delta
 22 visitation could reach 11.8 million visitor-days by 2060.

23 A total of 86 marinas are located in the Delta. These marinas are concentrated in Contra Costa,
 24 Sacramento, and San Joaquin counties, with a few located in Solano and Yolo counties. Contra Costa
 25 County has the most marinas (34) and Solano County has the fewest (2) within the Delta. However,
 26 marinas in San Joaquin County are typically larger and have more berths on average (155) than
 27 marinas in other counties, and marinas in Contra Costa County have fewer (111). In addition to
 28 providing boat launching, berthing, fuel, and boat rentals, many marinas also provide ancillary
 29 amenities and services, such as picnic areas, trails, and camping facilities.

30 **Recreation-Related Industry Employment and Sales**

31 Table 16-11 summarizes the employment and economic activity for recreation-related industries,
 32 and identifies the proportion of the recreation-related industries in the total Delta region economy.
 33 Employment estimates for 2009 were obtained from a private demographic and economic data
 34 provider (Claritas MarketPlace), which aggregates and apportions economic census data from the
 35 U.S. Census Bureau (AECOM 2011). The following categories of businesses are listed in Table 16-11:
 36 Food Stores; Eating and Drinking Places; Hotels and Other Lodging Places; Amusement and
 37 Recreational Services; and Museums, Art Galleries, Zoos.

1 **Table 16-11. Employment Conditions for Delta Region Recreation-Related Industries (2007)**

SIC Code	Business Description	Total Establishments	Total Employees	Sales (in Millions of Dollars)
54	Food Stores	1,045	16,871	\$2,443
58	Eating and Drinking Places	2,955	44,073	\$1,950
70	Hotels and Other Lodging Places	287	5,631	\$217
79	Amusement and Recreational Services (e.g., Movies)	953	11,940	\$960
84	Museums, Art Galleries, Zoos	48	854	\$23
	Total Recreation-Related Industries	5,288	79,369	\$5,594
Total	All Industries	50,415	635,262	\$61,944
	Recreation-Related Industries as a Percent of Total	10.5%	12.5%	9.0%

Source: AECOM 2011.

Note: Values are presented in 2007 dollars.

SIC = Standard Industrial Classification.

2

3 In the Delta region's economy, the 5,288 recreation-related establishments make up approximately
4 10.5% of total establishments and support about 79,369 employees, or approximately 12.5% of total
5 employees. The Delta recreation-related industries contribute about \$5.8 billion in annual revenues,
6 or about 9% of revenues for all industries (approximately \$65 million).

7 The estimates in Table 16-11 include economic activity not related to recreation, so the totals
8 overstate the contribution of recreational activities in the Delta. For example, most establishments
9 in the Food Stores and Eating and Drinking Places categories receive only a portion of their sales
10 from recreation-related visits in the Delta; local residents and other business employees often
11 generate a substantial share.

12 **Direct Economic Contributions from Recreation in the Delta Region**

13 Direct economic contributions from recreation in the Delta were projected based on visitation and
14 visitor-related spending in the Delta, recreation-related spending attributable to activities in Suisun
15 Marsh and Yolo Bypass, marina leasing revenue, and agritourism in the Delta. Visitor-related
16 spending in the Delta was estimated using per-day expenditure profiles developed based on the
17 average expenditures reported by boaters, anglers, and day use/other recreationists participating in
18 wildlife- or water-associated activities. Delta visitation estimates for 1997–2020 by recreational
19 activity, as presented in Plater and Wade (2002), were used in the analysis. Visitation projections
20 between 2020 and 2060 were based on the California Department of Finance (DOF) forecast rate of
21 population growth in the five-county region from 2020 to 2050. A linear trend analysis was used to
22 project population changes and associated visitation from 2050 to 2060 (AECOM 2011).

23 Recreation-oriented activities in the Delta were estimated to contribute approximately \$236.3
24 million in direct expenditures in 2010. These direct expenditures are expected to grow to
25 approximately \$256 million by 2020, \$269.9 million by 2025, and \$375.4 million by 2060.

26 As shown in Table 16-12, boating activity accounts for the largest share of total recreation-related
27 economic contributions in the Delta.

1 **Table 16-12. Projected Direct Economic Contributions from Recreation in the Delta**

Recreation Activity	2010	2020	2025	2060
Water-Based Recreation				
Boating	\$157,837,000	\$170,277,000	\$180,248,000	\$246,006,000
Angling/Fishing	\$25,490,000	\$27,674,000	\$29,294,000	\$39,981,000
Day Use	\$20,528,000	\$22,240,000	\$23,542,000	\$32,131,000
Marina Lease Revenue	\$25,610,000	\$28,623,000	29,412,000	\$40,812,000
Non-Water-Based Recreation				
Suisun Marsh and Yolo Bypass Revenue	\$4,287,000	\$4,287,000	\$4,287,000	\$4,287,000
Agritourism	\$2,500,000	\$2,900,000	\$3,100,000	\$4,800,000
Total Estimated Recreation Economic Contribution	\$236,252,000	\$256,001,000	\$269,883,000	\$375,455,000

Source: AECOM 2011.

Notes: Values are presented in 2007 dollars and rounded to the nearest \$1,000. Because of uncertainty concerning resource capacity constraints and visitation trends, projections for economic contributions in the future were not prepared for Suisun Marsh and Yolo Bypass; future economic conditions are assumed to be unchanged from existing conditions (AECOM 2011).

2

3 **16.1.1.7 Economics of Agriculture in the Delta**

4 Agriculture is one of the more important sectors of the Delta economy. Related information on
5 agricultural land use, soils, and production practices is provided in Chapter 14, *Agricultural*
6 *Resources*, Sections 14.1.1.3 through 14.1.1.6, which summarizes agricultural land uses and
7 production practices using information from county, state, and federal sources. Part of the
8 explanation for this is that the counties include cities such as Sacramento, Stockton, and Antioch. By
9 their nature, cities are concentrations of non-rural economic activity. County-level data summaries
10 that include the cities tend to diminish the important role of agriculture in more rural areas of the
11 counties, such as the statutory Delta. Commercial agriculture and the associated agricultural
12 services, packing, processing, marketing, insuring, and transportation activities are critical
13 components of the Delta region's economic and social character. The economic production of Delta
14 agriculture is multiplied through the regional economy through these activities.

15 **Irrigated Land**

16 Crop acreages in the statutory Delta and Restoration Opportunity Areas (ROAs) are described in
17 Chapter 14, *Agricultural Resources*, Table 14-2. The major crops, ranked by acreage, are corn, alfalfa,
18 grain, safflower, irrigated pasture, tomatoes, asparagus, and grapes.

19 Nearly 70,000 acres are planted with perennial crops such as fruit trees and grapevines, which have
20 a large fixed investment in growing stock with an economic life of 20 years or more; and asparagus,
21 which has a lower initial investment and produces for up to 10 years. More than one third (38%) of
22 the Plan Area's irrigated acreage is in San Joaquin County; Solano County has the second largest
23 share (21%), with the remainder split among Sacramento, Contra Costa, and Yolo Counties (see
24 Chapter 14, *Agricultural Resources*, Section 14.1.4, for further descriptions).

1 **Yields, Prices, and Value of Production**

2 Annual crop reports generated by the county agricultural commissioners were gathered from the
3 five Delta counties (California Department of Food and Agriculture 2010). The counties report
4 average crop yields and prices for the entire county, not specifically for the statutory Delta.
5 However, crop markets are regional rather than specific to a subregion of a county, so the county-
6 wide averages for crop prices are representative. Average yields, prices, and value of production per
7 acre for 2005 to 2007 are shown in Table 16-13.

8 Most of the crop categories listed in Table 16-13 are dominated by one crop, such as alfalfa hay.
9 Some categories include more than one crop, so either a dominant crop or a crop that is considered
10 representative within that category is used as a proxy crop. For example, pumpkins make up the
11 largest acreage of crops in the cucurbit category, so they are used for displaying yield per acre, price
12 per unit, and production value per acre.

13 Total value of production is summarized in Table 16-14, with crop categories further aggregated
14 into small grains (including rice); field crops; forage (alfalfa and pasture); all vegetable, truck, and
15 other specialty crops (including turf); and all orchards and vineyards. Percentage shares by acreage
16 and by value of production are shown below the totals. The value of production is based on the
17 reported acreage and the per-acre value shown in Table 16-13. Therefore, the values are farm
18 revenues expressed in the 2007 equivalent price level, but using average prices and yields for 2005
19 through 2007.

20 The total value of irrigated crop production in the Delta is more than \$600 million per year. Two
21 categories—vegetable, truck, and specialty crops and orchards and vineyards—account for more
22 than \$400 million per year, and these crops are produced on a little over one-quarter of the crop
23 acreage.

24 Livestock production in the Delta includes feed lots, dairies, and poultry farms. DWR's *Delta Risk*
25 *Management Strategy Phase 1 Report* (California Department of Water Resources 2008b) estimated
26 that livestock production in the Delta represented 13% of the total value of agricultural production
27 over the period from 1998 to 2004. Assuming that this percentage is still reasonably accurate,
28 livestock would provide an additional \$90.6 million per year, for an annual total of \$697 million in
29 crop and livestock value.

1 **Table 16-13. Crop Yields, Prices, and Value per Acre in the Delta Counties, 2005–2007**

Crop	Acreage	Yield (tons per acre)	Price (\$ per ton)	Value per Acre (\$)
Corn	114,108	4.62	128	591
Alfalfa	69,868	6.51	139	907
Grain and hay ^a	51,343	2.29	129	297
Safflower	50,157	1.18	281	333
Pasture	42,863	N/A	N/A	113
Tomatoes	37,850	37.39	57	2,121
Asparagus	24,064	1.41	2,480	3,501
Grapes	22,095	5.34	544	2,903
Dry Beans	10,140	1.00	723	724
Sugar Beets	7,770	32.50	39	1,257
Pears	7,621	18.34	221	4,060
Rice ^b	7,298	3.76	268	1,008
Miscellaneous truck crops ^c	7,199	80.54	65	5,255
Cucurbits ^d	6,424	14.76	247	3,641
Walnuts	5,170	1.58	1,722	2,713
Sudan	4,753	1.26	528	666
Almonds	2,472	0.80	4,600	3,689
Apples	2,435	13.98	615	8,597
Miscellaneous field crops ^e	2,326	2.16	106	228
Apricots	2,041	7.82	387	3,025
Sunflowers	1,850	0.21	3,252	690
Turf ^f	1,630	N/A	N/A	15,151
Miscellaneous deciduous ^g	1,060	2.11	2,320	4,902
Cherries	739	2.10	3,980	8,354
Peaches and Nectarines	309	20.32	259	5,263
Subtropical trees ^h	81	13.75	683	9,388
Total Irrigated Crops	483,666			

Sources: Acreages are from California Department of Water Resources 2007; prices, yields, and values are from California Department of Food and Agriculture 2010.

Note: All dollar values are escalated to the 2007 equivalent price level using the Gross Domestic Product Implicit Price Deflator (U.S. Department of Commerce 2010).

^a Wheat is used as the example crop in this category.

^b Medium grain rice is used as the example crop in this category.

^c Bell peppers are used as the example crop in this category.

^d Pumpkins are used as the example crop in this category.

^e Grain sorghum is used as the example crop in this category.

^f Turf prices and values are not reported for Delta counties. The statewide average for all counties reporting both acreage and value is used.

^g Plums are used as the example crop in this category.

^h Citrus price and yield from the San Joaquin Valley are used.

2

1 **Table 16-14. Total Value of Production for Crops in the Delta**

Crop Category	Acreage (Percentage of Total)	Value of Production in Million \$ per Year (Percentage of Total)
Grains	58,641 (12.1%)	22.6 (3.7%)
Field crops	191,104 (39.5%)	106.2 (17.5%)
Forage crops	112,731 (23.3%)	68.2 (11.2%)
Vegetable, truck, and specialty crops	77,167 (16.0%)	250.4 (41.3%)
Orchards and vineyards	44,023 (9.1%)	159.1 (26.2%)
Total	483,666	606.5

Sources: California Department of Water Resources 2007; California Department of Food and Agriculture 2010.

Note: Value of production is based on prices received by farmers, in 2007 dollars (U.S. Department of Commerce 2010).

2

3 **Costs of Production and Labor Use for Selected Crops**

4 Costs of irrigated crop production include labor, purchased inputs (e.g., seed, fertilizer, chemicals),
5 custom services, investment in growing stock, other capital (including machinery and structures),
6 and other overhead costs.

7 Croplands that may be affected by project alternative activities have benefited from substantial
8 investments in land, structures, and growing stock of perennial crops. Perennial crops such as
9 orchards and vineyards may have useful lives of 25 years or more, and asparagus and multiyear
10 forage crops also have years of production value. Investment in growing stock may be expressed as
11 the accumulated costs incurred during the period when the crop is planted and brought to bearing
12 age, called the establishment period. Establishment costs for perennial crops can range up to
13 \$20,000 per acre (cash outlays plus noncash and allocated overhead costs). Table 16-15 provides
14 typical establishment costs for some major perennial crops grown in the Delta.

1 **Table 16-15. Typical Establishment Costs for Example Perennial Crops in the Delta**

Example Crop	Establishment Period (years)	Assumed Life of Stand (years)	Accumulated Total Cost during Establishment (\$ per acre)	University of California Cooperative Extension Cost of Production Study
Alfalfa hay	1	4	421	Sacramento Valley, 2008
Almonds	3	25	7,418	San Joaquin Valley North, 2006
Asparagus	2	10	2,442	San Joaquin County, 2007
Bartlett pears	5	30	20,015	Sacramento County, 2003
Irrigated pasture	1	20	380	Sacramento Valley, 2003
Walnuts	4	25	10,450	San Joaquin Valley North, 2007
Wine grapes	3	25	12,802	Cabernet Sauvignon, San Joaquin Valley North, Delta Crush District 11, 2008

Source: University of California Cooperative Extension 2003a, 2003b, 2006, 2007a, 2007b, 2008a, 2008b.

Notes: Costs are converted to 2007 dollar equivalent values using the Gross Domestic Product Implicit Price Deflator (U.S. Department of Commerce 2010). Assumed stand life is the financial life used for the cost and budget analysis. Individual growers may decide to keep stands in production longer or to remove them sooner.

2

3 Farm expenditures are largely spent in the surrounding community in the form of input purchases,
4 hired labor, rents paid to landlords, and custom services. Total labor in the agricultural production
5 sector and associated input and processing sectors have been summarized, but crops vary
6 substantially in the amount of labor hours and input purchases required, as shown in Table 16-16.

1 **Table 16-16. Land Rent, Labor Hours,^a and Custom Services for Example Crops in the Delta**

Example Crop	Typical Annual Land Costs (\$ per acre)	Typical Annual Labor (hours per acre)	Custom Services Purchased (\$ per acre)	University of California Cooperative Extension Cost of Production Study
Alfalfa hay	288	2.0	301	Sacramento Valley, 2008
Almonds	812	28.9	720	San Joaquin Valley North, 2006
Asparagus	300	119.5	1,915	San Joaquin County, 2007
Bartlett pears	605	103.0	6,009	Sacramento County, 2003
Corn, Grain	180	11.0	9	Sacramento Valley, 2008
Dry beans	181	12.0	213	Sacramento Valley, 2008
Irrigated pasture	59	2.8	148	Sacramento Valley, 2003
Safflower	61	2.5	0	Sacramento Valley, 2005
Walnuts	916	12.3	986	San Joaquin Valley North, 2007
Tomatoes, processing	265	53.0	22	Sacramento Valley, 2007
Wheat	90	3.3	7	Sacramento Valley, 2004
Wine grapes	872	93.0	417	Cabernet Sauvignon, San Joaquin Valley North, Delta Crush District 11, 2008

Source: University of California Cooperative Extension 2003a, 2003b, 2004, 2005, 2006, 2007a, 2007b, 2007c, 2008a, 2008b, 2008c.

Note: Costs are converted to 2007 dollar equivalent values using the Gross Domestic Product Implicit Price Deflator (U.S. Department of Commerce 2010). Some labor hours may also be included in custom services payments.

^a Significant labor hours are usually included in custom service payments

2

3 In general, fruit, nut, and vegetable crops require the greatest amount of labor per acre, largely
4 related to cultivation, harvest, and pruning efforts. Land rents may involve an actual cash payment
5 or crop share payment, or they may be the imputed rental value of owned land. Custom services
6 include hired services for pest control, land leveling, harvesting, and field packing. The typical labor
7 hours shown are only those that have been itemized in the University of California Cooperative
8 Extension cost of production studies. Additional labor is associated with the custom services
9 provided.

10 All costs displayed in the tables are representative of well-run farming operations. Substantial
11 variation exists among farming operations.

12 **Farm Size, Revenue, and Government Payments**

13 The U.S. Census of Agriculture is conducted every five years and collects information on farm
14 numbers, sizes, costs and revenues, government payments, and owner characteristics. Average farm
15 sizes and revenues for the five Delta counties are shown in Table 16-17. A small increase in average
16 farm size during recent years has occurred in most of the Delta counties, with an expected average
17 value of production per farm increasing.

18 The values for San Joaquin and Contra Costa Counties are likely to be more representative of Delta
19 farms because greater proportions of those two counties' total farmland lie in the Delta. Government

1 payments include payments for federally supported commodities, cost-sharing payments for soil
 2 and water conservation investments, and payments for participating in programs such as the
 3 Conservation Reserve. A portion of the commodity payments may be reflected directly or indirectly
 4 in market prices for government program commodities, as shown in Table 16-13. Important
 5 federally supported commodities in California include cotton, rice, small grains, corn, and oilseeds.
 6 On average, less than ten percent of the value produced per farm in 2007 is attributable to
 7 government payments, as shown in Table 16-17.

8 **Table 16-17. Average Farm Sizes and Revenues in Delta Counties, 2002 and 2007**

County	Year	Average Farm Size ^a (acres)	Average Value of Production per Farm (\$)	Average Value of Government Payments per Farm (\$)
Contra Costa	2007	232	111,687	10,079
	2002	213	175,690	7,892
Sacramento	2007	236	248,485	23,579
	2002	208	182,328	24,797
San Joaquin	2007	204	431,665	14,343
	2002	202	350,083	24,646
Solano	2007	403	274,489	14,769
	2002	384	240,468	20,383
Yolo	2007	488	390,864	28,157
	2002	519	343,124	31,199

Source: U.S. Department of Agriculture 2002, 2007.

Note: All values are converted to 2007 dollars using the Gross Domestic Product Implicit Price Deflator (U.S. Department of Commerce 2010).

^a Farm size in the Census definition includes all land, including farmsteads, rangeland, and idle land.

10 **16.2 Regulatory Setting**

11 This section provides the regulatory setting for socioeconomic conditions of communities, including
 12 potentially relevant federal, state, and local requirements applicable to the project alternatives.
 13 Generally, economic resources are protected and regulated by federal and state legislation, and local
 14 policies and ordinances at the county and city level regulate population growth, housing
 15 development, and industry creation. Planning efforts at local and regional levels can also influence
 16 socioeconomic forces through land use controls and other policies.

17 **16.2.1 Federal Plans, Policies, and Regulations**

18 Federal policies and regulations that affect socioeconomic conditions and are applicable to
 19 implementation of project alternatives address protection of property, property acquisition by
 20 agencies, agricultural economic protections, and county and city general plans that protect housing
 21 opportunities. Federal and state water contracts and agreements with communities and agricultural
 22 users also affect socioeconomic conditions, and are described in Chapter 5, *Water Supply*, Section
 23 5.1.2.5. State and local agencies' programs to protect agriculture, including the Delta Protection

1 Commission *Land Use and Resource Management Plan* (Delta Protection Commission 2011), also
2 affect socioeconomics, and are described in Chapter 13, *Land Use*, Sections 13.2.2 and 13.2.3.

3 **16.2.1.1 Constitution of the United States: Fifth Amendment Takings** 4 **Clause**

5 The takings clause of the Fifth Amendment provides that “[n]o person shall be deprived of life,
6 liberty, or property, without due process of law; nor shall private property be taken for public use,
7 without just compensation.” The takings clause does not prohibit government from taking private
8 property; it requires that property owners be compensated for the value of the property taken.
9 According to the U.S. Supreme Court, the takings clause “was designed to bar Government from
10 forcing some people alone to bear public burdens which, in all fairness and justice, should be borne
11 by the public as a whole” (*Armstrong v. United States* [1960] 364 U.S. 40, 49). The taking of private
12 property by the government can occur in a number of ways: by direct appropriation, by occupation
13 or invasion, or by regulation (regulatory taking).

14 Government exactions may be considered unconstitutional takings if they do not meet the
15 “reasonable relationship nexus” test, as set out in *Dolan v. City of Tigard* (1994) 512 U.S. 374 and
16 *Nollan v. California Coastal Commission* (1987) 483 U.S. 825. In order for an exaction to be valid: (1)
17 the legislation must serve a legitimate governmental purpose; and (2) the means used to achieve the
18 objective must substantially advance the intended purpose.

19 **16.2.1.2 Uniform Relocation Assistance and Real Property Acquisition** 20 **Policies Act of 1970**

21 Title II, Uniform Relocation Assistance, Section 201 (b), establishes a uniform policy for the fair and
22 equitable treatment of persons displaced as a direct result of programs or projects undertaken by a
23 federal agency or with federal financial assistance. The primary purpose of this title is to ensure that
24 such persons shall not suffer disproportionate injuries as a result of programs and projects designed
25 for the benefit of the public as a whole and to minimize the hardship of displacement on such
26 persons.

27 Title III, Uniform Real Property Acquisition Policy, Section 301, was developed “In order to
28 encourage and expedite the acquisition of real property by agreements with owners, to avoid
29 litigation and relieve congestion in the courts, to assure consistent treatment for owners in the many
30 federal programs, and to promote public confidence in federal land acquisition practices.”

31 **16.2.1.3 Housing and Community Development Act of 1974**

32 Under Section 104(d) of the Housing and Community Development Act of 1974, as amended (Public
33 Law 93-383, 42 United States Code 5301 et seq.) and the implementing regulations at 24 Code of
34 Federal Regulations Part 42, a residential anti-displacement and relocation assistance plan is
35 required and must provide for: (1) one-for-one replacement of occupied and vacant occupiable low-
36 and moderate-income dwelling units demolished or converted to another use in connection with a
37 development project assisted under Parts 570 and 92; and (2) provide relocation assistance for all
38 low- and moderate-income persons who occupied housing that is demolished or converted to a use
39 other than low- or moderate-income housing.

1 **16.2.1.4 U.S. Department of Agriculture**

2 The U.S. Department of Agriculture administers and implements several programs that can influence
3 both how the agricultural sector may react to changes in water supply availability or agricultural
4 lands, and how large the direct economic effects on agriculture might be. These programs include
5 the direct and countercyclical payments program, commonly referred to as the farm commodity
6 programs (U.S. Department of Agriculture 2008a), and the Conservation Reserve Program and
7 similar programs. This section briefly describes important parts of the farm program.

8 The current farm commodity programs are defined in the Food, Conservation, and Energy Act
9 of 2008, passed by Congress and signed into law in 2008. This law, commonly referred to as the
10 Farm Bill, authorizes the programs for the next 5 years. At any time, Congress may, with the
11 President's approval, extend, modify, restructure, or eliminate one or more programs.

12 The current Farm Bill (U.S. Department of Agriculture 2008b) contains 15 titles that describe and
13 authorize one or more specific programs. Key programs include the following.

- 14 1. Commodity Programs. Certain agricultural commodities receive price supports and/or direct
15 payments under the 2008 Farm Bill. These include corn, cotton, rice, small grains, grain
16 sorghum, oilseeds, dry peas/lentils, and sugar crops (other crops also are included but are not
17 grown in California). Under these crop programs, benefits are paid to producers with eligible
18 historical acreage (called Base Acres) of covered commodities. Some of these payments are
19 available even if the program commodity is no longer grown on that base acreage; however,
20 conversion of the land to nonagricultural uses generally eliminates all commodity program
21 payments.
- 22 2. Conservation Reserve and Wetland Reserve Programs. These programs provide annual
23 payments to farmers willing to enter long-term contracts to maintain vegetative cover on
24 eligible lands or to restore wetlands on previously agricultural land. They also provide cost-
25 sharing and other financial assistance for soil conservation, water conservation, and wildlife
26 conservation activities.
- 27 3. Marketing and Credit Assistance. Numerous programs are designed to provide direct assistance,
28 credit guarantees, and loans to support agriculture.
- 29 4. Crop Insurance and Disaster Assistance. These programs provide subsidized crop insurance to
30 farmers and provide disaster assistance payments to crop and livestock producers in declared
31 disaster counties.

32 **16.2.2 State Plans, Policies, and Regulations**

33 **16.2.2.1 California Constitution: Article 1 Declaration of Rights,** 34 **Section 19**

35 Under the California Constitution and other statutes, public agencies may use eminent domain
36 power to: (1) acquire private property (real, business, personal, tangible, or intangible property); or
37 (2) reduce the economic value of property for a public purpose (these are referred to as "damages")
38 if they pay "just compensation" to the owner. Just compensation includes: (1) the fair market value
39 of the real property and its improvements; and (2) any diminution in value of the remaining
40 property when property taken is part of a larger parcel.

1 **16.2.2.2 Williamson Act**

2 The California Land Conservation Act (Williamson Act) is an agricultural land protection program
 3 enacted by the California Legislature in 1965 to maintain the agricultural economy of the state by
 4 preserving its agricultural land. The act discourages premature and unnecessary conversion of
 5 agricultural land to urban uses. Cities and Counties implement the legislation by creating
 6 agricultural preserves, which are generally comprised of at least 100 acres of farmland. Once a
 7 preserve has been established, an individual landowner can enter into a contract with the county,
 8 which binds the land to remain in agricultural uses for at least ten years. Counties have continuing
 9 roles in administering the act with respect to compatibility guidelines and nonrenewal or
 10 cancellation of contracts.

11 Most California counties, including all Delta and San Joaquin Valley counties, allow owners of
 12 agricultural land to sign rolling, 10-year agreements with the county that restrict the land to
 13 agricultural and open space uses. In return, the landowner receives a lower property tax assessment
 14 that reflects the value of the land in agricultural use. According to the California Department of
 15 Conservation, the annual property tax savings can range from 20 to 75%. The county must approve
 16 the cancellation of an existing contract, and the landowner must pay a cancellation fee equal to
 17 12.5% of the current fair market value of the property. If land in a Williamson Act contract is
 18 acquired by a public agency for a defined public purpose, the act provides a process for cancellation
 19 of the contract (California Department of Conservation 2006). Additional detail, including a
 20 summary of recent legislation, is provided in Chapter 14, *Agricultural Resources*, Section 14.2.2.5.

21 **16.2.2.3 Economic Sustainability Plan for the Sacramento-San Joaquin** 22 **Delta (Draft)**

23 In November 2009, the California Legislature enacted Senate Bill (SB) 1 X7, also known as the
 24 Sacramento–San Joaquin Delta Reform Act (Delta Reform Act). The bill required the Delta Protection
 25 Commission to adopt an Economic Sustainability Plan (ESP) containing public safety
 26 recommendations; economic goals, policies, and objectives in local general plans and other local
 27 economic efforts; comments and recommendations to DWR concerning its update of the Delta flood
 28 management plan; and identification of ways to encourage recreational investment along key river
 29 corridors. The plan covers the Legal Delta. The Delta Reform Act required the Delta Protection
 30 Commission to submit the completed ESP to the Delta Stewardship Council (DSC), which was
 31 required to consider the recommendations included therein and to adopt any recommendations
 32 that the DSC, in its discretion, determines to be feasible and consistent with the objectives of DSC’s
 33 Delta Plan and the purposes of the Delta Reform Act.

34 As completed by the Delta Protection Commission, ESP provides background information and data
 35 about the economics and demographics of the Delta, along with information about existing policies
 36 and the state of Delta levees. The report also analyzes of key industry sectors in the Delta, including
 37 industry trends and an assessment of the effects of various policy proposals. The final section of the
 38 plan provides a summary of integrative issues, identifying key issues and strategies for the Legacy
 39 Communities. Finally, the plan identifies a number of recommendations for supporting economic
 40 sustainability in the Delta. These are organized into 8 categories: Levee and Public Safety, General
 41 Recommendations for Economic Sustainability, Recommendations for Economic Sustainability of
 42 Agriculture, Recommendations for Economic Sustainability of Recreation and Tourism,
 43 Recommendations for Infrastructure, Recommendations for Habitat and Ecosystem Improvements,

1 Recommendations for Water Supply Reliability, and Recommendations for Research and Monitoring
2 (Delta Protection Commission 2012).

3 While the ESP prepared by the Delta Protection Commission and this chapter evaluate similar
4 mechanisms for effects on socioeconomics within the Delta (and surrounding areas), the ESP
5 sometimes used assumptions and data different than those applied for the analysis in this chapter.
6 For example, the two respective efforts reviewed varying baseline conditions, study areas, and
7 information about proposed water conveyance and habitat restoration activities to be undertaken.

8 **16.2.2.4 Transitions for the Delta Economy (Public Policy Institute of** 9 **California)**

10 In January 2012 the Public Policy Institute of California (PPIC) completed a report that evaluated the
11 potential economic effects of permanent island flooding, changes in water salinity, expansion of
12 seasonal floodplain and tidal marsh habitat, and growth in recreation. This study examined the
13 potential economic effects of changes in the Delta land and waterscape as a result of management
14 activities and natural forces and suggested planning priorities to support transitions in the Delta
15 economy. The report reviewed recent patterns and trends in Delta land use and employment, and
16 drew on a range of data and modeling tools to assess the effects of the following types of physical
17 changes on economic activity in the Delta: (i) the permanent flooding of roughly 75,000 acres of land
18 on subsided Delta islands that may not offer sufficient economic justification for repair after
19 flooding; (ii) increases in irrigation water salinity from the introduction of dual conveyance, sea
20 level rise, and the flooding of islands that restrict salinity intrusion from the Delta's western edge;
21 and (iii) reductions in cropland from the expansion of seasonal floodplain and tidal marsh habitat.

22 While the report prepared by the PPIC and this chapter are based on similar impact mechanisms
23 and a similar geographic scope for potential effects on socioeconomics within the Delta (and
24 surrounding areas), *Transitions for the Delta Economy* and the analysis presented in this chapter
25 vary in their treatment of future conditions in the Delta and the potential response to levee failure.
26 There are important distinctions between the analyses conducted in the PPIC report and the
27 analyses found in this chapter. The PPIC report projected out future Delta economic conditions by
28 estimating losses resulting from sea level rise, inundation of central Delta islands, and consideration
29 for future economic benefits resulting from increased recreation opportunities. This EIR/EIS, in
30 contrast, has focused on quantifying economic benefits and costs resulting from constructing and
31 operating water conveyance facilities and analyzed the economic consequences of implementing a
32 long-term habitat restoration and preservation program.

33 **16.2.2.5 DWR Economic Analysis Guidebook**

34 DWR's *Economic Analysis Guidebook* (California Department of Water Resources 2008a) provides
35 guidance regarding the economic assessments that should be conducted from project formulation
36 through implementation. These include cost effectiveness, benefit-cost, socioeconomic impacts, risk
37 and uncertainty, and financial analyses. This chapter of the EIR/EIS reports the estimated
38 socioeconomic impacts that would occur under each of the project alternatives. The socioeconomic
39 impacts are measured as changes in employment and income, property tax revenues, and
40 community character attributable to each project alternative. The socioeconomic impact analysis
41 follows the DWR guidelines by quantifying the direct, indirect, and induced employment and income
42 effects of constructing and operating CM1. These impacts were quantified through the use of
43 IMPLAN. The socioeconomic impacts of implementing CM2–CM21 were also estimated, but not

1 quantified because the information required as input to the IMPLAN model was not available. The
 2 Environmental Commitments in the non-HCP alternatives were not estimated. The socioeconomic
 3 assessment also extended beyond the study area and included CVP and SWP export areas.

4 The other economic analyses outlined in the DWR guidebook were not conducted as part of the
 5 NEPA/CEQA compliance documentation. However, the project also includes an assessment of
 6 project implementation costs and potential funding mechanisms.

7 **16.2.2.6 Proposed Final Delta Plan**

8 In November 2009, the California Legislature enacted SB 1 X7, also known as the Sacramento–San
 9 Joaquin Delta Reform Act. The Delta bill created a new DSC and gave this body broad oversight of
 10 Delta planning and resource management. The DSC is tasked with developing, adopting, and
 11 commencing implementation of a long-term plan (the Delta Plan) which will be a legally enforceable,
 12 comprehensive management plan which emphasizes the coequal goals of “providing a more reliable
 13 water supply for California and protecting, restoring, and enhancing the Delta ecosystem” (Water
 14 Code Section 85300(a)) as foundation for state decisions as to Delta management.

15 The Delta Plan generally covers five topic areas and goals: increased water supply reliability,
 16 restoration of the Delta ecosystem, improved water quality, reduced risks of flooding in the Delta,
 17 and protection and enhancement of the Delta. The Delta Stewardship Council does not propose
 18 constructing, owning, or operating any facilities related to these five topic areas. Rather, the Delta
 19 Plan sets forth regulatory policies and recommendations that seek to influence the actions,
 20 activities, and projects of cities and counties and state, federal, regional, and local agencies toward
 21 meeting the goals in the five topic areas.

22 The DSC is in the process of approving the Delta Plan. The DSC adopted the Proposed Final Delta
 23 Plan, as well as the Final Delta Plan Program EIR and the Final Rulemaking Package, at its May 16,
 24 2013 meeting. Once the State Office of Administrative Law and California Secretary of State approve
 25 the plan, the proposed policies in the Delta Plan will become enforceable regulations. The Proposed
 26 Final Delta Plan consists of 14 policies and 73 regulations (Delta Stewardship Council 2013). Policies
 27 included in the Delta Plan are summarized in Chapter 13, *Land Use*, Section 13.2.2.2. While none of
 28 these policies are directly focused on socioeconomic effects, many are indirectly related in that they
 29 would protect infrastructure and water supply critical to economic activities. Additionally, Delta
 30 Plan Chapter 5, *Protect and Enhance the Unique Cultural, Recreational, Natural Resources, and*
 31 *Agricultural Values of the California Delta as an Evolving Place*, introduces 19 recommendations
 32 focused on protecting the Delta’s communities and supporting the agricultural, recreation, and
 33 tourism economy in the Delta.

34 **16.2.3 Regional and Local Plans, Policies, and Regulations**

35 **16.2.3.1 Contra Costa County General Plan**

36 The following are excerpts from the *Contra Costa County General Plan* (County of Contra Costa
 37 2009).

38 **Housing Element**

- 39 1. **Goal 1:** Maintain and improve the quality of the existing housing stock and residential
 40 neighborhoods in Contra Costa County.

- 1 2. **Goal 2:** Preserve the existing affordable housing stock in Contra Costa County.

2 **Land Use Element**

- 3 1. **Goal 3-D:** To provide for a range and distribution of land uses that serve all social and economic
4 segments of the County and its subregions.
- 5 2. **Goal 3-G:** To discourage development on vacant rural lands outside planned urban areas which
6 is not related to agriculture, mineral extraction, wind energy, or other appropriate rural uses.
- 7 3. **Goal 3-K:** To develop a balance between job availability and housing availability with
8 consideration to wage levels, commute distance, and housing affordability.

9 **16.2.3.2 Sacramento County General Plan**

10 The *Sacramento County General Plan* update was adopted on November 9, 2011. The plan seeks to
11 provide a sustainable growth management program for the unincorporated territory through 2030.

12 The portion of Sacramento County potentially affected by the action alternatives is largely
13 agricultural. The small, unincorporated communities of Courtland, Hood, Locke and Walnut Grove
14 are located in the vicinity of some action alternatives.

15 An economic development element was added as part of the 2011 update. This element introduced
16 goals, objectives, policies, and implementation measures under the following strategic objectives.

- 17 ● Create a balanced land use policy providing for adequate commercial, office, industrial, and
18 residential land
- 19 ● Identify new growth areas
- 20 ● Promote and support commercial corridor redevelopment
- 21 ● Attract key regional sales tax generators
- 22 ● Promote agriculture and agritourism
- 23 ● Continue redevelopment of Mather Airfield and McClellan Park
- 24 ● Support County airport systems
- 25 ● Develop regional and local partnerships and programs
- 26 ● Intensify business retention, attraction, development and business recruitment
- 27 ● Develop international trade
- 28 ● Increase sports, tourism and the arts in the region
- 29 ● Attract institutions of higher education

30 The following are excerpts from the *Sacramento County General Plan* (County of Sacramento
31 2009b).

32 **Plan Administration Element**

- 33 1. Promote a relationship between job and housing availability with consideration given to age
34 levels, housing affordability, and commute distance.

- 1 2. Limited development in rural areas which does not compromise valuable open space and prime
2 agricultural lands, and does not contaminate or overdraft groundwater aquifers. Promote a
3 diversity of residential living options while ensuring community compatibility and quality
4 residential development.
- 5 3. Assistance in the development of adequate housing to meet the needs of low-income and
6 moderate-income households.
- 7 4. Promotion of housing opportunities for all persons regardless of race, religion, sex, marital
8 status, and economic status. This includes promotion of housing opportunities for members of
9 special needs groups, including female heads-of-household, senior citizens, persons with
10 disabilities, farm workers, homeless people, and large families.
- 11 5. Preservation of assisted housing development for lower income households.

12 **16.2.3.3 San Joaquin County General Plan**

13 The following are excerpts from the *San Joaquin County General Plan* (County of San Joaquin 2009b).

14 **Economic Development Goal**

- 15 1. Provide a well-balanced, diversified economy with employment opportunities for all economic
16 segments of the County.
- 17 2. Policy: Conservation of Affordable Rental Housing.
- 18 3. (v) Conservation of Subsidized Rental Housing.
- 19 4. Within the unincorporated County area, there are two subsidized rental housing projects owned
20 and operated by the Housing Authority that provide affordable housing for 96 migrant farm
21 worker households and 31 families. While neither of these projects is at-risk of converting to
22 market rate housing, the County will provide assistance to the Housing Authority in obtaining
23 state or federal funding, if needed, to ensure that these two projects are maintained and
24 continued to provide affordable rental housing.
- 25 5. (w) Preservation of Mobile Home Parks.
- 26 6. The County will seek to preserve mobile home parks as a means of conserving the affordable
27 housing stock. The County will undertake the following actions:
 - 28 a. Identify mobile home parks that are not located in residential zones and determine whether
29 their long-term preservation could be facilitated by a rezoning to residential area. The
30 County will contract the owner(s) of such park to obtain their consent for rezoning.
 - 31 b. Conduct a survey of mobile home parks to determine infrastructure improvement and
32 housing rehabilitation needs. Based on the results of the survey, create a priority list of
33 parks and improvements that can be assisted using state and federal funds.
 - 34 c. Provide assistance, in collaboration with an experienced nonprofit organization, to mobile
35 home park residents who desire to acquire and manage their parks. Assistance will include
36 coordination of meetings between interested residents and park owners to identify the most
37 appropriate parks for conversion to resident ownership, application assistance for state
38 and/or federal funds, and identification of a nonprofit organization with experience in
39 assisting the conversion of mobile home parks to resident ownership and management. If

1 necessary to pursue funding, the County's Grant Management Unit will apply directly to the
2 appropriate state or federal agency.

- 3 1. (x) Conservation of Non-Subsidized Low-Cost Rental Housing.
- 4 2. Through its housing rehabilitation program (See program 'b'), San Joaquin County will target
5 privately owned rental housing that is feasible to rehabilitate. The County will maintain the
6 affordability of such rental housing by offering financial assistance to property owners in
7 exchange for long-term affordability and occupancy restrictions to lower income households.

8 **16.2.3.4 Solano County General Plan**

9 The following are excerpts from the *Solano County General Plan* (County of Solano 2009b).

- 10 • **GOAL.** It is the county's goal to promote and ensure adequate housing in a satisfying
11 environment for all residents of Solano County.

12 **Agriculture**

- 13 • **GOAL AR.G-1.** Recognize, value, and support the critical roles of all agricultural lands in the
14 stability and economic well-being of the county.
- 15 • **GOAL AR.G-2.** Preserve and protect the county's agricultural lands as irreplaceable resources
16 for present and future generations.
- 17 • **GOAL AR.G-3.** Support the ability of farmers to earn sufficient income and expand the county's
18 agricultural base by allowing for a wide range of economic activities that support local
19 agriculture.
- 20 • **GOAL AR.G-5.** Reduce conflict between agricultural and nonagricultural uses in Agriculture-
21 designated areas.
- 22 • **GOAL AR.G-6.** Recognize, support, and sustain agricultural water resources for farmlands.

23 **Housing Conservation and Rehabilitation**

- 24 • An important aspect of ensuring adequate housing in a satisfying environment in Solano County
25 is the conservation and rehabilitation of the existing housing supply. Conserving and improving
26 the County's housing supply not only requires the rehabilitation of substandard structures, but
27 also the continued maintenance and upkeep of existing structures in fair to sound condition.

28 **Economic Development**

- 29 • **GOAL ED.G-1.** Maintain and improve the County's strong, diversified economic base and provide
30 for a wide range of employment opportunities and support services, such as job training and
31 child care.
- 32 • **GOAL ED.G-3.** Develop and maintain a favorable business environment in Solano County
33 through recruitment, expansion, and retention of businesses to promote a closer match between
34 local jobs and labor force skills.
- 35 • **GOAL ED.G-6.** Preserve and expand the county's agricultural base by allowing for a wide range
36 of economic activities that support local agriculture.

16.2.3.5 Yolo County General Plan

The following are excerpts from the *Yolo County General Plan* (County of Yolo 2009b).

1. **Policy CC-2.4.** Emphasize the unincorporated communities as retail, service, and employment centers for local residents, as well as residents of surrounding rural (agricultural) areas. Where appropriate, include economic development in the unincorporated communities that serves intra-county and regional tourism.
2. **Policy CC-2.7.** Provide for higher density housing and mixed-use development in the downtown areas of the unincorporated communities to support commercial uses, create more pedestrian travel, extend activity into the evening, increase the variety of housing opportunities to include affordable and special needs housing, enhance safety, reduce traffic and support regular, frequent fixed-route transit service.

Yolo County Housing Element

The following are excerpts from the Yolo County Housing Element (County of Yolo 2009b).

1. The purpose of the Yolo County Housing Plan (Implementation Program) is to identify specific actions the County intends to take to implement the goals and policies of the Housing Element. The Housing Plan is designed to accomplish the following:
 - a. Identify and provide adequate sites to achieve a variety and diversity of housing
 - b. Facilitate the development of affordable housing
 - c. Address and if necessary remove government constraints
 - d. Conserve and improve existing affordable housing stock
 - e. Promote equal housing opportunity

Additional goals and policies of the Housing Element include:

1. Strengthen Neighborhoods. Support safe, well-maintained, and well-designed housing as a way of strengthening existing and new neighborhoods.
2. Strengthen neighborhoods through the maintenance and rehabilitation of existing housing stock.
3. Promote and encourage community-wide infrastructure (e.g., curbs, gutters, sidewalks, street lighting, etc.) and complete streets.

16.3 Environmental Consequences

This section describes the potential effects of the alternatives on socioeconomic conditions within the Delta region. Effects are identified and, where appropriate, mitigation measures are identified. This section describes potential direct and indirect effects on socioeconomics that would result with implementation of each alternative. The assessment within the Delta included potential effects on community character and cohesion, population, housing, employment, and income. In addition, particular focus was placed on fiscal effects on local governments and on economic effects of potential changes in agricultural production and recreational activity. action alternatives are not anticipated to cause changes in water deliveries in areas upstream of the Delta. Therefore, discussion focuses on effects occurring in the Delta region.

1 This analysis separates effects relating to socioeconomic conditions in the Delta into two categories:
 2 one related to the construction and operation of water conveyance facilities (CM1 for the BDCP
 3 alternatives, or the project for Alternatives 4A, 2D, and 5A), which are project-level features, and one
 4 related to implementation of other conservation measures (CM2–CM21, or Environmental
 5 Commitments under Alternatives 4A, 2D, and 5A), which are program-level features. Under each
 6 alternative, the analysis further separates effects from the water conveyance facilities into those
 7 stemming from construction of the structural features and those resulting from related operational
 8 and maintenance activities following construction. Nine of the proposed conservation measures
 9 related to supporting covered species and reducing effects from environmental stressors (listed
 10 below and described in detail in Chapter 3, *Description of Alternatives*, Section 3.6.3), which would
 11 be implemented under all action alternatives, are not anticipated to result in any meaningful effects
 12 on socioeconomic conditions in the Delta region because the actions implemented under these
 13 conservation measures are not, for the most part, land-based or land-focused activities, nor would
 14 they be expected to result in any direct or indirect effects on population, housing, or employment in
 15 the study area. Accordingly, these measures will not be addressed further in this analysis:

- 16 ● Methylmercury Management (CM12)
- 17 ● Nonnative Aquatic Vegetation Control (CM13)
- 18 ● Stockton Deep Water Ship Channel Dissolved Oxygen Levels (CM14)
- 19 ● Nonphysical Fish Barriers (CM16)
- 20 ● Illegal Harvest Reduction (CM17)
- 21 ● Conservation Hatcheries (CM18)
- 22 ● Urban Stormwater Treatment (CM19)
- 23 ● Recreational Users Invasive Species Program (CM20)
- 24 ● Nonproject Diversions (CM21)

25 Several analytical methods and models were used to assess environmental consequences. Section
 26 16.3.1, *Methods for Analysis*, is organized according to the region and topic addressed by these
 27 methods and models. Each method and model is described, and the region and economic effect to
 28 which it was applied are identified.

29 **16.3.1 Methods for Analysis**

30 Part of the socioeconomic analysis is based upon results of hydrologic and water quality analytical
 31 model simulations of the Existing Conditions, the No Action Alternative, and action alternatives. For
 32 this EIR/EIS, operations of Alternatives 1A–2C, 3, 4, 5, and 6A–9 were analyzed for future conditions
 33 at the year 2060. Under 2060 conditions, it is anticipated that sea level rise will occur and hydrology
 34 in the Delta watershed will change because climate change modeling indicates that there will be less
 35 snow and more rain as compared to Existing Conditions, as described in Chapter 5, *Water Supply*,
 36 Section 5.3. This analysis compares conditions under implementation of the alternatives with
 37 Existing Conditions (without sea level rise and climate change) and No Action Alternative (with sea
 38 level rise and climate change).

39 Analysis of Alternatives 4A, 2D, and 5A uses the same Existing Conditions as the BDCP alternatives
 40 for the CEQA baseline. However, the analysis of Alternatives 4A, 2D, and 5A uses the No Action

1 Alternative at ELT rather than at 2060 for the NEPA baseline; the ELT period assumes a shorter time
2 horizon of approximately 15 years following project approval.

3 Section 16.3.5, *Cumulative Analysis*, presents the results of the comparison of socioeconomic
4 conditions with operations of Alternative 1A through Alternative 9 that would potentially result due
5 to implementation of the project alternatives and other cumulative projects.

6 For the purposes of socioeconomic analysis, effects of action alternatives are divided into discussion
7 of effects that could occur during and/or as a result of construction activities associated with one or
8 more of the conservation measures (“temporary effects”) and effects that could occur during and/or
9 as a result of operation and maintenance activities associated with one or more of the conservation
10 measures/Environmental Commitments (“permanent effects”). Note that construction activities are
11 anticipated to occur over an eight-year period, and that the construction period assumed for this
12 chapter may differ slightly from the periods assumed for other chapters. This is due to the
13 refinement of the estimated length of the construction period for purposes of providing cost data
14 used to model socioeconomic effects.

15 **16.3.1.1 Delta Community Effects**

16 **Analytical Approach**

17 Analysis of the Delta community specifically addressed population, housing, and social and
18 community effects. Potential effects on housing and population include displacement of existing
19 residences and changes in employment. Estimated construction and operation expenditures were
20 used as an input to the Impact Analysis for Planning (IMPLAN) model, which applies multipliers to
21 generate estimates of employment and income change for the five-county Delta region. The five-
22 county Delta region IMPLAN model is described in Section 16.3.1.2, *Delta Regional Employment and*
23 *Income*.

24 Social and community impacts were qualitatively evaluated with consideration of effects on
25 established communities whose character could be most directly influenced by project activities
26 based on total population, economic composition, proximity to proposed project features, and the
27 nature of project activities. This assessment focused on communities in the statutory Delta, where
28 the direct effects of the BDCP would occur and where social and community effects would be
29 greatest. Social and community effects elsewhere in the larger five-county Delta region are
30 anticipated to be minor because they would be spread over a large, heavily populated area and
31 among many communities.

32 **Population and Housing Impacts**

33 Estimates of housing demand, for the construction phase and the operation phase of each
34 alternative, were calculated based on changes in employment. The employment impact data were
35 drawn from the analysis of Delta regional employment and income (see Section 16.3.1.2 for a
36 description of that methodology). A BDCP alternative is expected to draw from the entire workforce
37 in the five-county region, not merely those workers who are available in the immediate area of
38 construction or operation activity. It is expected that some portion of the construction workforce
39 would consist of workers in the five-county Delta region who would not demand new housing.
40 However, the conveyance construction would require specialty occupations, such as tunnel boring
41 machine operators, that require skills not likely available in the local workforce. Thus, out-of-region
42 contractors may bring their crews to the area. These workers may arrive from outside the five-

1 county Delta region and demand additional housing. Because of the likelihood that specialized
 2 occupations and out-of-region contractors would enter the region, this analysis assumed that some
 3 of the new construction and operation workers would demand housing in the five-county region.
 4 The proportion of construction crews coming from within the Delta region was determined through
 5 consultations with the engineering staff that developed project cost estimates.

6 Changes in housing demand were assessed for the short-term construction phase and for the longer-
 7 term operation phase. Available permanent housing was determined by estimating the number of
 8 vacant housing units using the total housing units and vacancy rates for each of the five counties.
 9 Available temporary housing for the construction crews, e.g., recreational vehicle [RV] parks, was
 10 evaluated through internet searches of RV parks in each of the five counties.

11 Total estimated changes in population as a result of implementing an alternative were calculated by
 12 multiplying the average number of persons per household, according to the DOF (California
 13 Department of Finance 2008), and the change in number of workers anticipated under each phase
 14 (by alternative) using the results of the five-county Delta region IMPLAN analysis (see Section
 15 16.3.1.2). Population changes were assessed for the short-term construction phase and for the
 16 longer-term operation phase. The changes in population resulting from construction and operation
 17 of a BDCP alternative were then compared to the projected population. In instances where
 18 population changes are anticipated to deviate from the historical annual average for the five-county
 19 Delta region (2000 to 2008), an impact is identified and discussed.

20 **Social and Community Impacts**

21 The assessment of social and community impacts was based on comparing social and community-
 22 level impacts of each alternative to the Existing Conditions or No Action Alternative. The
 23 methodology specifically identified the physical and socioeconomic changes to the environment,
 24 including systematic changes to the entire region, such as regional economic changes that may affect
 25 the day-to-day ways that people live, work, or play.

26 As used in this analysis, community character describes the physical and social structure of a
 27 community that makes up its unique or distinctive attributes. Examples of Delta community
 28 characteristics include location, small town feeling or rural setting, proximity to recreational
 29 opportunities, and cultural and natural heritage, all of which contribute to a sense of place.
 30 Community cohesion describes a shared sense of belonging and “common ground” among members
 31 of a community. Cohesion is supported by mobility and the ability to build and maintain
 32 relationships within a community, and is often enhanced by the activities of community
 33 organizations or community gathering places (such as schools, libraries, places of worship, and
 34 recreational facilities).

35 The physical and economic effects of the alternatives, as addressed in other sections of this
 36 document, were reviewed to determine what extent and degree of change to the environment could
 37 affect individual communities and populations, and how they would potentially affect community
 38 character. Construction activities related to water conveyance facilities would occur over a
 39 multiyear period and could create sources of noise, pollution, traffic, and other conditions that could
 40 be considered to affect the characteristics of Delta communities. These activities, along with the
 41 long-term placement of the conveyance facilities, could also alter the character of these areas by
 42 reducing the extent of undeveloped land in proximity to communities and by changing the viability
 43 or desirability of leading economic and social pursuits, including agricultural activities and water-
 44 based recreation. A list of businesses and institutions within 0.5 mile of the water conveyance

1 facility construction footprint for each conveyance alignment was also reviewed to identify
2 community gathering places that could be directly or indirectly affected by construction activities.

3 Implementation of habitat restoration could have some similar effects during the construction
4 period by introducing conditions that would alter and potentially detract from the rural
5 characteristics of Delta communities. These activities could also introduce sources of noise, air
6 pollution, and traffic during earthwork and site preparation of habitat areas. In the long term, these
7 activities could also affect communities by converting agricultural land to other uses, which could
8 change economic and social conditions within communities. These areas could also change the
9 extent or nature of recreation in the Delta, which could also alter the character of communities.

10 Aside from direct conflicts with existing structures requiring relocation (which are described in
11 Chapter 13, *Land Use*, Impact LU-2), changes in regional economics, including employment and
12 income (discussed under Impacts ECON-1, ECON-7, and ECON-13), and changes to population and
13 housing in the study area (discussed under Impacts ECON-2, ECON-8, and ECON-14), project
14 activities may also result in indirect effects on the demographic composition of communities. For
15 example, lower rates of unemployment could contribute to spillover benefits like reduced numbers
16 of vacant buildings, lower poverty and crime rates, and lessened need for social services. The
17 project's effects on community character are anticipated to be substantially influenced by changes in
18 the size and composition of a population as well as changes in employment and, more generally, in
19 the economic welfare of a particular community. Thus, the demographic effects of regional economic
20 changes inform anticipated changes to a community's character and stability. Considerable
21 decreases or increases in population size or substantial demographic changes resulting from the
22 construction of water conveyance facilities or from implementation of other conservation measures
23 would be anticipated to alter community character and could create effects on the quality of the
24 human environment, particularly in those communities closest to project activities.

25 **Data Sources**

26 Existing Conditions estimates and No Action Alternative projections for population and housing
27 were obtained from the DOF, California Department of Housing and Community Development, and
28 the U.S. Census Bureau, and are described in Section 16.1, *Environmental Setting/Affected*
29 *Environment*. The availability of housing was assessed using vacancy rate and number of dwellings
30 by type from DOF (California Department of Finance 2012b). Additionally, DWR's geodatabase of
31 businesses and institutions in the Delta was used to identify potential community gathering places
32 in the vicinity of water conveyance construction activities.

33 **Links to Other Impact Analysis Sections**

34 Impacts on population and housing relied directly on the output from the economic and
35 employment analyses and are addressed in Section 16.3.1.2, *Delta Regional Employment and Income*.

36 Potential social impacts and impacts on community character may result from changes in
37 employment, income, and changes in recreational uses and opportunities. These impacts are
38 discussed in the relevant sections, and their conclusions were used to assess impacts on community
39 character.

1 **Analysis Metrics**

2 The analyses of effects on Delta communities' population, housing, and character are presented
3 quantitatively or qualitatively.

- 4 • Quantitative estimates of changes in population.
- 5 • Quantitative estimates of changes in housing supply and quantity demanded.
- 6 • Qualitative description of potential changes in community character.

7 **16.3.1.2 Delta Regional Employment and Income**

8 **Analytical Approach**

9 Regional economic effects include changes in characteristics like regional employment and income.
10 These are described in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility*
11 *Construction*. [Note that for the purposes of the environmental consequences section of this chapter,
12 "income" refers to "labor income". As defined by the IMPLAN model, labor income consists of "all
13 forms of employment income, including Employee Compensation (wages and benefits) and
14 Proprietor Income".] The magnitudes of the economic effects within the five-county Delta region
15 depend on the initial changes in economic activity within the region (such as construction
16 expenditure or loss of production from existing economic activities), the interactions within the
17 regional economy, and the "leakage" of economic activity from this regional economy to the larger,
18 surrounding economy. Economic linkages create multiplier effects in a regional economy as money
19 is circulated by trade. These linkages are often modeled using a large mathematical model called an
20 input-output model.

21 IMPLAN is a computer database and modeling system used to create input-output models for any
22 combination of United States counties. IMPLAN is the most widely used input-output model system
23 in the United States. It provides users with the ability to define industries, economic relationships,
24 and projects to be analyzed. It can be customized for any county, region, or state, and used to assess
25 the "ripple effects" or "multiplier effects" caused by increasing or decreasing spending in various
26 parts of the economy. The model describes the flows from producers to intermediate and final
27 consumers using a series of economic multipliers. The model of county-level economic interactions
28 is used to project, using the input-output multipliers, total regional economic activity based on a
29 change in expenditures. The IMPLAN output used in the assessment includes the direct, indirect, and
30 induced changes in employment and income.

31 IMPLAN includes (1) estimates of county-level final demands and final payments developed from
32 government data; (2) a national average matrix of technical coefficients; (3) mathematical tools that
33 help the user formulate a regional model; and (4) tools that allow the user to change data, conduct
34 analyses, and generate reports.

35 Economic effects on the five-county Delta region economy can result from construction and
36 operation of facilities, changes in recreational uses, changes in agricultural production, changes in
37 operations and maintenance of existing natural gas wells, changes in water quality to municipal and
38 industrial users, and changes in other affected businesses. The direct effects of quantified changes
39 (e.g., construction and operation spending or change in agricultural production or recreation
40 expenditures) are input to IMPLAN regional economic models. Based on input from the DHCCP cost
41 estimators, local and non-local components of labor and non-labor (i.e., equipment and other

1 materials) expenditures associated with construction and operation of the project facilities were
2 identified. These expenditures were used as input to IMPLAN to determine the regional employment
3 and income changes associated with the construction and operation of BDCP facilities under all
4 alternatives except Alternatives 2D and 5A. The resulting output (employment and income) for each
5 alternative model run is the change from the base model run (Existing Conditions and the No Action
6 Alternative are the same “base” IMPLAN model). To determine the regional economic effects on
7 employment and labor income for Alternatives 2D and 5A, impacts were determined by scaling the
8 employment numbers from Alternative 4 based on the percentage of construction costs per intake.

9 A separate regional IMPLAN model was used to estimate the employment and income changes
10 associated with changes in agricultural production in the five-county Delta region. Changes in
11 employment and income related to agricultural production for Alternatives 2D and 5A were scaled
12 off Alternative 4 numbers, based on the percentage of important farmland in the study area for each
13 of the alternatives. Changes in employment and income associated with changes in recreation
14 expenditures were not estimated using a regional IMPLAN model because direct changes in
15 recreational expenditures have not been quantified. Similarly, changes in employment and income
16 associated with potential abandonment of existing natural gas wells in the study area were not
17 estimated using a regional IMPLAN model because employment effects are anticipated to be very
18 small. The direct effects of the implementation of the other conservation measures (CM2–CM21) or
19 Environmental Commitments were not quantified, so their effects on the regional economy are
20 described in Section 16.3.3, but were not analyzed using IMPLAN.

21 An IMPLAN model of the five-county Delta region identified in Section 16.1, *Environmental*
22 *Setting/Affected Environment*, was used to estimate total changes in employment and income in the
23 region. The model follows county lines and incorporates, to the extent allowed by available data, the
24 employment and income characteristics of the economic sectors in the region modeled.
25 Construction-related changes were modeled based on the expected year of expenditure. All other
26 changes were assumed to be average annual changes. Estimates of direct employment during
27 construction and operation of each alternative were derived from the total payroll estimate. With
28 the exception of employment, all direct effects were expressed in dollar terms for all affected
29 sectors. For example, agricultural effects were incorporated into the input-output models in dollar
30 terms as changes in gross revenues or costs.

31 Figure 16-1 provides an overview of the steps that were followed to quantify the potential
32 socioeconomic impacts as a result of constructing and operating the water conveyance facilities.
33 Both the beneficial and adverse socioeconomic impacts resulting from implementing the restoration
34 activities were qualitatively discussed. Quantification of socioeconomic impacts was measured as
35 changes in employment and income. These changes in employment and income were estimated for
36 three primary activities; temporary and permanent loss of agricultural production, construction
37 expenditures, and operation and maintenance expenditures.

38 **Assumptions and Limitations**

39 An IMPLAN model is formulated as a single-region model. The model does not explicitly recognize
40 interregional dependencies among sectors, except for the model’s data related to imports⁴, exports,

⁴ Imports are goods and services brought into the region being analyzed by the IMPLAN model from other parts of the state, nation, or world. Exports are goods and services produced in the region being analyzed by the IMPLAN model which are shipped outside this region to other parts of the state, nation, or the world.

1 and regional purchases. For this reason, single-county models would require very careful
2 interpretation and qualification; more of the secondary effects of changes are apt to occur in other
3 counties and thus be excluded from single-county models. The model used is a grouping of the five
4 Delta counties, which includes a broader and more self-sufficient range of economic activities than
5 each individual county. This region is sufficiently large to capture most of the important secondary
6 effects of direct changes in economic activity. However, a portion of direct project expenditures is
7 estimated to occur outside of the Delta region, and a portion of the secondary effects of within-Delta
8 expenditures would occur outside the Delta. These effects are not included in results for the five-
9 county Delta region.

10 IMPLAN does not allow for substitution among production inputs, and no economies of scale are
11 possible. It also does not include price effects that might be important to a region. The model also
12 assumes that workers who become unemployed or employed due to a change in final demand have
13 no alternative employment.

14 Finally, the IMPLAN database is very large, incorporating up to 440 sectors. IMPLAN is periodically
15 updated as more and better data become available, but it is not possible to check every number for
16 accuracy. However, some of the coefficients for key affected sectors, such as agriculture, were
17 validated or revised to provide a better representation of secondary effects within the analysis.

18 **Data Sources**

19 IMPLAN uses a system of national accounts for the United States based on data collected by the
20 U.S. Department of Commerce's Bureau of Economic Analysis, the U.S. Department of Labor's Bureau
21 of Labor Statistics, and other federal and state government agencies. Data are collected for 440
22 distinct sectors of the national economy, corresponding to the North American Industry
23 Classification System. Industry sectors are classified on the basis of the primary commodity or
24 service produced. Corresponding data sets are produced for each county in the United States,
25 allowing analysis of individual counties, clusters of contiguous counties, individual states, or groups
26 of states.

27 The model estimated regional economic changes arising from the increased expenditures during
28 construction and operation of the water conveyance facilities. The changes in agricultural output
29 resulting from the changes in acreages and production were used as input into the five-county Delta
30 region IMPLAN model to estimate the secondary regional employment and income changes.

31 Potential effects on employment and income from implementation of the other conservation
32 measures (CM2–CM21, or Environmental Commitments under the non-HCP alternatives) were not
33 evaluated using IMPLAN because the specific locations, sizes, and costs are not known at this time.

34 **Links to Other Analysis Sections**

35 The agricultural economics analysis provides the data needed to evaluate the regional economic
36 effects associated with changes in agricultural production in the Delta. These data include changes in
37 value of production and costs associated with changes in crop production. These changes were
38 translated into changes in final demands as input into the five-county Delta region IMPLAN model to
39 estimate indirect and induced changes.

40 Regional economic effects associated with CM2–CM21, or Environmental Commitments under the
41 non-HCP alternatives, are described qualitatively, focusing on activities during implementation of

1 these measures and on economic activities potentially displaced within areas affected by these
2 measures.

3 **Analysis Metrics**

4 The analysis of regional economic effects is presented quantitatively or qualitatively.

- 5 • Quantitative estimates of changes in annual regional employment.
- 6 • Quantitative estimates of changes in annual regional labor⁵ income.
- 7 • Qualitative description of changes in employment and income that may result from
8 implementation of CM2–CM21, or Environmental Commitments under the non-HCP
9 alternatives.

10 **16.3.1.3 Fiscal Effects on Local Delta Governments**

11 Fiscal effects on local Delta governments would occur from changes to property tax, sales tax, or
12 assessment revenue resulting from implementation of an action alternative. The analysis estimated
13 the loss of property tax revenue resulting from potential acquisition of existing privately held land
14 as a result of an action alternative. The analysis also discusses potential changes in sales tax revenue
15 as a direct result of the estimated construction and operation expenditures, and from changes in
16 agricultural sales and recreational expenditures.

17 An action alternative may result in changes to existing land ownership and use that, in turn, would
18 affect the property taxes on affected parcels. As part of the economic assessment in Chapter 8 of the
19 BDCP, *Implementation Costs and Funding Sources*, estimates of foregone property tax revenues, in
20 undiscounted 2012 dollars, were developed for the effects of land acquisitions for constructing and
21 operating water conveyance facilities (CM1, or project under the non-HCP alternatives) and for
22 implementing habitat restoration measures (CM2–CM21, or Environmental Commitments under the
23 non-HCP alternatives). (The conveyance configuration analyzed in BDCP Chapter 8 is the same as
24 the Alternative 4 configuration.) The estimates of foregone property tax revenues were developed
25 based on the following data and assumptions, which are described more fully in BDCP Chapter 8,
26 Section 8.2.3.23, *Property Tax and Assessment Revenue Replacement*:

- 27 • Acquisition of fee-title interest in private land was assumed to result in loss of local property tax
28 and assessment revenues. Surface and subsurface easement acquisition is not expected to have a
29 significant impact of local property tax and assessment revenue and therefore was excluded
30 from the analysis.
- 31 • An assessment rate of 1.5% per dollar of assessed value was used to estimate property tax and
32 assessment revenue impacts.
- 33 • Because assessed property value is generally lower than market value, the assessment rate
34 could not be directly applied to estimated fee-title acquisition costs. The rate was therefore re-
35 expressed in terms of fee-title value by calculating the ratio of assessed value to estimated
36 market value for the parcels and then multiplying the 1.5% average assessment rate by this
37 ratio. This resulted in an average assessment ratio of 1.0% per dollar of market value. The

⁵ IMPLAN's labor income includes "all forms of employment income, including Employee Compensation (wages and benefits) and Proprietor Income".

1 assessment rate as a percent of market value was then applied to the fee-title land acquisition
2 cost estimates for each conservation measure.

3 For additional assumptions regarding the market value of land acquired for conveyance facilities
4 and habitat restoration, please see BDCP Chapter 8, Section 8.2.2.4.2, *Land Value Assumptions*.⁶

5 To account for anticipated variation in forgone property tax revenue for alternatives whose
6 conveyance footprint acreages or habitat target acreages differ from those analyzed for the action
7 alternatives, scaling factors were developed based on the difference in the total land area affected by
8 different alternatives, as a percentage of that affected under Alternative 4. The foregone revenue
9 estimates for Alternative 4 provide the basis for the development of estimates for alternatives with
10 varying levels of land acquisition. Property tax revenue estimates for Alternatives 2D and 5A were
11 based off scaling the differences in total land area affected by those alternatives compared to under
12 Alternative 4. Potential effects of tax revenue changes on local governments are described
13 throughout Section 16.3.3, *Effects and Mitigation Approaches*, Section 16.3.4, *Effects and Mitigation*
14 *Approaches – Alternatives 4A, 2D, and 5A*, and Section 16.3.5, *Cumulative Analysis*.

15 **16.3.1.4 Delta Agricultural Economics**

16 The analysis of the economic effect of changes in Delta agricultural production used results from
17 Chapter 14, *Agricultural Resources* and Appendix 14A, *Individual Crop Effects as a Result of BDCP*
18 *Water Conveyance Facility Construction*, which include changes in acreage resulting from facilities
19 construction and operation and potential, but unquantified changes in crop production from water
20 conveyance operations, and changes related to implementation of CM2–CM21, or Environmental
21 Commitments under the non-HCP alternatives.

22 Quantitative estimates were made of the change in the value of agricultural production. Estimates
23 were based on the acreage changes and, if appropriate, yield changes, estimated in Appendix 14A,
24 *Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction*, and the prices and
25 per-acre crop revenue information summarized in Section 16.1. Quantitative estimates are
26 presented for the Delta region as a whole, but areas within the Delta that may be disproportionately
27 affected are described in Section 16.3.3, *Effects and Mitigation Approaches*, and Section 16.3.4, *Effects*
28 *and Mitigation Approaches – Alternatives 4A, 2D and 5A*. For Alternatives 2D and 5A, changes in crop
29 acres and value of production were scaled off Alternative 4 values.

30 The location, size, and operation of CM2–CM21, or Environmental Commitments under the non-HCP
31 alternatives, are conceptual, so potential effects on the value of agricultural production are
32 discussed qualitatively. Other potential effects on agricultural production and costs that may be
33 caused by the disruption of transportation and other infrastructure are described qualitatively.

34 In summary, the following quantitative and qualitative comparisons are provided.

- 35 ● Quantitative estimates of changes in value of agricultural production.
- 36 ● Qualitative estimates of changes in production costs.
- 37 ● Qualitative estimates of changes in value of agricultural facilities and investment.

⁶ As described in Chapter 1, *Introduction*, Section 1.1, the Final EIR/EIS includes the 2013 Draft EIR/EIS, BDCP, 2015 RDEIR/SDEIS, and all associated appendices with these documents; as well as revisions to these documents as contained in this Final EIR/EIS.

1 The potential effects of project facilities and operations on farm employment and related economic
 2 sectors were also evaluated and are described as part of the regional economic analysis in Section
 3 16.3.3, *Effects and Mitigation Approaches*, and Section 16.3.4, *Effects and Mitigation Approaches –*
 4 *Alternatives 4A, 2D, and 5A*.

5 **16.3.1.5 Delta Recreational Economics**

6 The analysis of the economic effect of changes in Delta recreation used results from Chapter 15,
 7 *Recreation*, Sections 15.3.3.2 through 15.3.3.16, which included potential changes in recreational
 8 opportunities and quality resulting from facilities construction and operation, as well as potential
 9 changes resulting from the implementation of CM2–CM21.

10 These changes, along with their anticipated economic effects, are discussed qualitatively in Sections
 11 16.3.3 and 16.3.4 and are based on the discussion and analysis included in Chapter 15, *Recreation*,
 12 Sections 15.3.3.2 through 15.3.3.16, and Sections 15.3.4.2 through 15.3.4.4. While these discussions
 13 estimate recreational effects on the study area as a whole, it is possible that recreational
 14 opportunities and quality in specific areas within the Delta would be disproportionately affected by
 15 project activities. It is also possible that these activities would create beneficial effects in specific
 16 places based on the relocation of existing activities accomplished as part of an environmental
 17 commitment (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*) or through the
 18 creation of new or higher-quality recreational opportunities related to mitigation measures, as
 19 described in Chapter 15, *Recreation*, Sections 15.3.3.2 through 15.3.3.16, and Sections 15.3.4.2
 20 through 15.3.4.4. The potential for these economic effects is discussed, where appropriate.

21 **16.3.1.6 Commercial Fishing Effects**

22 Commercial salmon fishing effects are not addressed for individual alternatives in this chapter
 23 because, while speculative, these effects are anticipated to be positive overall and would be spread
 24 among coastal regions where commercial landings occur. The economic impacts of potential
 25 changes in commercial salmon fisheries related to implementation of the project have been
 26 qualitatively assessed in *Draft Bay Delta Conservation Plan Statewide Economic Impact Analysis*,
 27 Section 3.5, Commercial Fisheries. As discussed in this report, fall-run Chinook salmon are the only
 28 major commercial fish species in the Delta.

29 As discussed in the *Statewide Economic Impact Analysis*, the overall impacts of the implementation of
 30 the project are expected to be positive for both the populations and commercial landings of fall-run
 31 chinook salmon. Due to the exogenous oceanic conditions and other factors inside and outside the
 32 Delta, however, there is a high level of uncertainty involved in forecasting salmon populations over
 33 time. Thus, the statewide economic impact analysis was not able to quantify and monetize the
 34 impact of the BDCP related to commercial fisheries. The overall effects, however, are anticipated to
 35 be positive.

36 **16.3.2 Determination of Effects**

37 For NEPA purposes, effects on socioeconomic conditions were considered changed if
 38 implementation of an alternative would result in one of the following conditions.

- 39 • Changes related to regional economics. For the purposes of this analysis, a reduction in
 40 employment or labor income associated with project activities would be considered an adverse

1 socioeconomic effect, while an increase in employment or labor income associated with BDCP
2 activities would be considered a beneficial socioeconomic effect.

- 3 • Changes related to population and housing. For the purposes of this analysis, a concentrated,
4 substantial increase in population or new housing associated with project activities would
5 constitute an adverse socioeconomic effect.
- 6 • Changes related to community character. For the purposes of this analysis, project activities that
7 would substantially disrupt social and economic patterns within established communities would
8 be deemed to represent an adverse socioeconomic effect. Activities that would support social
9 and economic patterns within established communities would be considered a beneficial
10 socioeconomic effect.
- 11 • Changes related to recreational economics. For the purposes of this analysis, an adverse
12 socioeconomic effect would occur when construction or operations and maintenance activities
13 result in loss of public access to or public use of well-established recreation facilities or activities
14 lasting for more than 2 years.
- 15 • Changes related to agricultural economics. For the purposes of this analysis, an adverse
16 socioeconomic effect would be characterized by a reduction in crop acres or a reduction in
17 agricultural production value as a result of project activities.
- 18 • Changes related to local government fiscal conditions. For the purposes of this analysis, an
19 adverse socioeconomic effect would result if a project-related activity led to a reduction in local
20 government revenue. A beneficial socioeconomic effect would result if a project activity led to an
21 increase in local government revenue.

22 Where applicable, effects are described as beneficial or adverse and are identified as substantial or
23 not substantial relative to the geographical context of the Delta Region. Socioeconomic effects are
24 described at a project level for construction and operation of the conveyance facilities (CM1 for the
25 BDCP alternatives, or the project for the non-HCP alternatives). Effects that would result from
26 implementation of other conservation measures are described at a programmatic level.

27 Economic effects are potentially significant if they lead to reasonably foreseeable physical or social
28 impacts. As noted, under CEQA, economic effects are not significant impacts, but an EIR should
29 consider their potential to lead to reasonably foreseeable physical changes in the environment.
30 Several impact topics discussed in this chapter could lead to such physical or social effects, including
31 those related to housing, population, and community character. Economic impacts may also be used
32 to assess the significance of other environmental changes that caused them, such as changes in
33 water supply or water quality. The significance of those associated environmental impacts is
34 discussed in other chapters.

35 **16.3.2.1 Compatibility with Plans and Policies**

36 Constructing the proposed water conveyance facility (CM1) and implementing CM2–CM21 could
37 potentially result in incompatibilities with plans and policies related to socioeconomics. Section
38 16.2, *Regulatory Setting*, provides an overview of federal, state, regional and agency-specific plans
39 and policies related to socioeconomics. This section summarizes ways in which the action
40 alternatives are compatible or incompatible with those plans and policies. Potential
41 incompatibilities with local plans or policies, or with those not binding on the state or federal
42 governments, do not necessarily translate into adverse environmental effects under NEPA or CEQA.

1 Even where an incompatibility “on paper” exists, it does not by itself constitute an adverse physical
 2 effect on the environment, but rather may indicate the potential for a proposed activity to have a
 3 physical effect on the environment. The relationship between plans, policies, and regulations and
 4 impacts on the physical environment is discussed in Chapter 13, *Land Use*, Section 13.2.3.

5 Government Code Section 65302(c) requires a housing element in all city and county general plans.
 6 The detailed requirements of such elements are set forth in Government Code Section 65580 et seq.
 7 The effect of these requirements is to assure that cities and counties recognize their responsibilities
 8 in contributing to the attainment of the state housing goal. The basic objective is to ensure that
 9 decent housing and a suitable living environment can be made available for every Californian.
 10 Related goals found in general plans within the Delta region include maintaining and improving the
 11 quality of existing housing stock, preserving the existing affordable housing stock, conserving and
 12 rehabilitating existing housing supply, facilitating the development of affordable housing, promoting
 13 equal housing opportunity, and strengthening neighborhoods. Implementing an action alternative
 14 could require increased demand for housing or require the removal of existing structures, including
 15 residential structures. Such effects are described under Impacts ECON-2, ECON-8, and ECON-14. As
 16 discussed under these sections, changes in population and housing are anticipated to be minor
 17 relative to the five-county Delta region and the effects would be anticipated to be dispersed
 18 throughout the region.

19 Delta region county general plans also include goals specific to economic development and general
 20 economic goals. These generally emphasize strategies to support the maintenance and development
 21 of local economic activities including identification of key resources, infrastructure, or sectors to
 22 pursue. The potential effects of implementation of action alternatives on regional economics are
 23 described in Impacts ECON-1, ECON-7, and ECON-13. In particular, this discussion focuses on the
 24 direct and indirect effects on employment and labor income associated with project activities.

25 General plans also include other goals or policies related to socioeconomic conditions in specific
 26 elements dedicated to economic development or are included in other elements, such as land use,
 27 recreation, or plan administration. Examples include policies protecting land uses that are
 28 supportive of economic activities, including agricultural lands or open space areas dedicated to
 29 recreational uses. Additionally, the Economic Sustainability Plan identifies a range of
 30 recommendations related to project activities, as summarized in Section 16.2.2.3. These include
 31 recommendations that the economic impacts of habitat creation and development of facilities for
 32 export water supply be fully mitigated, that the loss of highly productive farmland be minimized to
 33 the greatest practical extent, that Delta water quality be protected for agricultural uses. In addition
 34 the impact discussions referenced above, socioeconomic effects related to land use changes
 35 associated with the action alternatives are considered under Impacts ECON-5, ECON-6, ECON-11,
 36 ECON-12, ECON-17, and ECON-18. Additional physical effects related to these issues are described in
 37 Chapter 8, *Water Quality*, Chapter 14, *Agricultural Resources*, and Chapter 15, *Recreation*.

38 **16.3.3 Effects and Mitigation Approaches**

39 **16.3.3.1 No Action Alternative**

40 Under the No Action Alternative, socioeconomic conditions would continue largely as under Existing
 41 Conditions. This alternative includes continued SWP/CVP operations, maintenance, enforcement,
 42 and protection programs by federal, state, and local agencies, as well as projects that are permitted
 43 or under construction. A complete list and description of programs and plans considered under the

1 No Action Alternative is provided in Appendix 3D, *Defining Existing Conditions, No Action Alternative,*
2 *No Project Alternative, and Cumulative Impact Conditions.* Over the long-term, Delta communities and
3 socioeconomic conditions in the Delta would be subject to risks associated with climate change,
4 seismic activity, and other phenomena, as discussed in Appendix 3E, *Potential Seismic and Climate*
5 *Change Risks to SWP/CVP Water Supplies.*

6 **Regional Economics**

7 Under the No Action Alternative, the regional economy of the Delta region is expected to be similar
8 in structure to that described in Section 16.1, *Environmental Setting/Affected Environment.* Potential
9 changes in expenditures related to recreation and municipal and industrial water uses as well as
10 potential changes in the value of agricultural production could result in changes to regional
11 employment and income in the Delta region under the No Action Alternative. The scale of the
12 economy would change with population growth; however, the structure of the economy would not.
13 Therefore, for the purposes of this analysis, no regional economic impact evaluation is undertaken
14 as the economy is assumed to be similar to that characterized by the baseline five-county Delta
15 region IMPLAN model.

16 **Population and Housing**

17 Under the No Action Alternative, it is anticipated that the population would follow the projections
18 described in Section 16.1, *Environmental Setting/Affected Environment.* Trends in housing demand
19 and supply would correspond to population trends. It is assumed that the growth in housing would
20 match the growth in population, as described in Section 16.1, *Environmental Setting/Affected*
21 *Environment.*

22 **Community Character**

23 Under the No Action Alternative, community character, including community cohesion and the
24 functionality of community gathering places, within the five-county Delta region would be similar to
25 that described under Section 16.1, *Environmental Setting/Affected Environment.* Projects and
26 programs implemented under this alternative would not be anticipated to create adverse effects on
27 the character of Delta communities.

28 **CEQA Conclusion:** The ongoing programs and plans under the No Action Alternative would not be
29 anticipated to alter the character of Delta communities when compared with Existing Conditions
30 and therefore would not be anticipated to result in a physical change to the environment.

31 **Local Government Fiscal Conditions**

32 In consideration of the programs and plans adopted included in the No Action Alternative, local
33 government fiscal conditions in Delta region would be anticipated to be similar to those conditions
34 described under Section 16.1, *Affected Environment/Environmental Setting.* Programs resulting in
35 public acquisition of privately held land, in addition to the population and economic changes
36 described above, could affect property and sales tax revenue; however, the overall effects of this
37 alternative are not anticipated to be adverse.

38 **CEQA Conclusion:** The ongoing programs and plans under the No Action Alternative, along with
39 anticipated population growth, would be anticipated to result in local government fiscal conditions
40 similar to those described under Existing Conditions and would therefore not be anticipated to
41 result in a physical change to the environment.

1 **Recreational Economics**

2 Recreational economics within the five-county Delta region would be anticipated to be similar to
 3 that described under Section 16.1, *Affected Environment/Environmental Setting*. Projects to enhance
 4 and manage recreational resources, along with population growth in the Region, would be expected
 5 to increase economic activity associated with recreation in the Delta. While outside factors including
 6 changes to fisheries could alter the quality of recreational resources, based on consideration of
 7 ongoing measures to support recreation, adverse effects would not be anticipated.

8 **CEQA Conclusion:** The ongoing programs and plans under the No Action Alternative, along with
 9 anticipated population growth, would result in economic contributions similar to or higher than
 10 those described under Existing Conditions and therefore would not be anticipated to result in a
 11 physical change to the environment.

12 **Agricultural Economics in the Delta Region**

13 Conditions described below under the No Action Alternative are based on summary crop acreages
 14 and value of production information presented in the Section 16.1, *Environmental Setting/Affected*
 15 *Environment*. Irrigated crop acreage and value of agricultural production in the Delta region under
 16 the No Action Alternative are summarized in Table 16-18. On average, \$650 million in crop value
 17 would be generated on about 480 thousand irrigated acres. Field and forage crops are the two
 18 largest categories in acreage, and account for over 60% of the total irrigated acreage. Over 65% of
 19 the annual value of crop production is accounted for by two other crop categories: vegetable, truck,
 20 and specialty, and orchards and vineyards. Production costs and investments are similar to those
 21 described in Section 16.1, *Environmental Setting/Affected Environment*. It is possible that some of the
 22 projects, programs, and plans considered part of the No Action Alternative would reduce the total
 23 acreage and value of agricultural production in the Delta region. For example, under the 2008 and
 24 2009 NMFS and USFWS BiOps, up to 8,000 acres of agricultural land could be converted to tidal
 25 habitat. Similarly, agricultural land uses in the Yolo Bypass or Suisun Marsh could be periodically or
 26 permanently disrupted by other habitat restoration efforts.

27 **Table 16-18. Crop Acreage and Value of Agricultural Production in the Delta Region under the No**
 28 **Action Alternative**

Analysis Metric	Total Crop Acreage (thousand acres)	Total Value of Production (million \$)
Grains	58.6	24.2
Field crops	191.1	113.8
Forage crops	112.7	73.1
Vegetable, truck, and specialty crops	77.2	268.4
Orchards and vineyards	44.0	170.5
Total	483.7	650.0

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of
 Commerce 2012).

29
 30 Salinity of irrigation water is described in Chapter 8, *Water Quality*, Section 8.1.3.7. The relationship
 31 between soil and irrigation water salinity and crop production and the response of growers to these
 32 changes is described in Chapter 14, *Agricultural Resources*, Section 14.1.1.6.

1 Because the agricultural economy of the Delta is expected to be similar in structure to that described
2 in Section 16.1, *Environmental Setting/Affected Environment*, no quantitative impact evaluation was
3 conducted.

4 **CEQA Conclusion:** In total, the ongoing programs and plans under the No Action Alternative would
5 result in crop acreages and crop values similar to those under Existing Conditions and therefore
6 would not be anticipated to result in a physical change in the environment.

7 **Effects in South-of-Delta Hydrologic Regions**

8 Under the No Action Alternative, several assumptions would create a deviation from Existing
9 Conditions. First, an increase in municipal and industrial (M&I) water rights demands is assumed
10 north of the Delta, increasing overall system demands and reducing the availability of CVP water for
11 export south of the Delta. Secondly, the No Action Alternative includes the effects of implementation
12 of the Fall X2 standard, which requires additional water releases through the Delta and would
13 therefore reduce the availability of water for export to SWP and CVP facilities. The No Action
14 Alternative also includes effects of sea level rise and climate change, factors that would also reduce
15 the amount of water available for SWP and CVP supplies. These factors result in a decrease in
16 deliveries under the No Action Alternative, when compared to Existing Conditions. A detailed
17 explanation of factors influencing deliveries under the No Action Alternative is provided in Chapter
18 5, *Water Supply*, Section 5.3.3.1.

19 As described in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.3, overall
20 deliveries would decrease, though SWP deliveries to the San Francisco Bay, South Coast, and
21 Colorado River hydrologic regions would increase to meet projected increases in demand in those
22 areas. Where there are reduced deliveries to agricultural contractors, it is reasonable to expect that
23 agricultural production in affected areas would also decline. This decline could result from a shift to
24 lower value crops or an increase in the acreage of land fallowed as a result of reduced deliveries or
25 reduced reliability of deliveries. Under this scenario, it would also be anticipated that employment
26 directly and indirectly associated with agriculture would decline in areas affected by reduced water
27 deliveries. The location and magnitude of effects would depend largely on local factors and
28 individual decisions. However, hydrologic regions where SWP and CVP deliveries represent a higher
29 share of total water supply and where agriculture comprises a larger proportion of applied water
30 use could be most susceptible to reductions in deliveries under the No Action Alternative. This
31 includes the Tulare and San Joaquin River regions.

32 Increased SWP deliveries to M&I contractors in the San Francisco Bay, South Coast, and Colorado
33 River hydrologic regions would be anticipated to meet demand associated with population growth
34 in those regions. In other areas, M&I deliveries would generally decrease under the No Action
35 Alternative. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section
36 30.3.2.5, long-term water supply reliability is an important component in enabling long-term
37 population increases. However, other factors—including natural growth, employment opportunities,
38 local policy, and quality of life—are more likely to determine population growth. Nonetheless,
39 population growth could stimulate economic activity resulting from increased demand for goods
40 and services. This increased demand could create broad economic benefits for regions whose
41 growth is supported by increased deliveries under the No Action Alternative. As with estimating
42 changes in agricultural production, the location and extent of population growth would depend
43 largely on local factors. Where M&I deliveries under the No Action Alternative would be reduced
44 compared to Existing Conditions to the extent that they would, in the long run, constrain population

1 growth, their implementation could reinforce a socioeconomic status quo or limit potential
 2 economic and employment growth in hydrologic regions. Such a result could have the largest
 3 socioeconomic effect on regions with high dependence on SWP and CVP deliveries and where urban
 4 uses represent a high share of applied water use, including the South Lahontan region and the San
 5 Francisco Bay region (in consideration of a reduction in CVP deliveries). A detailed discussion of
 6 these potential effects is found in Appendix 5B, *Responses to Reduced South of Delta Water Supplies*.

7 Changes to SWP and CVP deliveries to the hydrologic regions under the No Action Alternative could
 8 affect community character. Where agricultural deliveries decline, resultant decreases in
 9 employment and production could destabilize economic and social patterns and institutions in
 10 communities where agriculture is a predominant economic activity. Decreases in M&I deliveries as a
 11 result of the No Action Alternative, were they to constrain long-term population growth, could
 12 reinforce a socioeconomic status quo or limit potential economic and employment growth in
 13 hydrologic regions. Changes in agricultural production and population growth could also affect local
 14 government fiscal conditions. Declining employment and production linked to a reduction in
 15 agricultural water deliveries could lead to a reduction in property and sales tax revenue. Similarly,
 16 population growth or employment growth limited by reduced M&I deliveries could result in
 17 foregone revenue. However, such growth could also require additional public sector expenditures
 18 for public services and utilities. Again, the location and intensity of these effects would depend on
 19 factors unique to local conditions and decisions, but as noted above, those regions most dependent
 20 on SWP and CVP deliveries would generally be anticipated to be most directly affected by reduced
 21 deliveries under this alternative.

22 **Climate Change and Catastrophic Seismic Risks**

23 Agriculture and recreation are primary economic activities in the Delta region. The potential for
 24 major seismic events, along with the potential effects of climate change, could affect ongoing
 25 agricultural and recreational uses if they resulted in the failure of levees or in climatic conditions
 26 less favorable for productive agricultural uses. Such events could also result in changes in the
 27 character of Delta communities and effects on individual homes and businesses, potentially
 28 requiring construction of new buildings. Catastrophic events resulting in levee failure could also
 29 place additional financial burdens on local governments in the Delta region. In hydrologic regions,
 30 disruptions to Delta water deliveries could alter agricultural and industrial activities, along with
 31 general effects on water supply in hydrologic regions (See Appendix 3E, *Potential Seismic and*
 32 *Climate Change Risks to SWP/CVP Water Supplies* and Appendix 5B, *Responses to Reduced South of*
 33 *Delta Water Supplies*, for more detailed discussion of seismic and climate change risks and potential
 34 responses to reduced supplies).

35 Overall, the No Action Alternative would result in reduced deliveries to hydrologic regions, which
 36 could create adverse socioeconomic effects related to reduced agricultural production, employment,
 37 and the character of agricultural communities. Reductions in water deliveries could occur in areas
 38 where a large proportion of economic activity and employment is dependent on agricultural
 39 production. Reducing exports to the San Joaquin Valley and Tulare Basin would result in reduced
 40 deliveries to agricultural users and associated reduction in employment opportunities. Any
 41 reduction in water deliveries would result in an adverse effect to these affected workers'
 42 employment and income levels. Water deliveries to southern California are made to a broad range of
 43 municipal and industrial users. To the extent that reductions in deliveries to these areas would
 44 constrain population or industrial growth, such reductions would also be expected to result in an
 45 adverse effect on employment and income. Further discussion of these potential effects is included

1 in Chapter 28, *Environmental Justice*, Section 28.5.3.1, and in Chapter 30, *Growth Inducement and*
 2 *Other Indirect Effects*, Section 30.3.4.

3 **CEQA Conclusion:** Operation of water conveyance facilities under the No Action Alternative could
 4 affect socioeconomic conditions in the hydrologic regions receiving water from the SWP and CVP.
 5 However, because these impacts are social and economic in nature, rather than physical, they are
 6 not considered environmental impacts under CEQA. To the extent that changes in socioeconomic
 7 conditions in the hydrologic regions would lead to physical impacts, such impacts are described in
 8 Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.

9 **16.3.3.2 Alternative 1A—Dual Conveyance with Pipeline/Tunnel and** 10 **Intakes 1–5 (15,000 cfs; Operational Scenario A)**

11 Alternative 1A would result in temporary effects (construction period) on lands and communities
 12 associated with construction of five intakes and intake pumping plants, and other associated
 13 facilities; two forebays; conveyance pipelines; and tunnels. Nearby areas would be altered as work
 14 or staging areas, concrete batch plants, fuel stations, or be used for spoils storage areas.
 15 Transmission lines, access roads, and other incidental facilities would also be needed for operations,
 16 and construction of these structures would also have effects on lands and communities.

17 The following impact analysis is divided into four subsections: effects of construction of facilities
 18 under CM1 in the Delta region, effects of operations of facilities under CM1 in the Delta region,
 19 effects of implementation of other conservation measures, and effects in hydrologic regions outside
 20 of the Delta as a result of changes in water deliveries.

21 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 22 **Region during Construction of the Proposed Water Conveyance Facilities**

23 The regional economic effects on employment and labor income during construction in the Delta
 24 region were evaluated. Changes are shown relative to Existing Conditions and the No Action
 25 Alternative in Table 16-19. The table shows the direct and total (direct, indirect, and induced
 26 effects) changes that would result from conveyance-related spending. Spending on conveyance
 27 construction would result in substantial local economic activity in the region. As shown, direct
 28 construction employment is anticipated to vary over the 8-year construction period, with an
 29 estimated 2,433 FTE in the first year and 165 FTE in the final year of the construction period.
 30 Construction employment is estimated to peak at 4,390 FTE in year 4. Total employment (direct,
 31 indirect, and induced) would peak in year 3, at 12,716 FTE.

1 **Table 16-19. Regional Economic Effects on Employment and Labor Income during Construction**
 2 **(Alternative 1A)**

Regional Economic Impact ^a	Year							
	1	2	3	4	5	6	7	8
Employment (FTE)								
Direct	2,433	2,714	4,004	4,390	3,658	3,636	676	165
Total ^b	12,348	10,582	12,716	11,935	8,915	7,389	1,136	235
Labor Income (million \$)								
Direct	327.7	249.0	262.6	215.1	142.1	88.1	7.8	0.4
Total ^b	596.7	465.3	509.6	435.9	300.4	208.8	24.4	3.4

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Conditions or the No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

3
 4 The footprint of conveyance and related facilities such as roads and utilities would remove some
 5 existing agricultural land from production, so the effects on such removals on agricultural
 6 employment and income would be negative. The regional economic effects on employment and
 7 income in the Delta region from the change in agricultural production are reported in Table 16-20.
 8 As shown, direct agricultural employment would be reduced by an estimated 27 FTE, while total
 9 employment (direct, indirect, and induced) associated with agricultural employment would fall by
 10 100 FTE. Based on the crop production values changes described in Impact ECON-6 for construction
 11 effects, the direct agricultural job losses would more likely be concentrated in the vegetable, truck,
 12 orchard, and vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and
 13 forage crop sectors, where more jobs are mechanized. Note that direct agricultural job losses could
 14 be higher than the 27 FTE jobs shown in Table 16-20 because many agricultural jobs are seasonal
 15 rather than year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every
 16 FTE job lost as a result of construction of conveyance facilities construction. Mapbook Figures M14-
 17 1 and M14-2 display areas of Important Farmland and lands under Williamson Act contracts that
 18 could be converted to other uses due to the construction of water conveyance facilities for the
 19 Pipeline/Tunnel alignment. Note that not all of these structures would be constructed under this
 20 alternative.

21 **Table 16-20. Regional Economic Effects on Agricultural Employment and Labor Income during**
 22 **Construction (Alternative 1A)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-27
Total ^b	-100
Labor Income (million \$)	
Direct	-3.3
Total ^b	-6.4

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Conditions or the No Action Alternative.

^b Includes direct, indirect, and induced effects.

1 Additionally, the Alternative 1A construction footprint would result in the abandonment of an
 2 estimated six producing natural gas wells in the study area, as described in Chapter 26, *Mineral*
 3 *Resources*, Section 26.3.3.2, Impact MIN-1. This could result in the loss of employment and labor
 4 income associated with monitoring and maintaining these wells. Generally, small crews perform
 5 ongoing monitoring and maintenance of several wells at a time. As shown in Chapter 26, *Mineral*
 6 *Resources*, Table 26-2, 516 active producer wells are located in the study area. Even if all six
 7 producing wells in the Alternative 1A construction footprint were abandoned and not replaced with
 8 new wells installed outside the construction footprint, the percentage reduction in the number of
 9 natural gas wells would be very small. As a result, the employment and labor income effects
 10 associated with well abandonment, while negative, would be minimal.

11 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 12 construction-related employment and labor income, this would be considered a beneficial effect.
 13 However, these activities would also be anticipated to result in a decrease in agricultural-related
 14 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 15 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 16 available to reduce these effects by preserving agricultural productivity and compensating off-site.

17 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
 18 employment and income in the Delta region, temporarily (during the construction period). The
 19 increase in employment and income that would result from expenditures on construction would be
 20 greater than the reduction in employment and income attributable to losses in agricultural
 21 production. Changes in recreational expenditures and natural gas well operations could also affect
 22 regional employment and income, but these have not been quantified. The total change in
 23 employment and income is not, in itself, considered an environmental impact. Significant
 24 environmental impacts would only result if the changes in regional economics cause physical
 25 impacts. Such physical impacts are discussed in other chapters throughout this EIR/EIS. Costs are
 26 addressed in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of
 27 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 28 14.3.3.2, Impacts AG-1 and AG-2; changes in recreation related activities are addressed in Chapter
 29 15, *Recreation*, Section 15.3.3.2, REC-1 through REC-4; abandonment of natural gas wells is
 30 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, MIN-1. When required, the BDCP
 31 proponents would provide compensation to property owners for economic losses due to
 32 implementation of the alternative. While the compensation to property owners would reduce the
 33 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 34 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 35 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 36 Develop an Agricultural Lands Stewardship Plan (ALSP) to preserve agricultural productivity and
 37 mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland
 38 Security Zones.

39 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 40 **the Proposed Water Conveyance Facilities**

41 **Population**

42 Construction of conveyance facilities would require an estimated peak of 4,390 workers in year 4 of
 43 the construction period. It is anticipated that many of these new jobs would be filled from within the
 44 existing five-county labor force. However, construction of the tunnels may require workers with

1 specialized skills not readily available in the local labor pool. As a result, it is anticipated that some
 2 specialized workers may be recruited from outside the Delta region. As discussed in Chapter 30,
 3 *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, Direct Growth Inducement, an
 4 estimated 1,300 workers could come from outside of the Delta region at the peak of the construction
 5 period.

6 It is anticipated that non-local workers would temporarily relocate to the Delta region, thus adding
 7 to the local population. However, this additional population would constitute a minor increase in the
 8 total 2020 projected regional population of 4.6 million and be distributed throughout the region.
 9 Changes in demand for public services resulting from any increase in population are addressed in
 10 Chapter 20, *Public Services and Utilities*, Section 20.3.3.2, Impact UT-1 through UT-6.

11 **Housing**

12 Changes in housing demand are based on changes in supply resulting from displacement during
 13 facilities construction and changes in housing demand resulting from employment associated with
 14 construction of conveyance facilities. As described in Chapter 13, *Land Use*, Section 13.3.3.2, Impact
 15 LU-2, construction of water conveyance facilities under Alternative 1A would conflict with
 16 approximately 59 residential structures.

17 The construction workforce would most likely commute daily to the work sites from within the
 18 Delta region; however, if needed, there are about 53,000 housing units available to accommodate
 19 workers who may choose to commute on a workweek basis or who may choose to temporarily
 20 relocate to the region for the duration of the construction period, including the estimated 1,300
 21 workers who may temporarily relocate to the Delta region from outside of the region. In addition to
 22 the available housing units, there are recreational vehicle and mobile home parks and numerous
 23 hotels and motels within the five-county region to accommodate any construction workers. As a
 24 result, and as discussed in more detail in Chapter 30, *Growth Inducement and Other Indirect Effects*,
 25 Section 30.3.2.1, *Direct Growth Inducement*, construction of the proposed conveyance facilities is not
 26 expected to substantially increase the demand for housing within the five-county region.

27 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
 28 However, given the availability of housing within the five-county region, predicting where this
 29 impact might fall would be speculative. In addition, new residents would likely be dispersed across
 30 the region, thereby not creating a burden on any one community.

31 Because these activities would not result in permanent concentrated, substantial increases in
 32 population or new housing, they would not be considered to have an adverse effect.

33 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
 34 temporary population increases in the Delta region, which has an adequate housing supply to
 35 accommodate the change in population. Therefore, physical environmental impacts resulting from
 36 the minor increase in population are not anticipated.

37 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 38 **Water Conveyance Facilities**

39 **NEPA Effects:** Throughout the five-county Delta region, population and employment would expand
 40 as a result of the construction of water conveyance facilities, as discussed under Impacts ECON-1
 41 and ECON-2. Agricultural contributions to the character and culture of the Delta would be likely to
 42 decline commensurate with the projected decline in agricultural-related acreage, employment, and

1 production. This could result in the closure of agriculture-dependent businesses or those catering to
2 agricultural workers, particularly in areas where conversion of agricultural land would be most
3 concentrated, including near the intake pumping plants and forebays in the vicinity of Clarksburg
4 and Hood. Similar effects on community character could result from anticipated changes to
5 recreation in the study area. However, social influences associated with the construction industry
6 would grow during the multi-year construction period for water conveyance structures under
7 Alternative 1A. To the extent that this anticipated economic shift away from agriculture and towards
8 construction results in demographic changes in population, employment level, income, age, gender,
9 or ethnic origin, the study area would be expected to see changes to its character, particularly in
10 those Delta communities most substantially affected by demographic changes based on their size,
11 ability to accommodate growth, or proximity to BDCP activities. In comparing the existing
12 demographic composition of agricultural workers and construction laborers within the five-county
13 Delta Region, men make up a large proportion of both occupations: 84 percent of agricultural
14 workers were male, compared with 98 percent of construction laborers. Approximately 92 percent
15 of agricultural workers made less than \$35,000, while 60 percent of construction laborers made less
16 than \$35,000. Additionally, 87 percent of agricultural workers within the study area report Hispanic
17 origin, while 54 percent of construction laborers claim Hispanic origin within the five-county area
18 (U.S. Census Bureau 2012b).

19 Legacy communities in the Delta, which are those identified as containing distinct historical and
20 cultural character, include Locke, Bethel Island, Clarksburg, Courtland, Freeport, Hood, Isleton,
21 Knightsen, Rio Vista, Ryde, and Walnut Grove. These communities provide support services and
22 limited workforce housing for the area's agricultural industry. Some housing is also provided to
23 retirees and workers commuting to nearby urban areas including Sacramento. Construction
24 activities associated with BDCP water conveyance facilities would be anticipated to result in changes
25 to the rural qualities of these communities during the construction period (characterized by
26 predominantly agricultural land uses, relatively low population densities, and low levels of
27 associated noise and vehicular traffic), particularly for those communities in proximity to water
28 conveyance structures, including Clarksburg, Hood, Courtland and Walnut Grove. Effects associated
29 with construction activities could also result in changes to community cohesion if they were to
30 restrict mobility, reduce opportunities for maintaining face-to-face relationships, or disrupt the
31 functions of community organizations or community gathering places (such as schools, libraries,
32 places of worship, and recreational facilities). Under Alternative 1A, several gathering places that lie
33 in the vicinity of construction areas could be indirectly affected by noise and traffic associated with
34 construction activities, including Delta High School, the Clarksburg Library, Clarksburg Community
35 Church, Equipping Christian Center, and several marinas or other recreational facilities (see Chapter
36 15, *Recreation*, Table 15-11). Additionally, as described in Chapter 20, *Public Services and Utilities*, a
37 fire station in the community of Hood would be directly affected by construction of a conveyance
38 pipeline under this alternative and accordingly, its function as a workplace and as a community
39 gathering place may be relocated.

40 In addition to potential changes in the demographic composition of communities in the study area,
41 construction of water conveyance facilities under Alternative 1A could also affect the size of the
42 communities, as suggested above. Based upon the projections developed under Impacts ECON-1 and
43 ECON-2, the total population and employment base of the study area would expand during water
44 facility construction. This expansion could provide economic opportunities during this period, which
45 could support community stability by increasing investment in Delta communities. However, as

1 noted under the discussion of housing above, predicting the specific location of such investments
2 within the study area would be speculative.

3 Under Alternative 1A, additional regional employment and income could create net positive effects
4 on the character of Delta communities. In addition to potential demographic effects associated with
5 changes in employment, however, property values may decline in areas that become less desirable
6 in which to live, work, shop, or participate in recreational activities. For instance, negative visual- or
7 noise-related effects on residential property could lead to localized abandonment of buildings. While
8 water conveyance construction could result in beneficial effects relating to the economic welfare of a
9 community, adverse social effects could also arise as a result of declining economic stability in
10 communities closest to construction effects and in those most heavily influenced by agricultural and
11 recreational activities. Implementation of mitigation measures and environmental commitments
12 related to noise, visual effects, transportation, agriculture, and recreation, would reduce adverse
13 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these
14 commitments include erosion and sediment control plans, hazardous materials management plans,
15 notification of maintenance activities in waterways, noise abatement plan, fire prevention and
16 control plan, and mosquito management plans.

17 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 1A could affect
18 community character in the Delta region during the construction work period. However, because
19 these impacts are social in nature, rather than physical, they are not considered impacts under
20 CEQA. To the extent that changes to community character would lead to physical impacts involving
21 population growth, such impacts are described under Impact ECON-2 and in Chapter 30, *Growth*
22 *Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population
23 or employment, even if limited to specific areas, sectors, or the vacancy of individual buildings, could
24 result in alteration of community character stemming from a lack of maintenance, upkeep, and
25 general investment. However, implementation of mitigation measures and environmental
26 commitments related to noise, visual effects, transportation, agriculture, and recreation, would
27 reduce the extent of these effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*).
28 Specifically, these commitments include erosion and sediment control plans, hazardous materials
29 management plans, notification of maintenance activities in waterways, noise abatement plan, fire
30 prevention and control plan, and mosquito management plans.

31 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 32 **the Proposed Water Conveyance Facilities**

33 **NEPA Effects:** Under Alternative 1A, publicly owned water conveyance facilities would be
34 constructed on land of which some is currently held by private owners. Property tax and assessment
35 revenue forgone as a result of water conveyance facilities is estimated at \$8.3 million over the
36 construction period with an estimated annual range effect of \$1.0 million. These decreases in
37 revenue could potentially result in the loss of a substantial share of some agencies' tax bases,
38 particularly for smaller districts affected by the BDCP, such as reclamation districts where
39 conveyance facilities and associated work areas are proposed. This economic effect would be
40 considered adverse; however, the BDCP proponents would make arrangements to compensate local
41 governments for the loss of property tax or assessment revenue for land used for constructing,
42 locating, operating, or mitigating for new Delta water conveyance facilities.⁷ Additionally, as

⁷ Under the Sacramento-San Joaquin Delta Reform Act of 2009 (85089), construction of a new conveyance facility cannot begin until "the persons or entities that contract to receive water from the State Water Project and the

1 discussed under Impact ECON-1, construction of the water conveyance facilities would be
 2 anticipated to result in a net temporary increase of income and employment in the Delta region. This
 3 would also create an indirect beneficial effect through increased sales tax revenue for local
 4 government entities that rely on sales taxes.

5 **CEQA Conclusion:** Under Alternative 1A, construction of water conveyance facilities would result in
 6 the removal of a portion of the property tax base for various local government entities in the Delta
 7 region. Over the construction period, property tax and assessment revenue forgone is estimated at
 8 \$8.3 million. However, the Sacramento–San Joaquin Delta Reform Act commits the entities receiving
 9 water from the State Water Project and federal Central Valley Project to mitigate for lost property
 10 tax and assessment revenue associated with land needed for the construction of new conveyance
 11 facilities (Water Code Section 85089). Additionally, any losses could be offset, at least in part, by an
 12 anticipated increase in sales tax revenue. CEQA does not require a discussion of socioeconomic
 13 effects except where they would result in reasonably foreseeable physical changes. If an alternative
 14 is not anticipated to result in a physical change to the environment, it would not be considered to
 15 have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any
 16 physical consequences resulting from fiscal impacts are too speculative to ascertain.

17 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 18 **Water Conveyance Facilities**

19 **NEPA Effects:** While facility construction would not physically displace any recreational facilities,
 20 substantial disruption of recreational activities considered temporary and permanent would occur
 21 in certain areas during the construction period, as described and defined in Chapter 15, *Recreation*,
 22 Section 15.3.3.2, Impacts REC-1 through REC-4. The quality of recreational activities including
 23 boating, fishing, waterfowl hunting, and hiking in the Delta could be affected by noise, lighting,
 24 traffic, and visual degradation in proximity to water conveyance construction. For example, in-water
 25 construction activities associated with the intakes or temporary barge areas could restrict
 26 navigation and create noise and vibration that could lead to lower fishing success rates. Were it to
 27 occur, a decline in visits to Delta recreational sites as a result of facility construction would be
 28 expected to reduce recreation-related spending, creating an adverse effect throughout the Delta
 29 region. Additionally, if construction activities shift the relative popularity of different recreational
 30 sites, the BDCP may carry localized beneficial or adverse effects.

31 Access would be maintained to all existing recreational facilities, including marinas, throughout
 32 construction. As part of Mitigation Measure REC-2, BDCP proponents would enhance nearby fishing
 33 access sites and would incorporate public recreational access into design of the intakes along the
 34 Sacramento River. Implementation of this measure along with separate other commitments as set
 35 forth in Appendix 3B, *Environmental Commitments, AMMs, and CMs*, relating to the enhancement of
 36 recreational access and control of aquatic weeds in the Delta would reduce these effects.
 37 Environmental commitments would also be implemented to reduce some of the effects of
 38 construction activities upon the recreational experience. These include providing notification of
 39 maintenance activities in waterways and developing and implementing a noise abatement plan, as
 40 described in Appendix 3B. Similarly, mitigation measures proposed throughout other chapters of

federal Central Valley Project or a joint powers authority representing those entities have made arrangements or entered into contracts to pay for... (b) Full mitigation of property tax or assessments levied by local governments or special districts for land used in the construction, location, mitigation, or operation of new Delta conveyance facilities.”

1 this document, and listed under Impact REC-2 in Chapter 15, *Recreation*, would also contribute to
 2 reducing construction effects on recreational experiences in the study area. These include Chapter
 3 12, *Terrestrial Biological Resources*, Chapter 17, *Aesthetics and Visual Resources*, Chapter 19,
 4 *Transportation*, and Chapter 23, *Noise*.

5 Construction of water conveyance structures would be anticipated to result in a lower-quality
 6 recreational experience in a number of localized areas throughout the Delta, despite the
 7 implementation of environmental commitments. With a decrease in recreational quality,
 8 particularly for boating and fishing (two of the most popular activities in the Delta), the number of
 9 visits would be anticipated to decline, at least in areas close to construction activities. Under this
 10 alternative, seven recreational sites or areas would experience periods of construction-related
 11 effects, including noise, access, visual disturbances, or a combination of these effects. These include
 12 Clarksburg Boat Launch (fishing access), Stone Lakes National Wildlife Refuge, Georgiana Slough
 13 Fishing Access, Cosumnes River Preserve, Bullfrog Landing Marina, Whiskey Slough Harbor Marina,
 14 and Clifton Court Forebay. Fewer visits to these sites or areas would lead to less spending, creating
 15 an adverse effect. While visitors can adjust their recreational patterns to avoid areas substantially
 16 affected by construction activities (by boating or fishing elsewhere in the Delta, for instance),
 17 recreation-dependent businesses including marinas and recreational supply retailers may not be
 18 able to economically weather the effects of multiyear construction activities and may be forced to
 19 close as a result, even while businesses in areas that become more popular could benefit. Overall,
 20 the multi-year schedule and geographic scale of construction activities and the anticipated decline in
 21 recreational spending would be considered an adverse effect. The commitments and mitigation
 22 measures cited above would contribute to the reduction of this effect.

23 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 1A
 24 would impact recreational revenue in the Delta region where construction activities result in fewer
 25 visits to an area. Fewer visits would be anticipated to result in decreased economic activity related
 26 to recreational activities. This section considers only the economic effects of recreational changes
 27 brought about by construction of the proposed water conveyance facilities. Potential physical
 28 changes to the environment relating to recreational resources are described and evaluated in
 29 Chapter 15, *Recreation*, Section 15.3.3.2, REC-1 through REC-4.

30 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 31 **the Proposed Water Conveyance Facilities**

32 Construction of conveyance facilities would convert land from existing agricultural uses to uses that
 33 include direct facility footprints, construction staging areas, borrow/spoils areas, reusable tunnel
 34 material (RTM) storage, temporary and permanent roads, and utilities. Agricultural land could also
 35 be affected by changes in water quality and other conditions that would affect crop productivity.
 36 These direct effects on agricultural land are described in Chapter 14, *Agricultural Resources*, Section
 37 14.3.3.2, Impacts AG-1 and AG-2.

38 Changes in crop acreage were used to describe the associated changes in economic values. Unit
 39 prices, yields, and crop production and investment costs were presented in Section 16.1,
 40 *Environmental Setting/Affected Environment*. Table 16-21 summarizes the changes in acreage and
 41 value of agricultural production that would result in the Delta region as a result of Alternative 1A
 42 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative
 43 by aggregate crop category (agricultural resources under Existing Conditions and in the No Action
 44 Alternative were assumed to be the same). The table also includes a summary of changes in crop

1 acreages that are reported in greater detail in Appendix 14A, *Individual Crop Effects as a Result of*
 2 *BDCP Water Conveyance Facility Construction.*

3 **Table 16-21. Crop Acres and Value of Agricultural Production in the Delta during Construction**
 4 **(Alternative 1A)**

Analysis Metric	Alternative 1A	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	478.1	-5.6
Grains	58.1	-0.6
Field crops	189.4	-1.7
Forage crops	111.4	-1.4
Vegetable, truck, and specialty crops	76.6	-0.5
Orchards and vineyards	42.6	-1.4
Total Value of Production (million \$)	641.1	-8.9
Grains	24.0	-0.2
Field crops	112.8	-1.0
Forage crops	72.0	-1.1
Vegetable, truck, and specialty crops	266.5	-1.8
Orchards and vineyards	165.7	-4.9

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

5
 6 Total value of irrigated crop production in the Delta would decline on average by \$8.9 million per
 7 year during the construction period, with total irrigated crop acreage declining by about 5,600 acres.
 8 These estimates are not dependent on water year type.

9 Alternative 1A may also affect production costs on lands even if gross revenues are largely
 10 unaffected. Costs could be increased by operational constraints and longer travel times due to
 11 facilities construction. Construction designs and costs have provided for such costs in two ways. In
 12 most cases, affected lands fall within the facilities footprint, and are included in the agricultural
 13 acreage and value of production described elsewhere in this chapter and in Chapter 14, *Agricultural*
 14 *Resources*, Section 14.3.3.2. For potentially affected lands not included in the facilities footprint,
 15 conveyance construction costs include temporary and permanent roads, bridges, and other facilities
 16 as needed to service agricultural lands (California Department of Water Resources 2010a, 2010b).
 17 There could be some additional travel time and other costs associated with using these facilities, but
 18 such costs are not environmental impacts requiring mitigation.

19 Loss of investments in production facilities and standing orchards and vineyards would occur as a
 20 result of facilities construction. The value of structures and equipment potentially affected would
 21 vary widely across parcels. Much of the equipment is portable (e.g., machinery, tools, portable
 22 sprinkler pipe), and could be sold or used on other lands. Shop and storage buildings and permanent
 23 irrigation and drainage equipment plus orchards and vineyards may have little or no salvage value.
 24 The negotiated purchase of lands for the conveyance and associated facilities would compensate for
 25 some, but perhaps not all of that value. According to Cooperative Extension cost of production
 26 studies (University of California Cooperative Extension 2003a, 2003b, 2004, 2005, 2006a, 2006b,
 27 2007a, 2007b, 2008a, 2008b, 2008c, 2008d), permanent structures, irrigation systems, and drainage

1 systems can represent a wide range of investment, from less than \$100 per acre for field and
 2 vegetable crops up to over \$3,000 per acre for some orchards. Most such investments would not be
 3 new, so their depreciated values would be substantially lower.

4 Investment in standing orchards and vineyards would also be considered during negotiations for
 5 land purchases. Typical investments required to bring permanent crops into production are shown
 6 in Section 16.1, *Environmental Setting/Affected Environment*. For example, the establishment of wine
 7 grapes requires an investment of over \$15,000 per acre and Bartlett pears require over \$20,000 per
 8 acre. Forage crops such as irrigated pasture and alfalfa may require an establishment cost of about
 9 \$400 per acre. The depreciated values of the growing stock could be substantially below these
 10 establishment costs, depending on the ages of the stands that would be affected.

11 Only minor changes in salinity of agricultural water supply are expected during construction.
 12 Consequently, costs related to salinity changes would also be minor. Further discussion of effects
 13 from changes in salinity is presented in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 14 AG-2.

15 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 16 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 17 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 18 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 19 agricultural productivity and compensating off-site.

20 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 21 value of agricultural production in the Delta region. The removal of agricultural land from
 22 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impacts AG-1 and
 23 AG-2. The reduction in the value of agricultural production is not considered an environmental
 24 impact. Significant environmental impacts would only result if the changes in regional economics
 25 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 26 required, DWR would provide compensation to property owners for economic losses due to
 27 implementation of the alternative. While the compensation to property owners would reduce the
 28 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 29 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 30 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 31 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 32 and land subject to Williamson Act contracts or in Farmland Security Zones.

33 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 34 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

35 In the Delta region, ongoing operation and maintenance of BDCP facilities would result in increased
 36 expenditures relative to the Existing Conditions and the No Action Alternative (regional economic
 37 conditions do not differ across Existing Conditions and No Action Alternative). The increased project
 38 operation and maintenance expenditures are expected to result in a permanent increase in regional
 39 employment and income (Table 16-22) relative to the Existing Conditions and the No Action
 40 Alternative, including an estimated 187 direct and 269 total (direct, indirect, and induced) FTE.
 41 Potential changes in the value of agricultural production result in changes to regional employment
 42 and income in the Delta region under the Alternative 1A relative to the Existing Conditions and the
 43 No Action Alternative.

Table 16-22. Regional Economic Effects on Employment and Labor Income in the Delta Region during Operations and Maintenance (Alternative 1A)

Regional Economic Impact ^a	Impacts from Operations and Maintenance
Employment (FTE)	
Direct	187
Total ^b	269
Labor Income (million \$)	
Direct	11.4
Total ^b	15.3

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Conditions or the No Action Alternative.
^b Includes direct, indirect & induced effects.

The operation and maintenance of conveyance and related facilities such as roads and utilities would result in the permanent removal of agricultural land from production following construction, and the effects on employment and income would be negative, including the loss of an estimated 31 agricultural and 86 total (direct, indirect, and induced) FTE jobs. The regional economic effects on employment and income in the Delta region from the change in agricultural production are reported in Table 16-23. Based on the permanent crop production value changes described in Impact ECON-12, the agricultural job losses would more likely be concentrated in the vegetable, truck, orchard, and vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage crop sectors, where more jobs are mechanized. Note that direct agricultural job losses could be higher than the 31 FTE jobs shown in Table 16-23 because many agricultural jobs are seasonal rather than year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every FTE job lost as a result of permanent agricultural production changes. Mapbook Figures M14-1 and M14-2 display areas of Important Farmland and lands under Williamson Act contracts that could be converted to other uses due to the construction of water conveyance facilities for the Pipeline/Tunnel alignment. Note that not all of these structures would be constructed under this alternative.

Table 16-23. Regional Economic Effects on Agricultural Employment and Labor Income during Operations and Maintenance (Alternative 1A)

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-31
Total ^b	-86
Labor Income (million \$)	
Direct	-2.5
Total ^b	-4.8

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Conditions or the No Action Alternative.
^b Includes direct, indirect & induced effects.

1 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 2 result in an increase in operations-related employment and labor income, this would be considered
 3 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 4 agricultural-related employment and labor income, which would be considered an adverse effect.
 5 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 6 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 7 compensating off-site.

8 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 9 increase total employment and income in the Delta region. The net change would result from
 10 expenditures on operation and maintenance and from changes in agricultural production. The total
 11 change in income and employment is not, in itself, considered an environmental impact. Significant
 12 environmental impacts would only result if the changes in regional economics cause physical
 13 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 14 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 15 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impacts AG-1
 16 and AG-2; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 17 15.3.3.2, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
 18 landowners as a result of acquiring lands for the proposed conveyance facilities. While the
 19 compensation to property owners would reduce the severity of economic effects related to the loss
 20 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 21 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 22 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
 23 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
 24 contracts or in Farmland Security Zones.

25 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 26 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

27 **Population**

28 Operations and maintenance of conveyance facilities would require approximately 190 permanent
 29 new workers. Given the nature of those operation and maintenance jobs, the existing water
 30 conveyance facilities already in the five-county region, the large workforce in the region, and the
 31 large water agencies with headquarters in that region, it is anticipated that most of these new jobs
 32 would be filled from within the existing five-county labor force. However, operation and
 33 maintenance may require specialized worker skills not readily available in the local labor pool. As a
 34 result, it is anticipated that workers with specialized skills may be recruited from outside the five-
 35 county region.

36 It is anticipated that non-local workers would relocate to the five-county region, thus adding to the
 37 local population. However, this additional population would constitute a minor increase in the total
 38 2020 projected regional population of 4.6 million and be distributed throughout the region. Changes
 39 in demand for public services resulting from any increase in population are addressed in Chapter 20,
 40 *Public Services and Utilities*, Section 20.3.3.2, Impact UT-7.

41 **Housing**

42 It is anticipated that most of the operational workforce would be drawn from within the five-county
 43 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

1 There are about 53,000 housing units available to accommodate any nonlocal workers who relocate
 2 to the five-county region. In addition, new residents would likely be dispersed across the region,
 3 thereby not creating a burden on any one community. As a result, operation and maintenance of the
 4 proposed conveyance facilities is not expected to increase the demand for housing.

5 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 6 population or new housing, they would not be considered to have an adverse effect.

7 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 8 result in minor population increases in the Delta region with adequate housing supply to
 9 accommodate the change in population and therefore adverse changes in the physical environment
 10 are not anticipated.

11 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 12 **Proposed Water Conveyance Facilities**

13 **NEPA Effects:** Throughout the five-county Delta region, population and employment could slightly
 14 expand as a result of continued operation and maintenance of the water conveyance facilities.
 15 Agricultural contributions to the character and culture of the Delta would be likely to decline
 16 commensurate with the projected decline in agricultural-related employment and production. This
 17 could result in the closure of agriculture-dependent businesses or those catering to agricultural
 18 employees, particularly in areas where conversion of agricultural land would be most concentrated.
 19 Similar effects could accrue to areas disproportionately dependent upon existing recreational
 20 activities. However, influences associated with those hired to operate, repair, and maintain water
 21 conveyance facilities would grow. To the extent that this anticipated economic shift away from
 22 agriculture results in demographic changes in population, employment level, income, age, gender, or
 23 race, the study area would be expected to see changes to its character, particularly in those Delta
 24 communities most substantially affected by demographic changes based on their size or proximity
 25 to BDCP facilities.

26 While some of the rural qualities of Delta communities, including relatively low noise and traffic
 27 levels, could return to near pre-construction conditions during the operational phase, other effects
 28 would be lasting. For instance, the visual appearance of intakes and other permanent features would
 29 compromise the predominantly undeveloped and agricultural nature of communities like
 30 Clarksburg, Courtland, and Hood, which would be located closest to the permanent water
 31 conveyance features. Lasting effects on areas made less desirable in which to live, work, shop, or
 32 participate in recreational activities as a result of BDCP operations could lead to localized
 33 abandonment of buildings. Such lasting effects could also result in changes to community cohesion if
 34 they were to restrict mobility, reduce opportunities for maintaining face-to-face relationships, or
 35 disrupt the functions of community organizations or community gathering places (such as schools,
 36 libraries, places of worship, and recreational facilities). While ongoing operations could result in
 37 beneficial effects relating to the economic welfare of a community, adverse social effects could linger
 38 in communities closest to character-changing effects and in those most heavily influenced by
 39 agricultural and recreational activities. Implementation of mitigation measures and environmental
 40 commitments related to noise, visual effects, transportation, agriculture, and recreation would
 41 reduce adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically,
 42 these commitments include notification of maintenance activities in waterways, a noise abatement
 43 plan, and mosquito management plans.

1 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 1A
 2 could affect community character in the Delta region. However, because these impacts are social in
 3 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 4 changes to community character would lead to physical impacts involving population growth, these
 5 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
 6 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
 7 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
 8 community character stemming from a lack of maintenance, upkeep, and general investment.

9 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and**
 10 **Maintenance of the Proposed Water Conveyance Facilities**

11 **NEPA Effects:** Under Alternative 1A, publicly owned water conveyance facilities would be located,
 12 operated, and maintained on land of which some is currently held by private owners. Property tax
 13 and assessment revenue forgone as a result of water conveyance facilities is estimated at \$50.0
 14 million over the BDCP's 50-year permit period. These decreases in revenue could potentially result
 15 in the loss of a substantial share of some agencies' tax bases, particularly for smaller districts
 16 affected by the BDCP. This economic effect would be considered adverse; however, the BDCP
 17 proponents would make arrangements to compensate local governments for the loss of property tax
 18 or assessment revenue for land used for constructing, locating, operating, or mitigating for new
 19 Delta water conveyance facilities. Additionally, as discussed under Impact ECON-7, operation and
 20 maintenance of the water conveyance facilities would be anticipated to result in a net increase of
 21 income and employment in the Delta region. This would also create an indirect beneficial effect
 22 through increased sales tax revenue for local government entities that rely on sales taxes.

23 **CEQA Conclusion:** Under Alternative 1A, the ongoing operation and maintenance of water
 24 conveyance facilities would restrict property tax revenue levels for various local government
 25 entities in the Delta region. Over the 50-year permit period, property tax and assessment revenue
 26 forgone is estimated at \$50.0 million. However, the Sacramento-San Joaquin Delta Reform Act
 27 commits the entities receiving water from the State Water Project and federal Central Valley Project
 28 to mitigate for lost property tax and assessment revenue associated with land needed for the
 29 construction of new conveyance facilities (Water Code Section 85089). Additionally, any losses
 30 could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
 31 require a discussion of socioeconomic effects except where they would result in reasonably
 32 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
 33 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
 34 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
 35 speculative to ascertain.

36 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the**
 37 **Proposed Water Conveyance Facilities**

38 **NEPA Effects:** As discussed in Chapter 15, *Recreation*, Section 15.3.3.2, Impacts REC-5 through REC-
 39 8, operation and maintenance activities associated with the proposed water conveyance facilities
 40 under Alternative 1A are anticipated to create minor effects on recreational resources. Maintenance
 41 of conveyance facilities, including intakes, would result in periodic temporary but not substantial
 42 adverse effects on boat passage and water-based recreational activities. As discussed in Impact REC-
 43 7, most intake maintenance, such as painting, cleaning, and repairs, would be done with barges and
 44 divers, and could cause a temporary impediment to boat movement in the Sacramento River in the

1 immediate vicinity of the affected intake structure and reduce opportunities for waterskiing,
2 wakeboarding, or tubing in the immediate vicinity of the intake structures. However, boat passage
3 and navigation on the river would still be possible around any barges or other maintenance
4 equipment and these effects would be expected to be short-term (2 years or less). Although water-
5 based recreation (i.e. boating, waterskiing, wakeboarding, etc.) may be restricted at and in the
6 vicinity of intakes, many miles of the Sacramento River would still be usable for these activities
7 during periodic maintenance events. Additionally, implementation of the environmental
8 commitment to provide notification of maintenance activities in waterways (Appendix 3B,
9 *Environmental Commitments, AMMs, and CMs*) would reduce these effects. Because effects of facility
10 maintenance would be short-term and intermittent, substantial economic effects are not anticipated
11 to result from operation and maintenance of the facilities.

12 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
13 conveyance facilities under Alternative 1A are anticipated to create minor effects on recreational
14 resources and therefore, are not expected to substantially reduce economic activity related to
15 recreational activities. This section considers only the economic effects of recreational changes.
16 Potential physical changes to the environment relating to recreational resources are described and
17 evaluated in Chapter 15, *Recreation*, Section 15.3.3.2, Impacts REC-5 through REC-8.

18 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 19 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

20 During operation and maintenance of conveyance facilities, existing agricultural land would be in
21 uses that include direct facility footprints and associated permanent roads and utilities. Agricultural
22 land could also be affected by changes in water quality and other conditions that would affect crop
23 productivity. These direct effects on agricultural land are described in Chapter 14, *Agricultural*
24 *Resources*, Section 14.3.3.2, Impacts AG-1 and AG-2.

25 Changes in crop acreage were used to estimate the associated changes in economic values. Unit
26 prices, yields, and crop production and investment costs were presented in Section 16.1,
27 *Environmental Setting/Affected Environment*. Table 16-24 summarizes the changes in acreage and
28 value of agricultural production that would result in the Delta region from operation of Alternative
29 1A. Changes are shown relative to the Existing Conditions and the No Action Alternative by
30 aggregate crop category (agricultural resources under Existing Conditions and in the No Action
31 Alternative were assumed to be the same). The changes in crop acreages are reported in greater
32 detail in Appendix 14A, *Individual Crop Effects as a Result of BDCP Water Conveyance Facility*
33 *Construction*.

34 Total value of irrigated crop production in the Delta region would decline on average by \$7.4 million
35 per year during operation and maintenance, with total irrigated crop acreage declining by about
36 4,400 acres. These estimates are not dependent on water year type.

1 **Table 16-24. Crop Acres and Value of Agricultural Production in the Delta during Operations and**
 2 **Maintenance (Alternative 1A)**

Analysis Metric	Alternative 1A	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	479.2	-4.4
Grains	58.3	-0.4
Field crops	189.8	-1.3
Forage crops	111.6	-1.2
Vegetable, truck, and specialty crops	76.7	-0.4
Orchards and vineyards	42.8	-1.2
Total Value of Production (million \$)	642.7	-7.4
Grains	24.1	-0.1
Field crops	113.1	-0.8
Forage crops	72.1	-1.0
Vegetable, truck, and specialty crops	266.9	-1.5
Orchards and vineyards	166.5	-4.0

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

3
 4 Alternative 1A may also affect production costs on lands even if gross revenues are largely
 5 unaffected. Increased costs could be associated with operational constraints and longer travel times
 6 due to permanent facilities. In most cases, affected lands fall within the facilities footprint, and are
 7 included in the agricultural acreage and value of production described elsewhere in this chapter and
 8 in Chapter 14, *Agricultural Resources*, Section 14.3.3.2.

9 Crop yields and crop selection on lands in the Delta affected by changes in salinity of agricultural
 10 water supply during operation and maintenance activities are described in Chapter 14, *Agricultural*
 11 *Resources*, Section 14.3.3.2, Impact AG-2.

12 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 13 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 14 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 15 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 16 productivity and compensating off-site.

17 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities,
 18 the value of agricultural production in the Delta region would be reduced. The permanent removal
 19 of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 20 14.3.3.2, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 21 considered an environmental impact. Significant environmental impacts would only result if the
 22 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 23 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 24 economic losses due to implementation of the alternative. While the compensation to property
 25 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 26 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
 27 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 28 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for

1 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
2 Zones.

3 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 4 **Implementation of CM2-21**

5 In the Delta region, spending on CM2-CM21 would include construction, operation and maintenance
6 activities that would convert or disturb existing land use. The effects on the economy of the Delta
7 region would be similar in kind, though not in magnitude, to those estimated for conveyance
8 features and facilities. In general, the changes in regional economic activity (employment and
9 income) would include increases from the construction and operation and maintenance-related
10 activity, declines resulting from agricultural or other land uses converted or impaired, changes in
11 recreation spending that could be positive or negative depending on the specific restoration action,
12 and declines from abandonment of natural gas wells.

13 The *Yolo Bypass Flood Date and Flow Volume Agricultural Impact Analysis*, a report created for Yolo
14 County, evaluates the expected losses of agricultural employment that could result from
15 implementing CM2 (Howitt et al. 2012) (see Chapter 3, *Description of Alternatives*, Section 3.6.2, for a
16 description of conservation measures). CM2 would lower a portion of the Fremont Weir to allow
17 Sacramento River water to flow into the Yolo Bypass to reduce migratory delays for fish and
18 enhance fish rearing habitat. However, it may also translate into financial losses for farmers and the
19 regional economy. Annual reductions in agricultural employment under the CM2 scenario are
20 expected to range from 9 FTE at 3,000 cfs to 21 FTE at 6,000 cfs.

21 As discussed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5, operations of natural
22 gas wells in the Delta region would be affected where wells are located in restoration areas to be
23 inundated under CM4, CM5, and CM10. In areas that would be permanently inundated under these
24 conservation measures, producing natural gas wells may be abandoned. There are approximately
25 233 active wells in these areas (Table 26-6 in Chapter 26, *Mineral Resources*); an unknown number
26 of these wells would likely be abandoned. (Specific inundation areas have not been identified for
27 CM2-CM21 at this time, and there is potential for some of these wells to be modified and to remain
28 in production.) In permanently flooded areas, the active wells could be relocated and replaced using
29 conventional or directional drilling techniques at a location outside of inundation zones to maintain
30 production. However, if a large number of wells had to be abandoned and could not be redrilled,
31 there could be an adverse effect related to the permanent elimination of employment and income
32 generated by well monitoring and maintenance activities. Generally, small crews perform ongoing
33 monitoring and maintenance of several wells at a time. Assuming none of the wells in inundation
34 areas are redrilled, the abandonment of 233 natural gas wells would represent 37 percent of the 629
35 producing wells in the Delta region (see active producer, dual, and new wells in Table 26-2 in
36 Chapter 26, *Mineral Resources*). According to 2011 data available through the U.S. Census Bureau's
37 *2011 County Business Patterns* report (2013), an estimated 255-310 jobs are supported by the two
38 sectors of the Delta region economy that could be affected by well abandonment: crude petroleum
39 and natural gas extraction, and support activities for oil and gas operations. (Note that these jobs
40 include non-natural gas production jobs and non-operations and maintenance jobs, so the number
41 of jobs solely related to operations and maintenance of natural gas wells would be smaller.)
42 Assuming a worst-case scenario in which the loss of 37 percent of the Delta region's natural gas
43 wells would result in the loss of a similar percentage of the region's employment in these two
44 sectors, an estimated 95-115 jobs would be lost as the result of implementing CM4, CM5, and CM10.

1 However, considering that this estimate is high and that some wells would be relocated, the actual
2 job losses probably would be somewhat lower.

3 **NEPA Effects:** Because implementation of CM2–CM21 would be anticipated to result in an increase
4 in construction and operation and maintenance-related employment and labor income, this would
5 be considered a beneficial effect. However, implementation of these components would also be
6 anticipated to result in a decrease in agricultural-related and natural gas production-related
7 employment and labor income, which would be considered an adverse effect. Mitigation Measure
8 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
9 available to reduce these effects by preserving agricultural productivity and compensating off-site.
10 Additionally, measures to reduce impacts on natural gas wells are discussed in Chapter 26, *Mineral*
11 *Resources*, Section 26.3.3.2, Impact MIN-5.

12 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
13 income in the Delta region. The change in total employment and income in the Delta region is based
14 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
15 changes in agricultural production, recreation, and natural gas production. The total change in
16 employment and income is not, in itself, considered an environmental impact. Significant
17 environmental impacts would only result if the changes in regional economics cause physical
18 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
19 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
20 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
21 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
22 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5. When required, the
23 BDCP proponents would provide compensation to property owners for economic losses due to
24 implementation of the alternative. While the compensation to property owners would reduce the
25 severity of economic effects related to the loss of agricultural land and abandonment of natural gas
26 wells, it would not constitute mitigation for any related physical impact. Measures to reduce these
27 impacts and impacts on natural gas wells are discussed in Chapter 14, *Agricultural Resources*,
28 Section 14.3.3.2, Impact AG-1, and Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

29 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 30 **Implementing CM2–CM21**

31 **NEPA Effects:** In the Delta region, implementation of CM2–CM21 would increase employment and
32 convert land from existing uses, including possible displacement of residential housing and business
33 establishments. The effects on population and housing in the Delta region would be similar in kind,
34 though not in magnitude, to those estimated for conveyance features and facilities. In general, the
35 changes in population and housing would include increases in population from the construction and
36 operation and maintenance-related activity and declines in residential housing and business
37 establishments as a result of lands converted or impaired. Because these activities would not result
38 in concentrated, substantial increases in population or new housing, they would not be considered
39 to have an adverse effect.

40 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
41 housing in the Delta region. The change in total population and housing in the Delta region is based
42 on employment resulting from implementation of the proposed CM2–CM21. The change in
43 population and housing is expected to be minor relative to the five-county Delta region, and

1 dispersed throughout the region. Therefore, significant changes in the physical environment are not
2 anticipated to result.

3 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

4 **NEPA Effects:** As noted under Impacts ECON-13, and ECON-14, conservation measures designed to
5 restore, conserve, or enhance natural habitat would be anticipated to create economic effects similar
6 in kind, if not in magnitude, to those described for the water conveyance facilities, including
7 increases to employment and changes in land use that could trigger the disruption of agricultural
8 and recreational economies. They could also affect the possible displacement of residences and
9 businesses. The effects these activities would create with regard to community character would
10 depend on the nature of each measure along with its specific location, size, and other factors that are
11 not yet defined.

12 Under Alternative 1A, temporary construction associated with implementation of these measures
13 could lead to demographic changes and resulting effects on the composition and size of Delta
14 communities. Earthwork and site preparation associated with conservation measures could also
15 detract from the rural qualities of the Delta region; however, their implementation would take place
16 in phases over the 50-year permit period, which would limit the extent of effects taking place at any
17 one point in time.

18 Implementation of these measures could also alter community character over the long term.
19 Conversion of agricultural land to restored habitat would result in the erosion of some economic and
20 social contributions stemming from agriculture in Delta communities. However, in the context of the
21 Delta region, a substantial proportion of land would not be converted. Additionally, restored habitat
22 could support some rural qualities, particularly in terms of visual resources and recreational
23 opportunities. These effects could attract more residents to some areas of the Delta, and could
24 replace some agricultural economic activities with those related to recreation and tourism. To the
25 extent that agricultural facilities and supportive businesses were affected and led to vacancy,
26 alteration of community character could result from these activities. However, the cultivated lands
27 natural community strategy of CM3 would ensure the continuation of agricultural production on
28 thousands of acres in the Delta (see Chapter 3, *Description of Alternatives*, Section 3.6.2, for a
29 description of conservation measures).

30 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
31 welfare of a community, adverse social effects could also arise in those communities closest to
32 character-changing effects and those most heavily influenced by agricultural activities. Noise, visual
33 effects, air pollution, and traffic associated with earthwork and site preparation for the restoration,
34 enhancement, protection, and management of various natural community types could alter the rural
35 characteristics of Delta communities, where they occur in close proximity to these communities.
36 Additionally, changes in the extent and nature of regional agricultural and recreational activities
37 could also be anticipated to alter the character of communities in the Delta and result in changes to
38 community cohesion. If necessary, implementation of mitigation measures and environmental
39 commitments related to transportation, agriculture, and recreation would be anticipated to reduce
40 these adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically,
41 these commitments include erosion and sediment control plans, hazardous materials management
42 plans, notification of maintenance activities in waterways, noise abatement plan, fire prevention and
43 control plan, and mosquito management plans.

1 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 1A could affect community
 2 character within the Delta region. However, because these impacts are social in nature, rather than
 3 physical, they are not considered impacts under CEQA. To the extent that changes to community
 4 character are related to physical impacts involving population growth, these impacts are described
 5 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
 6 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
 7 individual buildings, could result in alteration of community character stemming from a lack of
 8 maintenance, upkeep, and general investment.

9 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing**
 10 **CM2–CM21**

11 As discussed in relation to construction of water conveyance facilities, habitat restoration and
 12 implementation of CM2–CM21 under Alternative 1A would also take place, in part, on land held by
 13 private owners and from which local governments derive revenue through property taxes and
 14 assessments. In particular, conservation measures related to protection of natural communities
 15 (CM3) and restoration of tidal habitat (CM4), seasonally inundated floodplain (CM5), grassland
 16 communities (CM8), vernal pool complex (CM9), and nontidal marsh (CM10) would require the
 17 acquisition of multiple parcels of land (see Chapter 3, *Description of Alternatives*, Section 3.6.2, for a
 18 description of conservation measures).

19 The *Yolo Bypass Flood Date and Flow Volume Agricultural Impact Analysis*, as described under Impact
 20 ECON-13, evaluates the expected losses of total Yolo County revenue and state tax revenue for
 21 implementing CM2 (Howitt et al. 2012) (see Chapter 3, *Description of Alternatives*, Section 3.6.2, for a
 22 description of conservation measures). The total expected annual losses in state and local tax
 23 revenues under the CM2 proposed inundation scenarios can range from \$.057 million under the
 24 3,000 cfs flow scenario to \$.13 million under the 6,000 cfs flow scenario that extends flooding as late
 25 as May 15.

26 The loss of a substantial portion of an entity's tax base would represent an adverse effect on an
 27 agency, resulting in a decrease in local government's ability to provide public goods and services.
 28 Under Alternative 1A, property tax and assessment revenue forgone as a result of conservation
 29 measure implementation is estimated to reach \$176.7 million over the BDCP's 50-year permit
 30 period (in 2012 undiscounted dollars; see BDCP Chapter 8, *Implementation Costs and Funding*
 31 *Sources*, Table 8-28 for further detail). Decreases in revenue could potentially represent a
 32 substantial share of individual agency tax bases, particularly for smaller districts affected by large,
 33 contiguous areas identified for habitat restoration.

34 Additionally, other conservation measures related to control of invasive species, expansion of fish
 35 hatchery facilities, installation of non-physical fish barriers, modification of water diversions, or
 36 treatment of urban stormwater may also require that land currently on property tax rolls be
 37 acquired and eventually removed from the tax base. The fiscal effects stemming from these
 38 conservation measures are, however, anticipated to be minor based upon the relatively small areas
 39 of land necessary for their implementation.

40 **NEPA Effects:** Overall, CM2–CM21 would remove many acres of private land from local property tax
 41 and assessment rolls. This economic effect would be considered adverse; however, the BDCP
 42 proponents would offset forgone property tax and assessments levied by local governments and
 43 special districts on private lands converted to habitat. As described under Impact ECON-13, regional
 44 economic effects from the implementation of CM2–CM21 would be mixed. While activities

1 associated with construction and establishment of habitat areas could boost regional expenditures
2 and sales tax revenue, reduced agricultural activities may offset these gains. Changes in recreation
3 spending and related sales tax revenue could be positive or negative, depending on the
4 implementation of the measures.

5 **CEQA Conclusion:** Under Alternative 1A, implementation of CM2–CM21 would result in the removal
6 of a portion of the property tax base for various local government entities in the Delta region. Over
7 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach \$173
8 million, compared with annual property tax revenue of more than \$934 million in the Delta counties
9 (California State Controller’s Office 2012). Projected over the 50-year period, these removals would
10 likely represent less than 1% of these counties’ property tax revenue. However, the BDCP
11 proponents would compensate local governments and special districts for this forgone revenue.
12 CEQA does not require a discussion of socioeconomic effects except where they would result in
13 physical changes. If an alternative is not anticipated to result in a physical change to the
14 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
15 Sections 15064(f) and 15131).

16 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

17 **NEPA Effects:** Implementation of the CM2–CM21 under this alternative would be anticipated to
18 create an adverse effect on recreational resources by limiting access to facilities, restricting boat
19 navigation and disturbing fish habitat while restoration activities are taking place. These measures
20 may also permanently reduce the extent of upland recreation sites. However, over the 50-year
21 permit period, these components could also create beneficial effects by enhancing aquatic habitat
22 and fish abundance, expanding the extent of navigable waterways available to boaters, and
23 improving the quality of existing upland recreation opportunities. Therefore, the potential exists for
24 the creation of adverse and beneficial effects related to recreational economics. Adverse effects
25 would be anticipated to be primarily limited to areas close to restoration areas and during site
26 preparation and earthwork phases. These effects could result in a decline in visits to the Delta and
27 reduction in recreation-related spending, creating an adverse economic effect throughout the Delta.
28 Beneficial recreational effects would generally result during later stages of the BDCP permit period
29 as CM2–CM21 are implemented and environmental conditions supporting recreational activities are
30 enhanced. These effects could improve the quality of recreational experiences, leading to increased
31 economic activities related to recreation, particularly in areas where conservation measure
32 implementation would create new recreational opportunities.

33 **CEQA Conclusion:** Site preparation and earthwork activities associated with a number of
34 conservation measures would limit opportunities for recreational activities where they occur in or
35 near existing recreational areas. Noise, odors, and visual effects of construction activities would also
36 temporarily compromise the quality of recreation in and around these areas, leading to potential
37 economic impacts. However, over time, implementation could improve the quality of existing
38 recreational opportunities, leading to increased economic activity. This section considers only the
39 economic effects of recreational changes brought about by conservation measure implementation.
40 CEQA does not require a discussion of socioeconomic effects except where they would result in
41 reasonably foreseeable physical changes. Potential physical changes to the environment relating to
42 recreational resources are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.2,
43 Impacts REC-9 through REC-11.

1 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of**
 2 **Implementing CM2–CM21**

3 CM2–CM21 would convert land from existing agricultural uses. These direct effects on agricultural
 4 land are described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impacts AG-3
 5 and AG-4. Effects on agricultural economics would include effects on crop production and
 6 agricultural investments resulting from restoration actions on agricultural lands. The effects would
 7 be similar in kind to those described for lands converted due to construction and operation of the
 8 conveyance features and facilities. The total acreage and crop mix of agricultural land potentially
 9 affected is not specified at this time, but when required, the BDCP proponents would provide
 10 compensation to property owners for losses due to implementation of the alternative.

11 The *Yolo Bypass Flood Date and Flow Volume Agricultural Impact Analysis*, as described in Impact
 12 ECON-13, also evaluates the expected losses in gross farm revenue that could result from
 13 implementing CM2 (Howitt et al. 2012) (see Chapter 3, *Description of Alternatives*, Section 3.6.2, for a
 14 description of conservation measures). CM2 would lower a portion of the Fremont Weir to allow
 15 Sacramento River water to flow into the Yolo Bypass to reduce migratory delays for fish and
 16 enhance fish rearing habitat, with flows ranging between 3,000 and 6,000 cfs through an operable
 17 gate at the weir. An increase in flooding in the Yolo Bypass could result in economic losses to
 18 farmers and the local economy, dependent on timing, frequency, volume, and duration. Additionally,
 19 according to the report, flooding may increase the costs of late season rains, potentially affecting
 20 land values, lending institutions, and farming in the bypass.

21 The magnitude of economic effects resulting from implementing CM2 would be driven by the total
 22 acres of farmland inundated, reduced crop yields, and increased land fallowing. As the last day of
 23 flooding through the proposed weir gate increases, farmers must delay field preparation and
 24 planting, resulting in reduced crop yields and increased land fallowing. As agricultural revenues
 25 decrease, losses to the regional economy, including employment, increase. According to the
 26 economic impact assessment in the report, annual reductions in agricultural employment under the
 27 CM2 scenario are expected to range from 9 FTE at 3,000 cfs to 21 FTE at 6,000 cfs. Total output
 28 value (gross farm revenue) expected losses for the CM2 scenario, which corresponds to
 29 supplemental releases only in years where natural flooding occurs, range from \$1.2 to \$2.8 million
 30 per year. Expected losses are zero in years when there is no natural flooding and substantial in years
 31 when there is late natural flooding. Expected loss estimates are sensitive to changes in area
 32 inundated, yield loss and crop prices. It assumed that the costs of production in the Bypass remain
 33 constant even with late flooding; however, if production costs go up, for example, due to overtime
 34 labor or increased preparation costs, loss estimates would increase.

35 The report also evaluates the loss to total value added, or the net value of agricultural production in
 36 the Yolo Bypass to the Yolo County economy. Recognizing that many inputs/outputs are produced
 37 or consumed outside of Yolo County, those factors are not considered in the analysis. For example,
 38 total value added does include compensation for employees, income to business and landowners,
 39 and other business specific to Yolo County, but does not include food production that is exported out
 40 of the county. A proportion of Yolo Bypass production and crop consumption occurs within Yolo
 41 County; therefore, the expected annual losses to value added for Yolo County is expected to range
 42 from \$0.63 to \$1.5 million per year.

43 **NEPA Effects:** Because implementation of CM2–CM21 would be anticipated to lead to reductions in
 44 crop acreage and in the value of agricultural production in the Delta region, this is considered an

1 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 2 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 3 productivity and compensating off-site.

4 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
 5 production in the Delta region. The permanent removal of agricultural land from production is
 6 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impacts AG-3 and AG-4. The
 7 reduction in the value of agricultural production is not considered an environmental impact.
 8 Significant environmental impacts would only result if the changes in regional economics cause
 9 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 10 required, the BDCP proponents would provide compensation to property owners for economic
 11 losses due to implementation of the alternative. While the compensation to property owners would
 12 reduce the severity of economic effects related to the loss of agricultural land, it would not
 13 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 14 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 15 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 16 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 17 Zones.

18 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

19 As described in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2, the
 20 operational components of BDCP CM1 could result in a number of effects in south-of-Delta areas
 21 receiving SWP and CVP water deliveries because the CVP and SWP water deliveries would change in
 22 comparison with the Existing Conditions or No Action Alternative.

23 Changes in the amount, cost, or reliability of water deliveries could create socioeconomic effects in
 24 the south –of-Delta hydrologic regions. Increases in water deliveries would generally be associated
 25 with increased agricultural production, increased population growth and increased economic
 26 activity. Reductions in water deliveries would generally be associated with reduced agricultural
 27 production, reduced population growth and reduced economic activity. To the extent that unreliable
 28 or insufficient water supplies currently represent obstacles to agricultural production, Alternative
 29 1A may support more stable agricultural activities by enabling broader crop selection or by
 30 reducing risk associated with uncertain water deliveries. As a result of an increase in water supply
 31 and supply reliability, farmers may choose to leave fewer acres fallow and/or plant higher-value
 32 crops. While the locations and extent of any increases in production would depend on local factors
 33 and individual economic decisions, a general increase in production would be anticipated to support
 34 growth in seasonal and permanent on-farm employment, along with the potential expansion of
 35 employment in industries closely associated with agricultural production. These include food
 36 processing, agricultural inputs, and transportation. Generally, these effects would be most
 37 concentrated in hydrologic regions where agriculture is a primary industry and where agricultural
 38 operations depend most heavily on SWP and CVP deliveries.

39 Social changes, including changes in community character, could also result from an expansion in
 40 population or economic activity linked to increases in water deliveries. For example, more stable
 41 agricultural production and associated economic activities in areas where agriculture is a
 42 predominant industry could strengthen and reinforce existing economic and social patterns and
 43 institutions. Increased production could also intensify existing socioeconomic challenges, including
 44 seasonal cycles in employment, housing demand, and provision of social services. In areas where

1 population growth would be enabled by increased water supplies or reliability, changes to
 2 community character could result from an increased population, including the potential for changes
 3 in urban form, environmental factors such as traffic or noise, demographic composition, or the rise
 4 of new or broader economic or social opportunities. Again, the nature and extent of such changes
 5 would be predominantly influenced by prevailing socioeconomic forces, rather than any specific
 6 change associated with implementation of the BDCP.

7 Increases in agricultural production and population growth could also affect local government fiscal
 8 conditions. Population growth would be anticipated to result in higher property and sales tax
 9 revenue while increased agricultural activity could result in higher sales tax receipts for a local
 10 jurisdiction. However, growth would also require expanded public services to meet the needs of a
 11 larger population and a larger economic base. Expansion could require additional spending on
 12 education, police and fire protection, medical services, and transportation and utility infrastructure.
 13 Whether such growth would result in a long-term net benefit or cost would depend on a number of
 14 factors including prevailing local service levels and tax rates, as well as the characteristics of the
 15 growth.

16 Changes in water deliveries could result in beneficial or adverse socioeconomic effects in areas
 17 receiving water from the SWP and CVP. In hydrologic regions where water deliveries are predicted
 18 to increase, more stable agricultural activities could support employment and economic production
 19 associated with agriculture. Where M&I deliveries increase, population growth could lead to general
 20 economic growth and support water-intensive industries. Such changes could also lead to shifts in
 21 the character of communities in the hydrologic regions with resultant beneficial or adverse effects.
 22 Likewise, growth associated with increased water deliveries could require additional expenditures
 23 for local governments while also supporting increases in revenue.

24 ***NEPA Effects:***

25 **Changes in CVP and SWP Deliveries Compared to No Action Alternative**

26 Compared to No Action Alternative (LLT 2060), Alternative 1A would increase deliveries to all
 27 south-of-Delta hydrologic regions Compared to the No Action Alternative (2060). The average
 28 annual increase in CVP and SWP deliveries would be 988 thousand acre-feet (TAF), and the
 29 distribution of these increased deliveries to each hydrologic region are given in Table 30-21.

30 ***CEQA Conclusion:***

31 **Changes in CVP and SWP Deliveries Compared to Existing Conditions**

32 Compared to Existing Conditions, Alternative 1A would increase deliveries to all south-of-Delta
 33 hydrologic regions compared to Existing Conditions. The average annual increase in CVP and SWP
 34 deliveries would be 338 TAF, and the distribution of these increased deliveries to each hydrologic
 35 region are given in Table 30-20.

36 Increases in average annual water deliveries to service areas could induce population growth and
 37 new housing to accommodate growth. Such increased deliveries could also provide support for
 38 water-intensive industries. As discussed in Chapter 30, *Growth Inducement and Other Indirect*
 39 *Effects*, Section 30.3.2.5, long-term water supply reliability is an important component in enabling
 40 long-term population increases. However, other factors—including natural growth, employment
 41 opportunities, local policy, and quality of life—are more likely to determine population growth.
 42 Nonetheless, population growth could stimulate economic activity resulting from increased demand

1 for goods and services. This increased demand could create broad economic benefits for regions
2 whose growth is supported by increased deliveries under BDCP.

3 Operation of water conveyance facilities under Alternative 1A could affect socioeconomic conditions
4 in the south-of-Delta hydrologic regions receiving water from the SWP and CVP. However, because
5 these impacts are social and economic in nature, rather than physical, they are not considered
6 environmental impacts under CEQA. To the extent that changes in socioeconomic conditions in the
7 hydrologic regions would lead to physical impacts, such impacts are described in Chapter 30,
8 *Growth Inducement and Other Indirect Effects*, Section 30.3.2.

9 **16.3.3.3 Alternative 1B—Dual Conveyance with East Alignment and** 10 **Intakes 1–5 (15,000 cfs; Operational Scenario A)**

11 Alternative 1B would result in temporary effects on land and communities in the study area
12 associated with construction of five intakes and intake pumping plants, one forebay, pipelines,
13 canals, tunnel siphons, culvert siphons, and an intermediate pumping plant; alter nearby areas for
14 retrieval of borrowed soils and spoils and RTM storage; and require development of transmission
15 lines, access roads, and other incidental structures. This alternative would differ from Alternative 1A
16 primarily in that it would use a series of canals generally along the east section of the Delta to
17 convey water from north to south, rather than long segments of deep tunnel through the central part
18 of the Delta.

19 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 20 **Region during Construction of the Proposed Water Conveyance Facilities**

21 The regional economic effects on employment and income in the Delta region during construction
22 were evaluated, both for the unlined and lined canal options. Changes are shown relative to the
23 Existing Conditions and the No Action Alternative (regional economic conditions do not differ
24 between Existing Conditions and No Action Alternative). The effects on employment and income for
25 the unlined option are displayed in Table 16-25. The table shows the direct and total change that
26 would result from conveyance-related spending. As evident in Table 16-25, spending on conveyance
27 construction results in substantial, though temporary, local economic activity in the region. As
28 shown, direct construction employment is anticipated to vary over the 8-year construction period,
29 with an estimated 2,599 FTE jobs in the first year and 245 FTE jobs in the final year of the
30 construction period. Construction employment is estimated to peak at 6,279 FTE jobs in year 4.
31 Total employment (direct, indirect, and induced) would also peak in year 4, at 12,985 FTE jobs.

32 The employment and income effects under the lined option would be higher than for the unlined
33 option.

1 **Table 16-25. Regional Economic Effects on Employment and Labor Income during Construction**
 2 **(Alternative 1B)**

Regional Economic Impact ^a	Year							
	1	2	3	4	5	6	7	8
Employment (FTE)								
Direct	2,599	3,011	5,735	6,279	5,512	4,702	1,543	245
Total ^b	7,208	7,673	12,484	12,985	11,045	8,499	3,028	370
Labor Income (million \$)								
Direct	132.6	129.3	169.2	160.2	127.9	75.8	33.5	1.3
Total ^b	266.9	268.0	380.3	374.3	307.0	205.6	82.0	6.3

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Conditions or the No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

3
 4 The footprint of conveyance and related facilities such as roads and utilities would remove some
 5 existing agricultural land from production, so the effects on employment and income from such
 6 removals would be negative. The regional economic effects on employment and income in the Delta
 7 region from the change in agricultural production are reported in Table 16-26. As shown, direct
 8 agricultural employment would be reduced by an estimated 90 FTE jobs, while total employment
 9 (direct, indirect, and induced) associated with agricultural employment would fall by 340 FTE jobs.
 10 Based on the crop production values changes described in Impact ECON-6 for construction effects,
 11 the direct agricultural job losses would more likely be concentrated in the vegetable, truck, orchard,
 12 and vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage
 13 crop sectors, where more jobs are mechanized. Note that direct agricultural job losses could be
 14 higher than the 90 FTE jobs shown in Table 16-26 because many agricultural jobs are seasonal
 15 rather than year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every
 16 FTE job lost as a result of construction of conveyance facilities construction. Mapbook Figures M14-
 17 3 and M14-4 display areas of Important Farmland and lands under Williamson Act contracts that
 18 could be converted to other uses due to the construction of water conveyance facilities for the East
 19 alignment. Note that not all of these structures would be constructed under this alternative.

20 **Table 16-26. Regional Economic Effects on Agricultural Employment and Labor Income during**
 21 **Construction (Alternative 1B)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-90
Total ^b	-340
Labor Income (million \$)	
Direct	-11.4
Total ^b	-21.9

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Conditions or the No Action Alternative.

^b Includes direct, indirect, and induced effects.

22

1 Additionally, the Alternative 1B construction footprint would result in the abandonment of an
 2 estimated two producing natural gas wells in the study area, as described in Chapter 26, *Mineral*
 3 *Resources*, Section 26.3.3.3, Impact MIN-1. This could result in the loss of employment and labor
 4 income associated with monitoring and maintaining these wells. Generally, small crews perform
 5 ongoing monitoring and maintenance of several wells at a time. As shown in Chapter 26, *Mineral*
 6 *Resources*, Table 26-2, 516 active producer wells are located in the study area. Even if both
 7 producing wells in the Alternative 1B construction footprint were abandoned and not replaced with
 8 new wells installed outside the construction footprint, the percentage reduction in the number of
 9 natural gas wells would be very small. As a result, the employment and labor income effects
 10 associated with well abandonment, while negative, would be minimal.

11 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 12 construction-related employment and labor income, this would be considered a beneficial effect.
 13 However, these activities would also be anticipated to result in a decrease in agricultural-related
 14 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 15 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 16 available to reduce these effects by preserving agricultural productivity and compensating off-site.

17 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
 18 employment and income in the Delta region. The change would result from expenditures on BDCP
 19 construction and from a modest decrease in agricultural production. Changes in recreational
 20 expenditures and natural gas well operations could also affect regional employment and income, but
 21 these have not been quantified. The total change in employment and income is not, in itself,
 22 considered an environmental impact. Significant environmental impacts would only result if the
 23 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 24 throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation Costs and*
 25 *Funding Sources*; removal of agricultural land from production is addressed in Chapter 14,
 26 *Agricultural Resources*, Section 14.3.3.3, Impacts AG-1 and AG-2; changes in recreation related
 27 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.3, REC-1 through REC-4;
 28 abandonment of natural gas wells is addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.3,
 29 Impact MIN-1. When required, DWR would provide compensation to property owners for economic
 30 losses due to implementation of the alternative. While the compensation to property owners would
 31 reduce the severity of economic effects related to the loss of agricultural land, it would not
 32 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 33 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 34 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 35 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 36 Zones.

37 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 38 **the Proposed Water Conveyance Facilities**

39 **Population**

40 Construction of conveyance facilities would require an estimated peak of 6,280 workers in year 4 of
 41 the assumed 8-year construction period. It is anticipated that many of these new jobs would be filled
 42 from within the existing five-county labor force.

1 Considering the multi-year duration of conveyance facility construction, it is anticipated that non-
 2 local workers would temporarily relocate to the five-county region, thus adding to the local
 3 population. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section
 4 30.3.2.1, Direct Growth Inducement, an estimated 30 percent of workers could come from out of the
 5 Delta region, suggesting that approximately 1,900 workers could relocate to the Delta region at the
 6 peak of the construction period. However, this additional population would constitute a minor
 7 increase in the total 2020 projected regional population of 4.6 million and be distributed throughout
 8 the region. Changes in demand for public services resulting from any increase in population are
 9 addressed in Chapter 20, *Public Services and Utilities*, Section 20.3.3.3, Impact UT-1 through UT-6.

10 **Housing**

11 Changes in housing demand are based on changes in supply resulting from displacement during
 12 facilities construction and changes in housing demand resulting from employment associated with
 13 construction of conveyance facilities. As described in Chapter 13, *Land Use*, Section 13.3.3.3, Impact
 14 LU-2, construction of water conveyance facilities under Alternative 1B would conflict with
 15 approximately 109 residential structures.

16 The construction workforce would most likely commute daily to the work sites from within the five-
 17 county region; however, if needed, there are about 53,000 housing units available to accommodate
 18 workers who may choose to commute on a workweek basis or who may choose to temporarily
 19 relocate to the region for the duration of the construction period, including the estimated 1,900
 20 workers who may temporarily relocate to the Delta region from out of the region. In addition to the
 21 available housing units, there are recreational vehicle parks and hotels and motels within the five-
 22 county region to accommodate any construction workers. As a result, and as discussed in more
 23 detail in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, Direct Growth
 24 Inducement, construction of the proposed conveyance facilities is not expected to substantially
 25 increase the demand for housing within the five-county region.

26 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
 27 However, given the availability of housing within the five-county region, predicting where this
 28 impact might fall would be speculative. In addition, new residents would likely be dispersed across
 29 the region, thereby not creating a burden on any one community.

30 Because these activities would not result in permanent concentrated, substantial increases in
 31 population or new housing, they would not be considered to have an adverse effect.

32 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
 33 population increases in the Delta region with adequate housing supply to accommodate the change
 34 in population. Therefore, adverse physical changes resulting from the minor increase in population
 35 are not anticipated.

36 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 37 **Water Conveyance Facilities**

38 **NEPA Effects:** Under Alternative 1B, effects on community character would be similar in nature, but
 39 not location or magnitude, to those described under Alternative 1A, Impact ECON-3. Under this
 40 alternative, regional population and employment would increase to levels described above under
 41 Impact ECON-1 and ECON-2. The geographic extent of these effects would also vary from that
 42 described for Alternative 1A, as the intensity of effects would be somewhat greater or lesser based

1 on communities' ability to accommodate growth and proximity to features constructed for the water
2 conveyance alignment under this alternative. Under this alternative, areas near the intake pumping
3 plants in the vicinity of Clarksburg, Hood, and Courtland could experience the greatest changes in
4 character, along with communities near the canal alignment like Thornton. Effects associated with
5 construction activities could also result in changes to community cohesion if they were to restrict
6 mobility, reduce opportunities for maintaining face-to-face relationships, or disrupt the functions of
7 community organizations or community gathering places (such as schools, libraries, places of
8 worship, and recreational facilities). Under Alternative 1B, several gathering places that lie in the
9 vicinity of construction areas could be indirectly affected by noise and traffic associated with
10 construction activities, including the Clarksburg Library, Clarksburg Fire Department, Delta High
11 School, Holt Union Elementary School, Clarksburg Community Church, Community Baptist Church,
12 and several marinas or other recreational facilities (see Chapter 15, *Recreation*, Table 15-13).
13 Additionally, as described in Chapter 20, *Public Services and Utilities*, a fire station in the community
14 of Hood would be directly affected by construction of a canal segment under this alternative and
15 accordingly, its function as a workplace and as a community gathering place may be relocated.

16 Like Alternative 1A, the anticipated economic shift away from agriculture and towards construction
17 could result in demographic changes. In comparing the existing demographic composition of
18 agricultural workers and construction laborers within the five-county Delta Region, men make up a
19 large proportion of both occupations: 84 percent of agricultural workers were male, compared with
20 98 percent of construction laborers. Approximately 92 percent of agricultural workers made less
21 than \$35,000, while 60 percent of construction laborers made less than \$35,000. Additionally, 87
22 percent of agricultural workers within the study area report Hispanic origin, while 54 percent of
23 construction laborers claim Hispanic origin within the five-county area (U.S. Census Bureau 2012b).

24 Construction activities could be expected to bring about a decline in the rural qualities currently
25 exhibited by Delta communities, while expansion of employment and population in the region could
26 provide economic opportunities supportive of community stability. While water conveyance
27 construction could result in beneficial effects relating to the economic welfare of a community,
28 adverse social effects could also arise as a result of declining economic stability in communities
29 closest to construction effects and in those most heavily influenced by agricultural and recreational
30 activities. These effects would be greatest during the eight-year construction period.

31 Implementation of mitigation measures and environmental commitments related to noise, visual
32 effects, transportation, agriculture, and recreation, would reduce adverse effects (see Appendix 3B,
33 *Environmental Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A,
34 Impact ECON-3.

35 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 1B could affect
36 community character in the Delta region. However, because these impacts are social in nature,
37 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
38 community character would lead to physical impacts involving population growth, such impacts are
39 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
40 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
41 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
42 character stemming from a lack of maintenance, upkeep, and general investment. However,
43 implementation of mitigation measures and environmental commitments related to noise, visual
44 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
45 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
46 erosion and sediment control plans, hazardous materials management plans, notification of

1 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
2 mosquito management plans.

3 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 4 **the Proposed Water Conveyance Facilities**

5 **NEPA Effects:** Under Alternative 1B, publicly owned water conveyance facilities would be
6 constructed on land of which some is currently held by private owners. Property tax and assessment
7 revenue forgone as a result of water conveyance facilities is estimated at \$25.6 million over the
8 construction period. These decreases in revenue could potentially result in the loss of a substantial
9 share of some agencies' tax bases, particularly for smaller districts affected by the BDCP, such as
10 reclamation districts where conveyance facilities and associated work areas are proposed. This
11 economic effect would be considered adverse; however, the BDCP proponents would make
12 arrangements to compensate local governments for the loss of property tax or assessment revenue
13 for land used for constructing, locating, operating, or mitigating for new Delta water conveyance
14 facilities. Additionally, as discussed under Impact ECON-1, construction of the water conveyance
15 facilities would be anticipated to result in a net increase of income and employment in the Delta
16 region. This would also create an indirect beneficial effect through increased sales tax revenue for
17 local government entities that rely on sales taxes.

18 **CEQA Conclusion:** Under Alternative 1B, construction of water conveyance facilities would result in
19 the removal of a portion of the property tax base for various local government entities in the Delta
20 region. Over the construction period, property tax and assessment revenue forgone is estimated at
21 \$25.6 million. However, the Sacramento-San Joaquin Delta Reform Act commits the entities
22 receiving water from the State Water Project and federal Central Valley Project to mitigate for lost
23 property tax and assessment revenue associated with land needed for the construction of new
24 conveyance facilities (Water Code Section 85089). Additionally, any losses could be offset, at least in
25 part, by an anticipated increase in sales tax revenue. CEQA does not require a discussion of
26 socioeconomic effects except where they would result in reasonably foreseeable physical changes. If
27 an alternative is not anticipated to result in a physical change to the environment, it would not be
28 considered to have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and
29 15131). Here, any physical consequences resulting from fiscal impacts are too speculative to
30 ascertain.

31 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 32 **Water Conveyance Facilities**

33 **NEPA Effects:** Under Alternative 1B, disruption of recreational activities during the construction
34 period would be similar in character to that described under Alternative 1A, Impact ECON-5.
35 However, as described in Chapter 15, *Recreation*, Section 15.3.3.3, Impacts REC-1 through REC-4, the
36 geographic incidence and extent of these effects would be different based on the construction of a
37 different conveyance alignment composed of different features. Access to recreational facilities may
38 be restricted throughout the construction period. Additionally, the quality of recreational activities
39 including boating, fishing, waterfowl hunting, and hiking in the Delta could be indirectly affected by
40 noise, lighting, traffic, and visual degradation in proximity to water conveyance construction. Under
41 this alternative, 18 recreational sites or recreational areas would experience periods of
42 construction-related effects, including noise, access, visual disturbances, or a combination of these
43 effects. These include Clarksburg Marina, Clarksburg Boat Launch (fishing access), Stone Lakes
44 National Wildlife Refuge, Cosumnes River Preserve, White Slough Wildlife Area – Pond 6,

1 Woodbridge Ecological Reserve, The Reserve at Spanos Park Golf Course, Paradise Point Marina,
 2 Weber Point Yacht Club, Windmill Cove Resort & Marina, Buckley Cove (Marina West Yacht Club,
 3 Buckley Cove Boat Launch, River Point Landing Marina Resort, Ladd's Marina, Stockton Sailing Club,
 4 and Buckley Cove Park), and Clifton Court Forebay. Construction activities associated with this
 5 alternative would affect more established recreational sites than under Alternative 1A.

6 Construction of water conveyance structures under this alternative would be anticipated to
 7 temporarily result in a lower-quality recreational experience in a number of localized areas
 8 throughout the Delta, despite the implementation of mitigation measures, including enhancement of
 9 fishing access sites and incorporation of recreational access into project design, and environmental
 10 and other commitments, including providing funding to implement recreational improvements and
 11 control aquatic weeds, providing notification of maintenance activities in waterways, and
 12 developing and implementing a noise abatement plan, as described in Appendix 3B, *Environmental*
 13 *Commitments, AMMs, and CMs*. With a decrease in recreational quality, the number of visits would be
 14 anticipated to decline, at least in areas closest to construction activities. The multi-year schedule and
 15 geographic scale of construction activities and the anticipated decline in recreational spending
 16 would be considered an adverse effect. The commitments and mitigation measure cited above
 17 would contribute to the reduction of this effect.

18 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 1B
 19 could impact recreational revenue in the Delta region if construction activities result in fewer visits
 20 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
 21 recreational activities. This section considers only the economic effects of recreational changes
 22 brought about by construction of the proposed water conveyance facilities. Potential physical
 23 changes to the environment relating to recreational resources are described and evaluated in
 24 Chapter 15, *Recreation*, Section 15.3.3.3, REC-1 through REC-4.

25 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 26 **the Proposed Water Conveyance Facilities**

27 Construction of conveyance facilities would convert land from existing agricultural uses to uses that
 28 include direct facility footprints, construction staging areas, borrow/spoils areas, RTM storage,
 29 temporary and permanent roads, and utilities. Agricultural land could also be affected by changes in
 30 water quality and other conditions that would affect crop productivity. These direct effects on
 31 agricultural land are described in Chapter 14, *Agricultural Resources*, Section 14.3.3.3, Impacts AG-1
 32 and AG-2.

33 Changes in crop acreage were used to describe the associated changes in economic values. Unit
 34 prices, yields, and crop production and investment costs were presented in Section 16.1,
 35 *Environmental Setting/Affected Environment*. Table 16-27 summarizes the changes in acreage and
 36 value of agricultural production that would occur in the Delta region as a result of Alternative 1B
 37 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative
 38 by aggregate crop category (agricultural resources under Existing Conditions and in the No Action
 39 Alternative were assumed to be the same). The table also includes a summary of changes in crop
 40 acreages that are reported in Appendix 14A, *Individual Crop Effects as a Result of BDCP Water*
 41 *Conveyance Facility Construction*.

42 Total value of irrigated crop production in the Delta would decline on average by \$32.8 million per
 43 year during the construction period, with total irrigated crop acreage declining by about 19,460
 44 acres. These estimates are not dependent on water year type.

1 **Table 16-27. Crop Acres and Value of Agricultural Production in the Delta during Construction**
 2 **(Alternative 1B)**

Analysis Metric	Alternative 1B	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	464.1	-19.6
Grains	56.8	-1.8
Field crops	186.2	-4.9
Forage crops	106.2	-6.5
Vegetable, truck, and specialty crops	74.0	-3.2
Orchards and vineyards	41.0	-3.1
Total Value of Production (million \$)	617.2	-32.8
Grains	23.6	-0.7
Field crops	110.9	-3.0
Forage crops	67.7	-5.4
Vegetable, truck, and specialty crops	257.5	-10.9
Orchards and vineyards	157.7	-12.8

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

3
 4 Alternative 1B may also affect production costs, investments in production facilities and standing
 5 orchards and vineyards, and salinity of agricultural water supply. Effects would be similar to those
 6 qualitatively described under Alternative 1A, Impact ECON-6. See Chapter 14, *Agricultural*
 7 *Resources*, Section 14.3.3.3, Impacts AG-1 and AG-2, for further discussion of indirect effects on
 8 agricultural resources.

9 **NEPA Effects.** Because construction of the proposed water conveyance facilities would lead to
 10 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 11 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 12 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 13 agricultural productivity and compensating off-site.

14 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 15 value of agricultural production in the Delta region. The removal of agricultural land from
 16 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.3, Impacts AG-1 and
 17 AG-2. The reduction in the value of agricultural production is not considered an environmental
 18 impact. Significant environmental impacts would only result if the changes in regional economics
 19 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 20 required, DWR would provide compensation to property owners for economic losses due to
 21 implementation of the alternative. While the compensation to property owners would reduce the
 22 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 23 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 24 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 25 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 26 and land subject to Williamson Act contracts or in Farmland Security Zones.

1 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region**
 2 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

3 In the Delta region, ongoing operation and maintenance of BDCP facilities would result in increased
 4 expenditures relative to the Existing Conditions and the No Action Alternative (regional economic
 5 conditions do not differ across Existing Conditions and No Action Alternative). The increased
 6 expenditures are expected to result in a permanent increase in regional employment and income,
 7 including an estimated 204 direct and 294 total (direct, indirect, and induced) FTE jobs (Table 16-
 8 28). Since operation and maintenance expenditures for the unlined and lined options were not
 9 differentiated, the results summarized in this section are assumed to apply to both the unlined and
 10 lined options. Potential changes in the value of agricultural production result in changes to regional
 11 employment and income in the Delta region under Alternative 1B relative to the Existing Conditions
 12 and the No Action Alternative.

13 **Table 16-28. Regional Economic Effects on Employment and Labor Income during Operations and**
 14 **Maintenance (Alternative 1B)**

Regional Economic Impact ^a	Impacts from Operations and Maintenance
Employment (FTE)	
Direct	204
Total ^b	294
Labor Income (million \$)	
Direct	12.6
Total ^b	16.8

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Conditions or the No Action Alternative.
^b Includes direct, indirect, and induced effects.

15
 16 The operation and maintenance of conveyance and related facilities such as roads and utilities
 17 would result in the permanent removal of agricultural land from production following construction,
 18 and the effects on employment and income would be negative, including the loss of an estimated
 19 117 agricultural and 321 total (direct, indirect, and induced) FTE jobs. The regional economic effects
 20 on employment and income in the Delta region from the change in agricultural production are
 21 reported in Table 16-29. Based on the permanent crop production value changes described in
 22 Impact ECON-12, the agricultural job losses would more likely be concentrated in the vegetable,
 23 truck, orchard, and vineyard crops sectors, which are relatively labor intensive, than in the grain,
 24 field, and forage crop sectors, where more jobs are mechanized. Note that direct agricultural job
 25 losses could be higher than the 117 FTE jobs shown in Table 16-29 because many agricultural jobs
 26 are seasonal rather than year-round, FTE jobs, suggesting that more than one seasonal job could be
 27 lost per every FTE job lost as a result of permanent agricultural production changes. Mapbook
 28 Figures M14-3 and M14-4 display areas of Important Farmland and lands under Williamson Act
 29 contracts that could be converted to other uses due to the construction of water conveyance
 30 facilities for the East alignment. Note that not all of these structures would be constructed under this
 31 alternative.

Table 16-29. Regional Economic Effects on Agricultural Employment and Labor Income during Operations and Maintenance (Alternative 1B)

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-117
Total ^b	-321
Labor Income (million \$)	
Direct	-9.3
Total ^b	-17.9

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Conditions or the No Action Alternative.
^b Includes direct, indirect, and induced effects.

NEPA Effects: Because continued operation and maintenance of water conveyance facilities would result in an increase in operations-related employment and labor income, this would be considered a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in agricultural-related employment and labor income, which would be considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural productivity and compensating off-site.

CEQA Conclusion: Operation and maintenance of the proposed water conveyance facilities would decrease total employment and income in the Delta region. The change would result from expenditures on BDCP operation and maintenance, increasing employment, and from changes in agricultural production, decreasing employment. The total change in income and employment is not, in itself, considered an environmental impact. Significant environmental impacts would only result if the changes in regional economics cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.3, Impacts AG-3 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.3, Impacts REC-5 through REC-8. When required, DWR would provide compensation to property owners for economic losses due to implementation of the alternative. While the compensation to property owners would reduce the severity of economic effects related to the loss of agricultural land, it would not constitute mitigation for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones.

Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during Operation and Maintenance of the Proposed Water Conveyance Facilities

Population

Operations and maintenance of conveyance facilities would require approximately 200 permanent new workers. Given the nature of those operation and maintenance jobs, the existing water conveyance facilities already in the five-county region, the large workforce in the region, and the

1 large water agencies with headquarters in that region, it is anticipated that most of these new jobs
 2 would be filled from within the existing five-county labor force. However, operation and
 3 maintenance may require specialized worker skills not readily available in the local labor pool. As a
 4 result, it is anticipated that some specialized workers may be recruited from outside the five-county
 5 region.

6 It is anticipated that non-local workers would relocate to the five-county region, thus adding to the
 7 local population. However, this additional population would constitute a minor increase in the total
 8 2020 projected regional population of 4.6 million and be distributed throughout the region. Changes
 9 in demand for public services resulting from any increase in population are addressed in Chapter 20,
 10 *Public Services and Utilities*, Section 20.3.3.3, Impact UT-7.

11 **Housing**

12 It is anticipated that most of the operational workforce would be drawn from within the five-county
 13 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.
 14 There are about 53,000 housing units available to accommodate any nonlocal workers who relocate
 15 to the five-county region. In addition, new residents would likely be dispersed across the region,
 16 thereby not creating a burden on any one community. As a result, operation and maintenance of the
 17 proposed conveyance facilities is not expected to increase the demand for housing.

18 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 19 population or new housing, they would not be considered to have an adverse effect.

20 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 21 result in minor population increases in the Delta region with adequate housing supply to
 22 accommodate the change in population. Therefore, the minor increase in population is not
 23 anticipated to result in any adverse changes to the physical environment.

24 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 25 **Proposed Water Conveyance Facilities**

26 **NEPA Effects:** Throughout the five-county Delta region, population and employment could slightly
 27 contract as a result of continued operation and maintenance of the water conveyance facilities under
 28 Alternative 1B. Agricultural contributions to the character and culture of the Delta would be likely to
 29 decline commensurate with the projected decline in agricultural-related employment and
 30 production, as discussed under Impact ECON-7. This could result in the closure of agriculture-
 31 dependent businesses or those catering to agricultural employees, particularly in areas where
 32 conversion of agricultural land would be most concentrated. Similar effects could accrue to areas
 33 disproportionately dependent upon existing recreational activities. However, influences associated
 34 with those hired to operate, repair, and maintain water conveyance structures would grow. To the
 35 extent that this anticipated economic shift away from agriculture results in demographic changes in
 36 population, employment level, income, age, gender, or race, the study area would be expected to see
 37 changes to its character, particularly in those Delta communities most substantially affected by
 38 demographic changes based on their size or proximity to BDCP facilities.

39 While some of the rural qualities of Delta communities, including relatively low noise and traffic
 40 levels, could return to near pre-construction conditions during the operational phase, other effects
 41 would be lasting. For instance, the visual appearance of intakes and other permanent features would
 42 compromise the predominantly undeveloped and agricultural nature of communities like

1 Clarksburg, Courtland, Hood, and Thornton, which are located closest to the proposed water
 2 conveyance features. Where BDCP operations make areas less desirable in which to live, work, shop,
 3 or participate in recreational activities, localized abandonment of buildings could result. Such lasting
 4 effects could also result in changes to community cohesion if they were to restrict mobility, reduce
 5 opportunities for maintaining face-to-face relationships, or disrupt the functions of community
 6 organizations or community gathering places (such as schools, libraries, places of worship, and
 7 recreational facilities).

8 Under Alternative 1B, adverse social effects could occur in communities closest to character-
 9 changing effects and in those most heavily influenced by agricultural and recreational activities.
 10 Implementation of mitigation measures and environmental commitments related to noise, visual
 11 effects, transportation, agriculture, and recreation would reduce adverse effects (see Appendix 3B,
 12 *Environmental Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A,
 13 Impact ECON-9.

14 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 1B
 15 could adversely affect community character in the Delta region. However, because these impacts are
 16 social in nature, rather than physical, they are not considered impacts under CEQA. To the extent
 17 that changes to community character would lead to physical impacts involving population growth,
 18 these impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
 19 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment could
 20 result in alteration of community character stemming from a lack of maintenance, upkeep, and
 21 general investment.

22 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 23 **Maintenance of the Proposed Water Conveyance Facilities**

24 **NEPA Effects:** Under Alternative 1B, publicly owned water conveyance facilities would be located,
 25 operated, and maintained on land of which some is currently held by private owners. Property tax
 26 and assessment revenue forgone as a result of water conveyance facilities is estimated at \$153.8
 27 million over the BDCP's 50-year permit period, or an average of \$3.2 million annually. As described
 28 above, the annual property tax revenue of the Delta counties is more than \$934 million (California
 29 State Controller's Office 2012). Projected over the 50-year period, these removals would likely
 30 represent less than 1% of these counties' property tax revenue. These decreases in revenue could
 31 potentially result in the loss of a substantial share of some agencies' tax bases, particularly for
 32 smaller districts affected by the BDCP. Additionally, as discussed under Impact ECON-7, operation
 33 and maintenance of the water conveyance facilities would be anticipated to result in a net decrease
 34 of income and employment in the Delta region. This would also create an indirect effect through
 35 reduced sales tax revenue for local government entities. These economic effects would be
 36 considered adverse; however, the BDCP proponents would make arrangements to compensate local
 37 governments for the loss of property tax or assessment revenue for land used for constructing,
 38 locating, operating, or mitigating for new Delta water conveyance facilities.

39 **CEQA Conclusion:** Under Alternative 1B, the ongoing operation and maintenance of water
 40 conveyance facilities would restrict potential property tax revenue for various local government
 41 entities in the Delta region. Over the 50-year permit period, property tax and assessment revenue
 42 forgone is estimated at \$153.8 million. Additionally, an anticipated decrease in sales tax revenue
 43 could also lead to revenue declines. However, new Delta conveyance facilities are required under the
 44 California Water Code to offset impacts on property taxes or assessments levied by local

1 governments or special districts (Water Code 85089). CEQA does not require a discussion of
 2 socioeconomic effects except where they would result in reasonably foreseeable physical changes. If
 3 an alternative is not anticipated to result in a physical change to the environment, it would not be
 4 considered to have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and
 5 15131). Here, any physical consequences resulting from fiscal impacts are too speculative to
 6 ascertain.

7 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 8 **Proposed Water Conveyance Facilities**

9 **NEPA Effects:** As discussed in Chapter 15, *Recreation*, Section 15.3.3.3, Impacts REC-5 through REC-
 10 8, operation and maintenance activities associated with the proposed water conveyance facilities
 11 under Alternative 1B are anticipated to create minor effects on recreational resources. Maintenance
 12 of conveyance facilities, including intakes, would result in periodic temporary but not substantial
 13 adverse effects on boat passage and water-based recreational activities. As discussed in Impact REC-
 14 7, most intake maintenance, such as painting, cleaning, and repairs, would be done with barges and
 15 divers, and could cause a temporary impediment to boat movement in the Sacramento River in the
 16 immediate vicinity of the affected intake structure and reduce opportunities for waterskiing,
 17 wakeboarding, or tubing in the immediate vicinity of the intake structures. However, boat passage
 18 and navigation on the river would still be possible around any barges or other maintenance
 19 equipment and these effects would be expected to be short-term (2 years or less). Although water-
 20 based recreation (i.e. boating, waterskiing, wakeboarding, etc.) may be restricted at and in the
 21 vicinity of intakes, many miles of the Sacramento River would still be usable for these activities
 22 during periodic maintenance events. Additionally, implementation of the environmental
 23 commitment to provide notification of maintenance activities in waterways (Appendix 3B,
 24 *Environmental Commitments, AMMs, and CMs*) would reduce these effects. Because effects of facility
 25 maintenance would be short-term and intermittent, substantial economic effects are not anticipated
 26 to result from operation and maintenance of the facilities.

27 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 28 conveyance facilities under Alternative 1B are anticipated to create minor effects on recreational
 29 resources and therefore, are not expected to significantly reduce economic activity related to
 30 recreational activities. This section considers only the economic effects of recreational changes.
 31 Potential physical changes to the environment relating to recreational resources are described and
 32 evaluated in Chapter 15, *Recreation*, Section 15.3.3.3, Impacts REC-5 through REC-8.

33 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 34 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

35 During operation and maintenance of conveyance facilities existing agricultural land would be in
 36 uses that include direct facility footprints and associated permanent roads and utilities. Agricultural
 37 land could also be affected by changes in water quality and other conditions that would affect crop
 38 productivity and crop choices. These direct effects on agricultural land are described in Chapter 14,
 39 *Agricultural Resources*, Section 14.3.3.3, Impacts AG-1 and AG-2.

40 Changes in crop acreage were used to estimate the associated changes in economic values. Unit
 41 prices, yields, and crop production and investment costs were presented in Section 16.1,
 42 *Environmental Setting/Affected Environment*. Table 16-30 summarizes the changes in acreage and
 43 value of agricultural production that would result in the Delta region from operation of Alternative

1B. Changes are shown relative to the Existing Conditions and the No Action Alternative by aggregate crop category (agricultural resources under Existing Conditions and in the No Action Alternative were assumed to be the same). The changes in crop acreages are reported in Appendix 14A, *Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction*.

Total value of irrigated crop production in the Delta region would decline on average by \$29.2 million per year during operation and maintenance, with total irrigated crop acreage declining by about 17,700 acres. These estimates are not dependent on water year type.

Table 16-30. Crop Acres and Value of Agricultural Production in the Delta during Operations and Maintenance (Alternative 1B)

Analysis Metric	Alternative 1B	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	466.0	-17.7
Grains	57.0	-1.6
Field crops	186.7	-4.4
Forage crops	106.7	-6.0
Vegetable, truck, and specialty crops	74.3	-2.9
Orchards and vineyards	41.3	-2.7
Total Value of Production (million \$)	620.8	-29.2
Grains	23.6	-0.6
Field crops	111.1	-2.7
Forage crops	68.1	-5.0
Vegetable, truck, and specialty crops	258.6	-9.8
Orchards and vineyards	159.4	-11.1

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

Alternative 1B may also affect production costs on lands even if gross revenues are largely unaffected. Increased costs could be associated with operational constraints and longer travel times due to permanent facilities. In most cases, affected lands fall within the facilities footprint, and are included in the agricultural acreage and value of production described elsewhere in this chapter and in Chapter 14, *Agricultural Resources*, Section 14.3.3.3.

Crop yields and crop selection on lands in the Delta could be affected by changes in salinity of agricultural water supply during operation and maintenance activities. If operation of the proposed conveyance facilities increases salinity in part of the Delta, crops that are more sensitive to salinity could shift to other lands in the five-county Delta region. See Chapter 14, *Agricultural Resources*, Section 14.3.3.3, Impact AG-2, for further discussion of effects from changes in salinity.

NEPA Effects: The footprint of water conveyance facilities would result in lasting reductions in crop acreage and in the value of agricultural production in the Delta region; therefore, this is considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural productivity and compensating off-site.

1 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities
 2 the value of agricultural production in the in the Delta region would be reduced. The permanent
 3 removal of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*,
 4 Section 14.3.3.3, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 5 considered an environmental impact. Significant environmental impacts would only result if the
 6 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 7 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 8 economic losses due to implementation of the alternative. While the compensation to property
 9 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 10 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
 11 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 12 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 13 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 14 Zones.

15 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the**
 16 **Implementation of CM2–CM21**

17 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
 18 to those described under Alternative 1A, Impact ECON-13 because the measures are similar. In the
 19 Delta region, spending on CM2–CM21 would include construction, operation and maintenance
 20 activities that would convert or disturb existing land use. Because implementation of CM2–CM21
 21 would be anticipated to result in an increase in construction and operation and maintenance-related
 22 employment and labor income, this would be considered a beneficial effect. However,
 23 implementation of these components would also be anticipated to result in a decrease in
 24 agricultural-related employment and labor income, which would be considered an adverse effect.
 25 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 26 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 27 compensating off-site. Additionally, implementation of these components are anticipated to result in
 28 the abandonment of natural gas wells, causing a decrease in employment and labor income
 29 associated with monitoring and maintaining wells, which would be considered an adverse effect.
 30 Mitigation Measure MIN-5, described in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-
 31 5, would be available to reduce these effects by minimizing, to the extent feasible, the need for well
 32 abandonment or relocation.

33 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
 34 income in the Delta region. The change in total employment and income in the Delta region is based
 35 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
 36 changes in agricultural production, recreation, and natural gas production activities. The total
 37 change in employment and income is not, in itself, considered an environmental impact. Significant
 38 environmental impacts would only result if the changes in regional economics cause physical
 39 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 40 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 41 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
 42 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
 43 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

1 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of**
2 **Implementing CM2–CM21**

3 **NEPA Effects:** Effects on population and housing as a result of the proposed CM2–CM21 would be
4 similar to those described under Alternative 1A, Impact ECON-14 because the measures are similar.
5 In general, the changes in population and housing would include increases in population from the
6 construction and operation and maintenance-related activity and declines in residential housing and
7 business establishments as a result of lands converted or impaired. Because these activities would
8 not result in concentrated, substantial increases in population or new housing, they would not be
9 considered to have an adverse effect.

10 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
11 housing in the Delta region. The change in total population and housing in the Delta region is based
12 on employment resulting from implementation of the proposed CM2–CM21. The change in
13 population and housing is expected to be minor relative to the five-county Delta region, and
14 dispersed throughout the region. Therefore, significant changes to the physical environment are not
15 anticipated to result.

16 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

17 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
18 similar to those described under Alternative 1A, Impact ECON-15 because the conservation
19 measures are similar. While implementation of CM2–CM21 could result in beneficial effects relating
20 to the economic welfare of a community, adverse social effects, including effects on community
21 cohesion, could also arise in those communities closest to character-changing effects and those most
22 heavily influenced by agricultural activities. Implementation of mitigation measures and
23 environmental commitments related to noise, visual effects, transportation, agriculture, and
24 recreation would reduce adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and*
25 *CMs*). These actions are summarized under Alternative 1A, Impact ECON-15.

26 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 1B could affect community
27 character within the Delta region. These activities could have adverse or beneficial effects with
28 respect to community character. Because these impacts are social in nature, rather than physical,
29 they are not considered impacts under CEQA. To the extent that changes to community character are
30 related to physical impacts involving population growth, these impacts are described in Chapter 30,
31 *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in
32 population or employment, even if limited to certain areas, sectors, or the vacancy of individual
33 buildings, could result in alteration of community character stemming from a lack of maintenance,
34 upkeep, and general investment.

35 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing**
36 **CM2–CM21**

37 **NEPA Effects:** Under Alternative 1B, effects on local government fiscal conditions as a result of
38 conservation measure implementation would be similar to those described under Alternative 1A,
39 Impact ECON-16. CM2–CM21 would remove some private land from local property tax and
40 assessment rolls. This economic effect would be considered adverse; however, the BDCP proponents
41 would offset forgone property tax and assessments levied by local governments and special districts
42 on private lands converted to habitat.

1 **CEQA Conclusion:** Under Alternative 1B, implementation of CM2–CM21 would result in the removal
 2 of a portion of the property tax base for various local government entities in the Delta region. Over
 3 the 50-year permit period, property tax and assessment revenue forgone is estimated at \$176.7
 4 million, compared with annual property tax revenue of more than \$934 million in the Delta counties
 5 (California State Controller’s Office 2012). Projected over the 50-year period, these removals would
 6 likely represent less than 1% of these counties’ property tax revenue. However, the BDCP
 7 proponents would compensate local governments and special districts for forgone revenue. CEQA
 8 does not require a discussion of socioeconomic effects except where they would result in physical
 9 changes. If an alternative is not anticipated to result in a physical change to the environment, it
 10 would not be considered to have a significant impact under CEQA (CEQA Guidelines Sections
 11 15064(f) and 15131).

12 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

13 **NEPA Effects:** Effects related to implementation of the CM2–CM21 under this alternative would be
 14 similar to those described under Alternative 1A, Impact ECON-17. These measures may result in
 15 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
 16 for decreased or increased economic activities related to recreation.

17 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
 18 recreation and compromise the quality of activities, leading to potential economic impacts.
 19 However, implementation could also improve the quality of existing recreational opportunities,
 20 creating increased economic value with respect to recreation. This section considers only the
 21 economic effects of recreational changes brought about by conservation measure implementation.
 22 Potential physical changes to the environment relating to recreational resources are described and
 23 evaluated in Chapter 15, *Recreation*, Section 15.3.3.3, Impacts REC-9 through REC-11.

24 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of** 25 **Implementing CM2–CM21**

26 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
 27 described under Alternative 1A, Impact ECON-18 because the measures are similar. CM2–CM21
 28 would convert land from existing agricultural uses. These direct effects on agricultural land are
 29 described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.3, Impacts AG-3 and AG-
 30 4. Effects on agricultural economics would include effects on crop production and agricultural
 31 investments resulting from restoration actions on agricultural lands. The effects would be similar in
 32 kind to those described for lands converted due to construction and operation of the conveyance
 33 features and facilities. The total acreage and crop mix of agricultural land potentially affected is not
 34 specified at this time, but when required, the BDCP proponents would provide compensation to
 35 property owners for losses due to implementation of the alternative.

36 **NEPA Effects:** Because implementation of CM2–CM21 would be anticipated to lead to reductions in
 37 crop acreage and in the value of agricultural production in the Delta region, this is considered an
 38 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 39 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 40 productivity and compensating off-site.

41 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
 42 production in the Delta region. The permanent removal of agricultural land from production is
 43 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.3, Impacts AG-3 and AG-4. The

1 reduction in the value of agricultural production is not considered an environmental impact.
 2 Significant environmental impacts would only result if the changes in regional economics cause
 3 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 4 required, the BDCP proponents would provide compensation to property owners for economic
 5 losses due to implementation of the alternative. While the compensation to property owners would
 6 reduce the severity of economic effects related to the loss of agricultural land, it would not
 7 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 8 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

9 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

10 **NEPA Effects:** The socioeconomic effects associated with operation of Alternative 1B would be the
 11 same as those described under Alternative 1A, Impact ECON-19, because deliveries would be based
 12 on the same operational guidelines. Changes in deliveries to hydrologic regions could result in
 13 beneficial or adverse socioeconomic effects in these areas. In hydrologic regions where water
 14 deliveries are predicted to increase when compared with the No Action Alternative, more stable
 15 agricultural activities could support employment and economic production associated with
 16 agriculture. Where M&I deliveries increase, population growth could lead to general economic
 17 growth and support water-intensive industries. Such changes could also lead to shifts in the
 18 character of communities in the hydrologic regions with resultant beneficial or adverse effects.
 19 Likewise, growth associated with deliveries could require additional expenditures for local
 20 governments while also supporting increases in revenue.

21 **CEQA Conclusion:** Operation of water conveyance facilities under Alternative 1B could affect
 22 socioeconomic conditions in the hydrologic regions receiving water from the SWP and CVP.
 23 However, because these impacts are social and economic in nature, rather than physical, they are
 24 not considered environmental impacts under CEQA. To the extent that changes in socioeconomic
 25 conditions in the hydrologic regions would lead to physical impacts, such impacts are described in
 26 Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.

27 **16.3.3.4 Alternative 1C—Dual Conveyance with West Alignment and** 28 **Intakes W1–W5 (15,000 cfs; Operational Scenario A)**

29 Alternative 1C would result in effects on lands and communities in the study area associated with
 30 construction of five intakes and intake pumping plants, one forebay, conveyance pipelines, canals, a
 31 tunnel, culvert siphons, and an intermediate pumping plant. Nearby areas would be altered for the
 32 deposition of spoils. Transmission lines, access roads, and other incidental facilities would also be
 33 needed for operation of the Alternative 1C facilities and construction of these structures would have
 34 effects on lands and communities. This alternative would differ from Alternative 1A primarily in that
 35 water would be carried south in a series of canals along the western side of the Delta to an
 36 intermediate pumping plant and then pumped through a tunnel to a continuing canal to the
 37 proposed Byron Tract Forebay, rather than long segments of deep pipeline and tunnel through the
 38 central part of the Delta.

39 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 40 **Region during Construction of the Proposed Water Conveyance Facilities**

41 The regional economic effects on employment and income in the Delta region during construction
 42 were evaluated for both the unlined and lined canal options. Changes are shown relative to the

Existing Conditions and the No Action Alternative (regional economic conditions do not differ between Existing Conditions and No Action Alternative). The effects on employment and income for the unlined option are displayed in Table 16-31. Table 16-31 shows the direct and total change that would result from conveyance-related spending. As evident in Table 16-31, spending on conveyance construction results in substantial local economic activity in the region. As shown, direct construction employment is anticipated to vary over the 8-year construction period, with an estimated 2,747 FTE jobs in the first year and 236 FTE jobs in the final year of the construction period. Construction employment is estimated to peak at 5,300 FTE jobs in year 4. Total employment (direct, indirect, and induced) would peak in year 3 at 11,698 FTE jobs.

Table 16-31. Regional Economic Effects on Employment and Labor Income during Construction (Alternative 1C)

Regional Economic Impact ^a	Year							
	1	2	3	4	5	6	7	8
Employment (FTE)								
Direct	2,747	3,016	4,915	5,300	4,794	4,194	1,128	236
Total ^b	9,209	8,411	11,698	11,559	9,867	7,767	2,126	352
Labor Income (million \$)								
Direct	197.6	155.8	181.1	156.9	120.7	74.3	21.3	1.1
Total ^b	379.1	312.7	386.9	352.5	283.0	194.8	54.6	5.8

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

The footprint of conveyance and related facilities such as roads and utilities would remove some existing agricultural land from production, so the effects on employment and income from those removals would be negative. The regional economic effects on employment and income in the Delta region from the change in agricultural production are reported in Table 16-32. As shown, direct agricultural employment would be reduced by an estimated 64 FTE jobs, while total employment (direct, indirect, and induced) associated with agricultural employment would fall by 240 FTE jobs. Based on the crop production values changes described in Impact ECON-6 for construction effects, the direct agricultural job losses would more likely be concentrated in the vegetable, truck, orchard, and vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage crop sectors, where more jobs are mechanized. Note that direct agricultural job losses could be higher than the 64 FTE jobs shown in Table 16-32 because many agricultural jobs are seasonal rather than year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every FTE job lost as a result of construction of conveyance facilities construction. Mapbook Figures M14-5 and M14-6 display areas of Important Farmland and lands under Williamson Act contracts that could be converted to other uses due to the construction of water conveyance facilities for the West alignment. Note that not all of these structures would be constructed under this alternative.

1 **Table 16-32. Regional Economic Effects on Agricultural Employment and Labor Income, during**
 2 **Construction (Alternative 1C)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-64
Total ^b	-240
Labor Income (million \$)	
Direct	-8.1
Total ^b	-15.5

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.
^b Includes direct, indirect, and induced effects.

3
 4 Additionally, the Alternative 1C construction footprint would result in the abandonment of an
 5 estimated four producing natural gas wells in the study area, as described in Chapter 26, *Mineral*
 6 *Resources*, Section 26.3.3.4, Impact MIN-1. This could result in the loss of employment and labor
 7 income associated with monitoring and maintaining these wells. Generally, small crews perform
 8 ongoing monitoring and maintenance of several wells at a time. As shown in Chapter 26, *Mineral*
 9 *Resources*, Table 26-2, 516 active producer wells are located in the study area. Even if all four
 10 producing wells in the Alternative 1C construction footprint were abandoned and not replaced with
 11 new wells installed outside the construction footprint, the percentage reduction in the number of
 12 natural gas wells would be very small. As a result, the employment and labor income effects
 13 associated with well abandonment, while negative, would be minimal.

14 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 15 construction-related employment and labor income, this would be considered a beneficial effect.
 16 However, these activities would also be anticipated to result in a decrease in agricultural-related
 17 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 18 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 19 available to reduce these effects by preserving agricultural productivity and compensating off-site.

20 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
 21 employment and income in the Delta region. The change would result from expenditures on
 22 construction, increasing employment, and from changes in agricultural production, decreasing
 23 employment. Changes in recreational expenditures and natural gas well operations could also affect
 24 regional employment and income, but these have not been quantified. The total change in
 25 employment and income is not, in itself, considered an environmental impact. Significant
 26 environmental impacts would only result if the changes in regional economics cause physical
 27 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 28 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 29 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.4, Impacts AG-1
 30 and AG-2; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 31 15.3.3.4, REC-1 through REC-4; abandonment of natural gas wells is addressed in Chapter 26,
 32 *Mineral Resources*, Section 26.3.3.4, Impact MIN-1. When required, DWR would provide
 33 compensation to property owners for economic losses due to implementation of the alternative.
 34 While the compensation to property owners would reduce the severity of economic effects related

1 to the loss of agricultural land, it would not constitute mitigation for any related physical impact.
 2 Measures to reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section
 3 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve
 4 agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson
 5 Act contracts or in Farmland Security Zones.

6 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 7 **the Proposed Water Conveyance Facilities**

8 **Population**

9 Construction of conveyance facilities would require an estimated peak of 5,300 workers in year 4 of
 10 the assumed 8-year construction period. It is anticipated that many of these new jobs would be filled
 11 from within the existing five-county labor force.

12 Considering the multi-year duration of conveyance facility construction, it is anticipated that non-
 13 local workers would temporarily relocate to the five-county region, thus adding to the local
 14 population. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section
 15 30.3.2.1, Direct Growth Inducement, an estimated 30 percent of workers could come from out of the
 16 Delta region, suggesting that approximately 1,300 workers could relocate to the Delta region at the
 17 peak of the construction period. However, this additional population would constitute a minor
 18 increase in the total 2020 projected regional population of 4.6 million and be distributed throughout
 19 the region. Changes in demand for public services resulting from any increase in population are
 20 addressed in Chapter 20, *Public Services and Utilities*, Section 20.3.3.4, Impact UT-1 through UT-6.

21 **Housing**

22 Changes in housing demand are based on changes in supply resulting from displacement during
 23 facilities construction and changes in housing demand resulting from employment associated with
 24 construction of conveyance facilities. As described in Chapter 13, *Land Use*, Section 13.3.3.4, Impact
 25 LU-2, construction of water conveyance facilities under Alternative 1C would conflict with
 26 approximately 194 residential structures.

27 The construction workforce would most likely commute daily to the work sites from within the five-
 28 county region; however, if needed, there are about 53,000 housing units available to accommodate
 29 workers who may choose to commute on a workweek basis or who may choose to temporarily
 30 relocate to the region for the duration of the construction period, including the estimated 1,300
 31 workers who may temporarily relocate to the Delta region from out of the region. In addition to the
 32 available housing units, there are recreational vehicle parks within the five-county region to
 33 accommodate any construction workers. As a result, and as discussed in more detail in Chapter 30,
 34 *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, Direct Growth Inducement,
 35 construction of the proposed conveyance facilities is not expected to substantially increase the
 36 demand for housing within the five-county region.

37 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
 38 However, given the availability of housing within the five-county region, predicting where this
 39 impact might fall would be speculative. In addition, new residents would likely be dispersed across
 40 the region, thereby not creating a burden on any one community.

1 Because these activities would not result in permanent concentrated, substantial increases in
2 population or new housing, they would not be considered to have an adverse effect.

3 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
4 population increases in the Delta region with adequate housing supply to accommodate the change
5 in population. Therefore adverse changes in the physical environment are not anticipated.

6 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 7 **Water Conveyance Facilities**

8 **NEPA Effects:** Under Alternative 1C, effects on NEPA community character would be similar in nature, but
9 not location or magnitude, to those described under Alternative 1A, Impact ECON-3. Under this
10 alternative, regional population and employment would increase to levels described above under
11 Impact ECON-1 and ECON-2. The geographic extent of these effects would also vary from that
12 described for Alternative 1A, as the intensity of effects would be somewhat greater or lesser based
13 on communities' ability to accommodate growth and proximity to features constructed for the water
14 conveyance alignment under this alternative. Under this alternative, areas near the intake pumping
15 plants in the vicinity of Clarksburg, Hood, and Courtland could experience the greatest changes in
16 character, along with communities near the canal alignment like Knightsen, Discovery Bay, Bethel
17 Island, and Byron. Effects associated with construction activities could also result in changes to
18 community cohesion if they were to restrict mobility, reduce opportunities for maintaining face-to-
19 face relationships, or disrupt the functions of community organizations or community gathering
20 places (such as schools, libraries, places of worship, and recreational facilities). Under Alternative
21 1C, several gathering places that lie in the vicinity of construction areas could be indirectly affected
22 by noise and traffic associated with construction activities, including the Clarksburg Library, Delta
23 High School, Excelsior School, Knightsen Elementary School, Timber Point School, YMCA Childcare at
24 Timber Point, Byron Brentwood Cemetery, Bethel Island Baptist Church, Clarksburg Community
25 Church, Resurrection Life Community Church, Son Rise Family Fellowship, Citizen Land Alliance,
26 Bethel Island Chamber of Commerce, Discovery Bay Chamber of Commerce, Clarksburg Fire
27 Department, Courtland Fire Department, Knightsen Fire Department, and several marinas or other
28 recreational facilities (see Chapter 15, *Recreation*, Table 15-14).

29 Like Alternative 1A, the anticipated economic shift away from agriculture and towards construction
30 could result in demographic changes. In comparing the existing demographic composition of
31 agricultural workers and construction laborers within the five-county Delta Region, men make up a
32 large proportion of both occupations: 84 percent of agricultural workers were male, compared with
33 98 percent of construction laborers. Approximately 92 percent of agricultural workers made less
34 than \$35,000, while 60 percent of construction laborers made less than \$35,000. Additionally, 87
35 percent of agricultural workers within the study area report Hispanic origin, while 54 percent of
36 construction laborers claim Hispanic origin within the five-county area (U.S. Census Bureau 2012b).

37 Construction activities could be expected to bring about a decline in the rural qualities currently
38 exhibited by Delta communities, while expansion of employment and population in the region could
39 provide economic opportunities supportive of community stability. While water conveyance
40 construction could result in beneficial effects relating to the economic welfare of a community,
41 adverse social effects could also arise as a result of declining economic stability in communities
42 closest to construction effects and in those most heavily influenced by agricultural and recreational
43 activities. Implementation of mitigation measures and environmental commitments related to noise,
44 visual effects, transportation, agriculture, and recreation would reduce adverse effects (see

1 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are summarized under
2 Alternative 1A, Impact ECON-3.

3 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 1C could affect
4 community character in the Delta region. However, because these impacts are social in nature,
5 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
6 community character would lead to physical impacts involving population growth, such impacts are
7 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
8 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
9 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
10 character stemming from a lack of maintenance, upkeep, and general investment. However,
11 implementation of mitigation measures and environmental commitments related to noise, visual
12 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
13 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
14 erosion and sediment control plans, hazardous materials management plans, notification of
15 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
16 mosquito management plans.

17 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 18 **the Proposed Water Conveyance Facilities**

19 **NEPA Effects:** Under Alternative 1C, publicly owned water conveyance facilities would be
20 constructed on land of which some is currently held by private owners. Property tax and assessment
21 revenue forgone as a result of water conveyance facilities is estimated at \$20.2 million over the
22 construction period. These decreases in revenue could potentially result in the loss of a substantial
23 share of some agencies' tax bases, particularly for smaller districts affected by the BDCP, such as
24 reclamation districts where conveyance facilities and associated work areas are proposed. This
25 economic effect would be considered adverse; however, the BDCP proponents would make
26 arrangements to compensate local governments for the loss of property tax or assessment revenue
27 for land used for constructing, locating, operating, or mitigating for new Delta water conveyance
28 facilities. Additionally, as discussed under Impact ECON-1, construction of the water conveyance
29 facilities would be anticipated to result in a net increase of income and employment in the Delta
30 region. This would also create an indirect beneficial effect through increased sales tax revenue for
31 local government entities that rely on sales taxes.

32 **CEQA Conclusion:** Under Alternative 1C, construction of water conveyance facilities would result in
33 the removal of a portion of the property tax base for various local government entities in the Delta
34 region. Over the construction period, property tax and assessment revenue forgone is estimated at
35 \$20.2 million, compared with annual property tax revenue of more than \$934 million in the Delta
36 counties (California State Controller's Office 2012). Projected over the 50-year period, these
37 removals would likely represent less than 0.1% of these counties' property tax revenue. However,
38 the Sacramento-San Joaquin Delta Reform Act commits the entities receiving water from the State
39 Water Project and federal Central Valley Project to mitigate for lost property tax and assessment
40 revenue associated with land needed for the construction of new conveyance facilities (Water Code
41 Section 85089). Additionally, any losses could be offset, at least in part, by an anticipated increase in
42 sales tax revenue. CEQA does not require a discussion of socioeconomic effects except where they
43 would result in reasonably foreseeable physical changes. If an alternative is not anticipated to result
44 in a physical change to the environment, it would not be considered to have a significant impact

1 under CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any physical consequences
2 resulting from fiscal impacts are too speculative to ascertain.

3 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 4 **Water Conveyance Facilities**

5 **NEPA Effects:** Under Alternative 1C, disruption of recreational activities during the construction
6 period would be similar in character to that described under Alternative 1A, Impact ECON-5.
7 However, as described in Chapter 15, *Recreation*, Section 15.3.3.4, Impacts REC-1 through REC-4, the
8 geographic incidence and extent of these effects would be different based on the construction of a
9 different conveyance alignment composed of different features. Access to recreational facilities may
10 be restricted throughout the construction period. Additionally, the quality of recreational activities
11 including boating, fishing, waterfowl hunting, and hiking in the Delta could be indirectly affected by
12 noise, lighting, traffic, and visual degradation in proximity to water conveyance construction. Under
13 this alternative, 11 recreational sites or recreational areas would experience periods of
14 construction-related effects, including noise, access, visual disturbances, or a combination of these
15 effects. These include Clarksburg Boat Launch (fishing access), Arrowhead Harbor Marina, Miner
16 Slough Wildlife Area, Hidden Harbor Marina, Delta Protection lands, Twitchell Island, Franks Tract
17 State Recreation Area, Sycamore Drive Park and Lakewood Drive Community Parks, Clifton Court
18 Forebay, and Lazy M Marina. Construction activities associated with this alternative would affect
19 fewer established recreational sites than under Alternative 1B but more than under Alternative 1A.

20 Construction of water conveyance structures under this alternative would be anticipated to result in
21 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite
22 the implementation of mitigation measures, including enhancement of fishing access sites and
23 incorporation of recreational access into project design, and environmental and other commitments,
24 including providing funding to implement recreational improvements and control aquatic weeds,
25 providing notification of maintenance activities in waterways, and developing and implementing a
26 noise abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*.
27 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
28 in areas closest to construction activities. The multi-year schedule and geographic scale of
29 construction activities and the anticipated decline in recreational spending would be considered an
30 adverse effect. The commitments and mitigation measure cited above would contribute to the
31 reduction of this effect.

32 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 1C
33 could impact recreational revenue in the Delta region if construction activities result in fewer visits
34 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
35 recreational activities. This section considers only the economic effects of recreational changes
36 brought about by construction of the proposed water conveyance facilities. Potential physical
37 changes to the environment relating to recreational resources are described and evaluated in
38 Chapter 15, *Recreation*, Section 15.3.3.4, REC-1 through REC-4.

39 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 40 **the Proposed Water Conveyance Facilities**

41 Construction of conveyance facilities would convert land from existing agricultural uses to uses that
42 include direct facility footprints, construction staging areas, borrow/spoils areas, RTM storage,
43 temporary and permanent roads, and utilities. Agricultural land could also be affected by changes in

1 water quality and other conditions that would affect crop productivity. These direct effects on
 2 agricultural land are described in Chapter 14, *Agricultural Resources*, Section 14.3.3.4, Impacts AG-1
 3 and AG-2.

4 Changes in crop acreage were used to describe the associated changes in economic values. Unit
 5 prices, yields, and crop production and investment costs were presented in Section 16.1,
 6 *Environmental Setting/Affected Environment*. Table 16-33 summarizes the changes in acreage and
 7 value of agricultural production that would result in the Delta region as a result of Alternative 1C
 8 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative
 9 by aggregate crop category (agricultural resources under Existing Conditions and in the No Action
 10 Alternative were assumed to be the same). The table also includes a summary of changes in crop
 11 acreages that are reported in greater detail in Appendix 14A, *Individual Crop Effects as a Result of*
 12 *BDCP Water Conveyance Facility Construction*.

13 Total value of irrigated crop production in the Delta would decline on average by \$22.2 million per
 14 year during the construction period, with total irrigated crop acreage declining by about 14,300
 15 acres. These estimates are not dependent on water year type.

16 **Table 16-33. Crop Acres and Value of Agricultural Production in the Delta during Construction**
 17 **(Alternative 1C)**

Analysis Metric	Alternative 1C	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	469.4	-14.3
Grains	56.8	-1.9
Field crops	187.1	-4.0
Forage crops	108.6	-4.1
Vegetable, truck, and specialty crops	75.9	-1.3
Orchards and vineyards	41.0	-3.1
Total Value of Production (million \$)	627.8	-22.2
Grains	23.6	-0.6
Field crops	111.7	-2.1
Forage crops	70.6	-2.5
Vegetable, truck, and specialty crops	264.7	-3.7
Orchards and vineyards	157.2	-13.4

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

18
 19 Alternative 1C may also affect production costs, investments in production facilities and standing
 20 orchards and vineyards, and salinity of agricultural water supply. Effects would be similar to those
 21 qualitatively described under Alternative 1A, Impact ECON-6. See Chapter 14, *Agricultural*
 22 *Resources*, Section 14.3.3.4, Impacts AG-1 and AG-2, for further discussion of indirect effects on
 23 agriculture.

24 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 25 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 26 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*

1 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
2 agricultural productivity and compensating off-site.

3 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
4 value of agricultural production in the Delta region. The removal of agricultural land from
5 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.4, Impacts AG-1 and
6 AG-2. The reduction in the value of agricultural production is not considered an environmental
7 impact. Significant environmental impacts would only result if the changes in regional economics
8 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
9 required, DWR would provide compensation to property owners for economic losses due to
10 implementation of the alternative. While the compensation to property owners would reduce the
11 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
12 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
13 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
14 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
15 and land subject to Williamson Act contracts or in Farmland Security Zones.

16 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 17 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

18 In the Delta region, ongoing operation and maintenance of BDCP facilities would result in increased
19 expenditures relative to the Existing Conditions and the No Action Alternative (regional economic
20 conditions do not differ across Existing Conditions and No Action Alternative). The increased
21 expenditures are expected to result in a permanent increase in regional employment and income,
22 including an estimated 187 direct and 269 total (direct, indirect, and induced) FTE jobs (Table 16-
23 34). Since operation and maintenance expenditures for the unlined and lined options were not
24 differentiated, the results summarized in this section are assumed to apply to both the unlined and
25 lined option. Potential changes in the value of agricultural production result in changes to regional
26 employment and income in the Delta region under the Alternative 1C relative to the Existing
27 Conditions and the No Action Alternative.

28 **Table 16-34. Regional Economic Effects on Employment and Labor Income during Operations and**
29 **Maintenance (Alternative 1C)**

Regional Economic Impact ^a	Impacts from Operations and Maintenance
Employment (FTE)	
Direct	187
Total ^b	269
Labor Income (million \$)	
Direct	11.4
Total ^b	15.3

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects.

30
31 The operation and maintenance of conveyance and related facilities such as roads and utilities
32 would result in the permanent removal of agricultural land from production following construction,
33 and the effects on employment and income would be negative, including the loss of an estimated 75

1 agricultural and 216 total (direct, indirect, and induced) FTE jobs. The regional economic effects on
 2 employment and income in the Delta region from the change in agricultural production are reported
 3 in Table 16-35. Based on the permanent crop production value changes described in Impact ECON-
 4 12, the agricultural job losses would more likely be concentrated in the vegetable, truck, orchard,
 5 and vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage
 6 crop sectors, where more jobs are mechanized. Note that direct agricultural job losses could be
 7 higher than the 75 FTE jobs shown in Table 16-35 because many agricultural jobs are seasonal
 8 rather than year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every
 9 FTE job lost as a result of permanent agricultural production changes. Mapbook Figures M14-5 and
 10 M14-6 display areas of Important Farmland and lands under Williamson Act contracts that could be
 11 converted to other uses due to the construction of water conveyance facilities for the West
 12 alignment. Note that not all of these structures would be constructed under this alternative.

13 **Table 16-35. Regional Economic Effects on Agricultural Employment and Labor Income during**
 14 **Operations and Maintenance (Alternative 1C)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-75
Total ^b	-216
Labor Income (million \$)	
Direct	-6.5
Total ^b	-12.4

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.
^b Includes direct, indirect, and induced effects.

15
 16 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 17 result in an increase in operations-related employment and labor income, this would be considered
 18 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 19 agricultural-related employment and labor income, which would be considered an adverse effect.
 20 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 21 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 22 compensating off-site.

23 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 24 increase total employment and income in the Delta region. The change would result from
 25 expenditures on operation and maintenance and from changes in agricultural production. The total
 26 change in income and employment is not, in itself, considered an environmental impact. Significant
 27 environmental impacts would only result if the changes in regional economics cause physical
 28 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 29 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 30 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.4, Impacts AG-3
 31 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 32 15.3.3.4, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
 33 property owners for economic losses due to implementation of the alternative. While the
 34 compensation to property owners would reduce the severity of economic effects related to the loss

1 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 2 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 3 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
 4 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
 5 contracts or in Farmland Security Zones.

6 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 7 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

8 **Population**

9 Operations and maintenance of conveyance facilities would require approximately 190 permanent
 10 new workers. Given the nature of those operation and maintenance jobs, the existing water
 11 conveyance facilities already in the five-county region, the large workforce in the region, and the
 12 large water agencies with headquarters in that region, it is anticipated that most of these new jobs
 13 would be filled from within the existing five-county labor force. However, operation and
 14 maintenance may require specialized worker skills not readily available in the local labor pool. As a
 15 result, it is anticipated that some specialized workers may be recruited from outside the five-county
 16 region.

17 It is anticipated that non-local workers would relocate to the five-county region, thus adding to the
 18 local population. However, this additional population would constitute a minor increase in the total
 19 2020 projected regional population of 4.6 million and be distributed throughout the region. Changes
 20 in demand for public services resulting from any increase in population are addressed in Chapter 20,
 21 *Public Services and Utilities*, Section 20.3.3.4, Impact UT-7.

22 **Housing**

23 It is anticipated that most of the operational workforce would be drawn from within the five-county
 24 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.
 25 There are about 53,000 housing units available to accommodate any nonlocal workers who relocate
 26 to the five-county region. In addition, new residents would likely be dispersed across the region,
 27 thereby not creating a burden on any one community. As a result, operation and maintenance of the
 28 proposed conveyance facilities is not expected to increase the demand for housing.

29 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 30 population or new housing, they would not be considered to have an adverse effect.

31 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 32 result in minor population increases in the Delta region with adequate housing supply to
 33 accommodate the change in population. The minor increase in population is not anticipated to result
 34 in any adverse changes to the physical environment.

35 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 36 **Proposed Water Conveyance Facilities**

37 **NEPA Effects:** Throughout the five-county Delta region, population and employment could slightly
 38 expand due to continued operation and maintenance of the water conveyance facilities under
 39 Alternative 1C. Agricultural contributions to the character and culture of the Delta would be likely to
 40 decline commensurate with the projected decline in agricultural-related employment and
 41 production, as discussed under Impact ECON-7. This could result in the closure of agriculture-

1 dependent businesses or those catering to agricultural employees, particularly in areas where
 2 conversion of agricultural land would be most concentrated. Similar effects could accrue to areas
 3 disproportionately dependent upon existing recreational activities. However, influences associated
 4 with those hired to operate, repair, and maintain water conveyance structures would grow. To the
 5 extent that this anticipated economic shift away from agriculture results in demographic changes in
 6 population, employment level, income, age, gender, or race, the study area would be expected to see
 7 changes to its character, particularly in those Delta communities most substantially affected by
 8 demographic changes based on their size or proximity to BDCP facilities.

9 While some of the rural qualities of Delta communities, including relatively low noise and traffic
 10 levels, could return to near pre-construction conditions during the operational phase, other effects
 11 would be lasting. For instance, the visual appearance of intakes and other permanent features would
 12 compromise the predominantly undeveloped and agricultural nature of communities like
 13 Clarksburg, Courtland, Hood, Knightsen, Discovery Bay, and Byron, which are closest to the
 14 permanent surface water conveyance features. Where BDCP operations make areas less desirable in
 15 which to live, work, shop, or participate in recreational activities, localized abandonment of
 16 buildings could result. Such lasting effects could also result in changes to community cohesion if
 17 they were to restrict mobility, reduce opportunities for maintaining face-to-face relationships, or
 18 disrupt the functions of community organizations or community gathering places (such as schools,
 19 libraries, places of worship, and recreational facilities).

20 While ongoing operations could result in beneficial effects relating to the economic welfare of a
 21 community under Alternative 1C, adverse social effects could also arise, particularly in communities
 22 closest to character-changing effects and in those most heavily influenced by agricultural and
 23 recreational activities. Implementation of mitigation measures and environmental commitments
 24 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
 25 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 26 summarized under Alternative 1A, Impact ECON-9.

27 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 1C
 28 could affect community character in the Delta region. However, because these impacts are social in
 29 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 30 changes to community character would lead to physical impacts involving population growth, these
 31 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
 32 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment could
 33 result in alteration of community character stemming from a lack of maintenance, upkeep, and
 34 general investment.

35 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 36 **Maintenance of the Proposed Water Conveyance Facilities**

37 **NEPA Effects:** Under Alternative 1C, publicly owned water conveyance facilities would be located,
 38 operated, and maintained on land of which some is currently held by private owners. Property tax
 39 and assessment revenue forgone as a result of water conveyance facilities is estimated at \$121.2
 40 million over the BDCP's 50-year permit period, or an average of \$2.4 million annually, compared
 41 with annual property tax revenue of more than \$934 million in the Delta counties (California State
 42 Controller's Office 2012). Projected over the 50-year period, these removals would likely represent
 43 less than 1% of these counties' property tax revenue. These decreases in revenue could potentially
 44 result in the loss of a substantial share of some agencies' tax bases, particularly for smaller districts

1 affected by the BDCP. This economic effect would be considered adverse; however, the BDCP
 2 proponents would make arrangements to compensate local governments for the loss of property tax
 3 or assessment revenue for land used for constructing, locating, operating, or mitigating for new
 4 Delta water conveyance facilities. Additionally, as discussed under Impact ECON-7, operation and
 5 maintenance of the water conveyance facilities may result in a net increase of income and
 6 employment in the Delta region. This could also create an indirect beneficial effect through
 7 increased sales tax revenue for local government entities that rely on sales taxes.

8 **CEQA Conclusion:** Under Alternative 1C, the ongoing operation and maintenance of water
 9 conveyance facilities would restrict potential property tax revenue for various local government
 10 entities in the Delta region. Over the 50-year permit period, property tax and assessment revenue
 11 forgone is estimated at \$121.2 million. However, the Sacramento-San Joaquin Delta Reform Act
 12 commits the entities receiving water from the State Water Project and federal Central Valley Project
 13 to mitigate for lost property tax and assessment revenue associated with land needed for the
 14 construction of new conveyance facilities (Water Code Section 85089). Additionally, any losses may
 15 be offset, at least in part, by an increase in sales tax revenue. CEQA does not require a discussion of
 16 socioeconomic effects except where they would result in reasonably foreseeable physical changes. If
 17 an alternative is not anticipated to result in a physical change to the environment, it would not be
 18 considered to have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and
 19 15131). Here, any physical consequences resulting from fiscal impacts are too speculative to
 20 ascertain.

21 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 22 **Proposed Water Conveyance Facilities**

23 **NEPA Effects:** As discussed in Chapter 15, *Recreation*, Section 15.3.3.4, Impacts REC-5 through REC-
 24 8, operation and maintenance activities associated with the proposed water conveyance facilities
 25 under Alternative 1C are anticipated to create minor effects on recreational resources. Maintenance
 26 of conveyance facilities, including intakes, would result in periodic temporary but not substantial
 27 adverse effects on boat passage and water-based recreational activities. As discussed in Impact REC-
 28 7, most intake maintenance, such as painting, cleaning, and repairs, would be done with barges and
 29 divers, and could cause a temporary impediment to boat movement in the Sacramento River in the
 30 immediate vicinity of the affected intake structure and reduce opportunities for waterskiing,
 31 wakeboarding, or tubing in the immediate vicinity of the intake structures. However, boat passage
 32 and navigation on the river would still be possible around any barges or other maintenance
 33 equipment and these effects would be expected to be short-term (2 years or less). Although water-
 34 based recreation (i.e., boating, waterskiing, wakeboarding, etc.) may be restricted at and in the
 35 vicinity of intakes, many miles of the Sacramento River would still be usable for these activities
 36 during periodic maintenance events. Additionally, implementation of the environmental
 37 commitment to provide notification of maintenance activities in waterways (Appendix 3B,
 38 *Environmental Commitments, AMMs, and CMs*) would reduce these effects. Because effects of facility
 39 maintenance would be short-term and intermittent, substantial economic effects are not anticipated
 40 to result from operation and maintenance of the facilities.

41 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 42 conveyance facilities under Alternative 1C are anticipated to create minor effects on recreational
 43 resources and therefore, are not expected to substantially reduce economic activity related to
 44 recreational activities. This section considers only the economic effects of recreational changes.

Potential physical changes to the environment relating to recreational resources are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.4, Impacts REC-5 through REC-8.

Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during Operation and Maintenance of the Proposed Water Conveyance Facilities

During operation and maintenance of conveyance facilities existing agricultural land would be in uses that include direct facility footprints and associated permanent roads and utilities. Agricultural land could also be affected by changes in water quality and other conditions that would affect crop productivity. These direct effects on agricultural land are described in Chapter 14, *Agricultural Resources*, Section 14.3.3.4, Impacts AG-1 and AG-2.

Changes in crop acreage were used to estimate the associated changes in economic values. Unit prices, yields, and crop production and investment costs were presented in Section 16.1, *Environmental Setting/Affected Environment*. Table 16-36 summarizes the changes in acreage and value of agricultural production that would result in the Delta region during operation of Alternative 1C. Changes are shown relative to the Existing Conditions and the No Action Alternative by aggregate crop category (agricultural resources under Existing Conditions and in the No Action Alternative were assumed to be the same). The changes in crop acreages are reported in greater detail in Appendix 14A, *Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction*.

Total value of irrigated crop production in the Delta region would decline on average by \$17.7 million per year during operation and maintenance, with total irrigated crop acreage declining by about 11,700 acres. These estimates are not dependent on water year type.

Table 16-36. Crop Acres and Value of Agricultural Production in the Delta during Operations and Maintenance (Alternative 1C)

Analysis Metric	Alternative 1C	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	472.0	-11.7
Grains	57.0	-1.6
Field crops	187.6	-3.5
Forage crops	109.6	-3.1
Vegetable, truck, and specialty crops	76.1	-1.0
Orchards and vineyards	41.6	-2.4
Total Value of Production (million \$)	632.4	-17.7
Grains	23.7	-0.5
Field crops	112.0	-1.9
Forage crops	71.1	-2.0
Vegetable, truck, and specialty crops	265.4	-3.0
Orchards and vineyards	160.2	-10.3

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

Alternative 1C may also affect production costs on lands even if gross revenues are largely unaffected. Increased costs could be associated with operational constraints and longer travel times

1 due to permanent facilities. In most cases, affected lands fall within the facilities footprint, and are
 2 included in the agricultural acreage and value of production described elsewhere in this Chapter and
 3 in Chapter 14, *Agricultural Resources*, Section 14.3.3.4.

4 Crop yields and crop selection on lands in the Delta could be affected by changes in salinity of
 5 agricultural water supply during operation and maintenance activities. If operation of the proposed
 6 conveyance facilities increases salinity in part of the Delta, crops that are more sensitive to salinity
 7 could shift to other lands in the five-county Delta region. See Chapter 14, *Agricultural Resources*,
 8 Section 14.3.3.4, Impact AG-2, for further discussion of effects from changes in salinity.

9 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 10 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 11 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, on
 12 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 13 productivity and compensating off-site.

14 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities
 15 the value of agricultural production in the Delta region would be reduced. The permanent removal
 16 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 17 14.3.3.4, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 18 considered an environmental impact. Significant environmental impacts would only result if the
 19 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 20 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 21 economic losses due to implementation of the alternative. While the compensation to property
 22 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 23 would not constitute mitigation for any related physical effect. Measures to reduce these impacts are
 24 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 25 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 26 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 27 Zones.

28 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 29 **Implementation of CM2–CM21**

30 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
 31 to those described under Alternative 1A, Impact ECON-13 because the measures are similar. In the
 32 Delta region, spending on CM2–CM21 would include construction, operation and maintenance
 33 activities that would convert or disturb existing land use. Because implementation of CM2–CM21
 34 would be anticipated to result in an increase in construction and operation and maintenance-related
 35 employment and labor income, this would be considered a beneficial effect. However,
 36 implementation of these components would also be anticipated to result in a decrease in
 37 agricultural-related employment and labor income, which would be considered an adverse effect.
 38 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 39 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 40 compensating off-site. Additionally, implementation of these components are anticipated to result in
 41 the abandonment of natural gas wells, causing a decrease in employment and labor income
 42 associated with monitoring and maintaining wells, which would be considered an adverse effect.
 43 Mitigation Measure MIN-5, described in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-

1 5, would be available to reduce these effects by minimizing, to the extent feasible, the need for well
2 abandonment or relocation.

3 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
4 income in the Delta region. The change in total employment and income in the Delta region is based
5 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
6 changes in agricultural production, recreation, and natural gas production activities. The total
7 change in employment and income is not, in itself, considered an environmental impact. Significant
8 environmental impacts would only result if the changes in regional economics cause physical
9 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
10 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
11 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
12 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
13 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

14 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 15 **Implementing CM2–CM21**

16 **NEPA Effects:** Effects on population and housing as a result of the proposed CM2–CM21 would be
17 similar to those described under Alternative 1A, Impact ECON-14 because the measures are similar.
18 In general, the changes in population and housing would include increases in population from the
19 construction and operation and maintenance-related activity and declines in residential housing and
20 business establishments as a result of lands converted or impaired. Because these activities would
21 not result in concentrated, substantial increases in population or new housing, they would not be
22 considered to have an adverse effect.

23 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
24 housing in the Delta region. The change in total population and housing in the Delta region is based
25 on employment resulting from implementation of the proposed CM2–CM21. The change in
26 population and housing is expected to be minor relative to the five-county Delta region, and
27 dispersed throughout the region. Therefore, significant changes to the physical environment are not
28 anticipated to result.

29 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

30 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
31 similar to those described under Alternative 1A, Impact ECON-15 because the measures are similar.
32 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
33 welfare of a community, adverse social effects, including effects on community cohesion, could also
34 arise in those communities closest to character-changing effects and those most heavily influenced
35 by agricultural activities. Implementation of mitigation measures and environmental commitments
36 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
37 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
38 summarized under Alternative 1A, Impact ECON-15.

39 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 1C could affect community
40 character within the Delta region. However, because these impacts are social in nature, rather than
41 physical, they are not considered impacts under CEQA. To the extent that changes to community
42 character are related to physical impacts involving population growth, these impacts are described
43 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable

1 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
 2 individual buildings, could result in alteration of community character stemming from a lack of
 3 maintenance, upkeep, and general investment.

4 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 5 **CM2–CM21**

6 **NEPA Effects:** Under Alternative 1C, effects on local government fiscal conditions as a result of
 7 conservation measure implementation would be similar to those described under Alternative 1A,
 8 Impact ECON-16. CM2–CM21 would remove some private land from local property tax and
 9 assessment rolls. This economic effect would be considered adverse; the BDCP proponents would
 10 offset forgone property tax and assessments levied by local governments and special districts on
 11 private lands converted to habitat.

12 **CEQA Conclusion:** Under Alternative 1C, implementation of CM2–CM21 would result in the removal
 13 of a portion of the property tax base for various local government entities in the Delta region. Over
 14 the 50-year permit period, property tax and assessment revenue forgone is estimated at \$176.7
 15 million, compared with annual property tax revenue of more than \$934 million in the Delta counties
 16 (California State Controller’s Office 2012). Projected over the 50-year period, these removals would
 17 likely represent less than 1% of these counties’ property tax revenue. However, the BDCP
 18 proponents would compensate local governments and special districts for forgone revenue. CEQA
 19 does not require a discussion of socioeconomic effects except where they would result in physical
 20 changes. If an alternative is not anticipated to result in a physical change to the environment, it
 21 would not be considered to have a significant impact under CEQA (CEQA Guidelines Sections
 22 15064(f) and 15131)

23 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

24 **NEPA Effects:** Effects related to implementation of the CM2–CM21 under this alternative would be
 25 similar to those described under Alternative 1A, Impact ECON-17. These measures may result in
 26 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
 27 for decreased or increased economic activities related to recreation.

28 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
 29 recreation and compromise the quality of activities, leading to potential economic impacts.
 30 However, over time, implementation could also improve the quality of existing recreational
 31 opportunities, creating increased economic value with respect to recreation. This section considers
 32 only the economic effects of recreational changes brought about by conservation measure
 33 implementation. Potential physical changes to the environment relating to recreational resources
 34 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.4, Impacts REC-9 through REC-
 35 11.

36 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of** 37 **Implementing CM2–CM21**

38 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
 39 described under Alternative 1A, Impact ECON-18 because the measures are similar. CM2–CM21
 40 would convert land from existing agricultural uses. These direct effects on agricultural land are
 41 described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.4, Impacts AG-3 and AG-
 42 4. Effects on agricultural economics would include effects on crop production and agricultural

1 investments resulting from restoration actions on agricultural lands. The effects would be similar in
2 kind to those described for lands converted due to construction and operation of the conveyance
3 features and facilities. The total acreage and crop mix of agricultural land potentially affected is not
4 specified at this time, but when required, the BDCP proponents would provide compensation to
5 property owners for losses due to implementation of the alternative.

6 **NEPA Effects:** Because implementation of CM2–CM21 would be anticipated to lead to reductions in
7 crop acreage and in the value of agricultural production in the Delta region, this is considered an
8 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
9 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
10 productivity and compensating off-site.

11 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
12 production in the Delta region. The permanent removal of agricultural land from production is
13 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.4, Impacts AG-3 and AG-4. The
14 reduction in the value of agricultural production is not considered an environmental impact.
15 Significant environmental impacts would only result if the changes in regional economics cause
16 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
17 required, the BDCP proponents would provide compensation to property owners for economic
18 losses due to implementation of the alternative. While the compensation to property owners would
19 reduce the severity of economic effects related to the loss of agricultural land, it would not
20 constitute mitigation for any related physical impact. Measures to reduce these impacts are
21 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

22 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

23 **NEPA Effects:** The socioeconomic effects associated with operation of Alternative 1C would be the
24 same as those described under Alternative 1A, Impact ECON-19, because deliveries would be based
25 on the same operational guidelines. Changes in deliveries to hydrologic regions could result in
26 beneficial or adverse socioeconomic effects in these areas. In hydrologic regions where water
27 deliveries are predicted to increase when compared with the No Action Alternative, more stable
28 agricultural activities could support employment and economic production associated with
29 agriculture. Where M&I deliveries increase, population growth could lead to general economic
30 growth and support water-intensive industries. Such changes could also lead to shifts in the
31 character of communities in the hydrologic regions with resultant beneficial or adverse effects.
32 Likewise, growth associated with deliveries could require additional expenditures for local
33 governments while also supporting increases in revenue.

34 **CEQA Conclusion:** Operation of water conveyance facilities under Alternative 1C could affect
35 socioeconomic conditions in the hydrologic regions receiving water from the SWP and CVP.
36 However, because these impacts are social and economic in nature, rather than physical, they are
37 not considered environmental impacts under CEQA. To the extent that changes in socioeconomic
38 conditions in the hydrologic regions would lead to physical impacts, such impacts are described in
39 Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.

1 16.3.3.5 Alternative 2A—Dual Conveyance with Pipeline/Tunnel and Five 2 Intakes (15,000 cfs; Operational Scenario B)

3 Facilities construction under Alternative 2A would be almost identical to those described for
4 Alternative 1A. Alternative 2A could involve relocation of two of the intakes to a site south of the
5 confluence of Sutter and Steamboat Sloughs and the Sacramento River. Additionally, under
6 Alternative 2A, an operable barrier would be constructed at the Head of Old River. Operations would
7 be different under Alternative 2A than under Alternative 1A.

8 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 9 **Region during Construction of the Proposed Water Conveyance Facilities**

10 Temporary effects on regional economics during construction of the proposed water conveyance
11 facilities would be similar to those described under Alternative 1A, Impact ECON-1. As shown in
12 Table 16-19, over the construction period, regional effects of construction activities is anticipated to
13 vary over the 8-year construction period, with an estimated 2,433 FTE in the first year and 165 FTE
14 in the final year of the construction period. Construction employment is estimated to peak at 4,390
15 FTE in year 4. Total employment (direct, indirect, and induced) would peak in year 3, at 12,716 FTE.
16 Declines in agricultural production would be expected to lead to a decrease in employment of 27
17 FTE, with total effects leading to a decline of 100 FTE. Similarly, labor income related to these
18 positions would decline, as shown in Table 16-20.

19 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
20 construction-related employment and labor income, this would be considered a beneficial effect.
21 However, these activities would also be anticipated to result in a decrease in agricultural-related
22 employment and labor income, which would be considered an adverse effect. Mitigation Measure
23 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
24 available to reduce these effects by preserving agricultural productivity and compensating off-site.

25 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
26 employment and income in the Delta region, temporarily. The increase in employment and income
27 that would result from expenditures on construction would be greater than the reduction in
28 employment and income attributable to losses in agricultural production. Changes in recreational
29 expenditures and natural gas well operations could also affect regional employment and income, but
30 these have not been quantified. The total change in employment and income is not, in itself,
31 considered an environmental impact. Significant environmental impacts would only result if the
32 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
33 throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation Costs and*
34 *Funding Sources*; removal of agricultural land from production is addressed in Chapter 14,
35 *Agricultural Resources*, Section 14.3.3.5, Impacts AG-1 and AG-2; changes in recreation related
36 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.5, REC-1 through REC-4;
37 abandonment of natural gas wells is addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.5,
38 Impact MIN-1. When required, DWR would provide compensation to property owners for economic
39 losses due to implementation of the alternative. While the compensation to property owners would
40 reduce the severity of economic effects related to the loss of agricultural land, it would not
41 constitute mitigation for any related physical impact. Measures to reduce these impacts are
42 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
43 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for

1 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
2 Zones.

3 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 4 **the Proposed Water Conveyance Facilities**

5 Effects on population and housing during construction of the proposed water conveyance facilities
6 would be similar to those described under Alternative 1A, Impact ECON-2. It is anticipated that non-
7 local workers would temporarily relocate to the Delta region, thus adding to the local population.
8 However, this additional population would constitute a minor increase in the total 2020 projected
9 regional population of 4.6 million and be distributed throughout the region. Within specific local
10 communities, there could be localized effects on housing. However, given the availability of housing
11 within the five-county region, predicting where this impact might fall would be speculative. In
12 addition, new residents would likely be dispersed across the region, thereby not creating a burden
13 on any one community.

14 **NEPA Effects:** Because these activities would not result in permanent concentrated, substantial
15 increases in population or new housing, they would not be considered to have an adverse effect.

16 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
17 temporary population increases in the Delta region, which has an adequate housing supply to
18 accommodate the change in population. Therefore, adverse physical changes resulting from the
19 minor increase in population are not anticipated.

20 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 21 **Water Conveyance Facilities**

22 **NEPA Effects:** Under Alternative 2A, effects on community character would be similar in nature,
23 location, and magnitude to those described under Alternative 1A, Impact ECON-3. Variations in the
24 location of effects would result from the potential construction of Intakes 6 and 7 rather than
25 Intakes 4 and 5 and the construction of an operable barrier at the Head of Old River. While water
26 conveyance construction could result in beneficial effects relating to the economic welfare of a
27 community, adverse social effects could also arise as a result of declining economic stability or
28 changes in community cohesion in communities closest to construction effects and in those most
29 heavily influenced by agricultural and recreational activities. Implementation of mitigation
30 measures and environmental commitments related to noise, visual effects, transportation,
31 agriculture, and recreation would reduce adverse effects (see Appendix 3B, *Environmental*
32 *Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A, Impact ECON-
33 3.

34 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 2C could affect
35 community character in the Delta region. However, because these impacts are social in nature,
36 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
37 community character would lead to physical impacts involving population growth, such impacts are
38 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
39 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
40 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
41 character stemming from a lack of maintenance, upkeep, and general investment. However,
42 implementation of mitigation measures and environmental commitments related to noise, visual
43 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see

1 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
 2 erosion and sediment control plans, hazardous materials management plans, notification of
 3 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
 4 mosquito management plans.

5 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 6 **the Proposed Water Conveyance Facilities**

7 **NEPA Effects:** Effects on tax revenue as a result of water conveyance construction under Alternative
 8 2A would be similar to those described under Alternative 1A, Impact ECON-4. While this economic
 9 effect would be considered adverse, BDCP proponents would compensate local governments for the
 10 loss of property tax or assessment revenue associated with construction of water conveyance
 11 facilities. Additionally, local entities could benefit from an increase in sales tax revenue.

12 **CEQA Conclusion:** Construction of water conveyance facilities for Alternative 2A would result in the
 13 removal of a portion of the property tax base for various local government entities in the Delta
 14 region. However, entities receiving water from the State Water Project and federal Central Valley
 15 Project would mitigate for lost property tax and assessment revenue associated with land needed
 16 for the construction of new conveyance facilities (Water Code Section 85089). Additionally, any
 17 losses could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
 18 require a discussion of socioeconomic effects except where they would result in reasonably
 19 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
 20 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
 21 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
 22 speculative to ascertain.

23 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 24 **Water Conveyance Facilities**

25 **NEPA Effects:** Under Alternative 2A, disruption of recreational activities during the construction
 26 period would be similar in character and magnitude to that described under Alternative 1A, Impact
 27 ECON-5. While access to recreational facilities would be maintained throughout construction, the
 28 quality of recreational activities including boating, fishing, waterfowl hunting, and hiking in the
 29 Delta could be indirectly affected by noise, lighting, traffic, and visual degradation in proximity to
 30 water conveyance construction.

31 Construction of water conveyance structures under this alternative would be anticipated to result in
 32 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite
 33 the implementation of mitigation measures, including enhancement of fishing access sites and
 34 incorporation of recreational access into project design, and environmental and other commitments,
 35 including providing funding to implement recreational improvements and control aquatic weeds,
 36 providing notification of maintenance activities in waterways, and developing and implementing a
 37 noise abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*.
 38 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
 39 in areas close to construction activities. The multi-year schedule and geographic scale of
 40 construction activities and the anticipated decline in recreational spending would be considered an
 41 adverse effect. The commitments and mitigation measure cited above would contribute to the
 42 reduction of this effect.

1 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 2A
 2 could impact recreational revenue in the Delta region if construction activities result in fewer visits
 3 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
 4 recreational activities. This section considers only the economic effects of recreational changes
 5 brought about by construction of the proposed water conveyance facilities. Potential physical
 6 changes to the environment relating to recreational resources are described and evaluated in
 7 Chapter 15, *Recreation*, Section 15.3.3.5, Impacts REC-1 through REC-4.

8 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 9 **the Proposed Water Conveyance Facilities**

10 Effects on agricultural economics during construction of the proposed water conveyance facilities
 11 would be similar to those described under Alternative 1A, Impact ECON-6. Total value of irrigated
 12 crop production in the Delta would decline on average by \$8.9 million per year during the 8 year
 13 construction period, with total irrigated crop acreage declining by about 5,600 acres. Alternative 2A
 14 may also affect production costs on lands even if gross revenues are largely unaffected. Costs could
 15 be increased by operational constraints and longer travel times due to facilities construction.
 16 Additionally, loss of investments in production facilities and standing orchards and vineyards would
 17 occur as a result of facilities construction.

18 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 19 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 20 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 21 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 22 agricultural productivity and compensating off-site.

23 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 24 value of agricultural production in the Delta region. The removal of agricultural land from
 25 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.5, Impacts AG-1 and
 26 AG-2. The reduction in the value of agricultural production is not considered an environmental
 27 impact. Significant environmental impacts would only result if the changes in regional economics
 28 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 29 required, DWR would provide compensation to property owners for economic losses due to
 30 implementation of the alternative. While the compensation to property owners would reduce the
 31 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 32 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 33 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 34 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 35 and land subject to Williamson Act contracts or in Farmland Security Zones.

36 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 37 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

38 Permanent effects on regional economics during operation and maintenance of the proposed water
 39 conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-7.
 40 Increased expenditures related to operation and maintenance of water conveyance facilities would
 41 be expected to result in a permanent increase in regional employment and income, as presented in
 42 Table 16-22. The permanent removal of agricultural land following construction would have lasting
 43 negative effects on agricultural employment and income, as shown in Table 16-23.

1 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 2 result in an increase in operations-related employment and labor income, this would be considered
 3 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 4 agricultural-related employment and labor income, which would be considered an adverse effect.
 5 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 6 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 7 compensating off-site.

8 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 9 increase total employment and income in the Delta region. The net change would result from
 10 expenditures on operation and maintenance and from changes in agricultural production. The total
 11 change in income and employment is not, in itself, considered an environmental impact. Significant
 12 environmental impacts would only result if the changes in regional economics cause physical
 13 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 14 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 15 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.5, Impacts AG-3
 16 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 17 15.3.3.5, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
 18 landowners as a result of acquiring lands for the proposed conveyance facilities. While the
 19 compensation to property owners would reduce the severity of economic effects related to the loss
 20 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 21 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 22 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
 23 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
 24 contracts or in Farmland Security Zones.

25 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 26 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

27 Permanent effects on population and housing during operation and maintenance of the proposed
 28 water conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-
 29 8. It is anticipated that non-local workers would relocate to the five-county region, thus adding to
 30 the local population. However, this additional population would constitute a minor increase in the
 31 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It
 32 is anticipated that most of the operational workforce would be drawn from within the five-county
 33 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

34 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 35 population or new housing, they would not be considered to have an adverse effect.

36 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 37 result in minor population increases in the Delta region with adequate housing supply to
 38 accommodate the change in population and therefore adverse changes in the physical environment
 39 are not anticipated.

40 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 41 **Proposed Water Conveyance Facilities**

42 **NEPA Effects:** Under Alternative 2A, effects on community character would be similar in nature,
 43 location, and magnitude to those described under Alternative 1A, Impact ECON-9. Variations in the

1 location of effects would result from the potential operation and maintenance of Intakes 6 and 7
 2 rather than Intakes 4 and 5 and the operation of an operable barrier at the Head of Old River. While
 3 water conveyance operation and maintenance could result in beneficial effects relating to the
 4 economic welfare of a community, lasting adverse social effects, including effects on community
 5 cohesion, could also arise in communities closest to physical features and in those most heavily
 6 influenced by agricultural and recreational activities. Implementation of mitigation measures and
 7 environmental commitments related to noise, visual effects, transportation, agriculture, and
 8 recreation would reduce adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and*
 9 *CMS*). These actions are summarized under Alternative 1A, Impact ECON-9.

10 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 2A
 11 could affect community character in the Delta region. However, because these impacts are social in
 12 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 13 changes to community character would lead to physical impacts involving population growth, such
 14 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
 15 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
 16 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
 17 community character stemming from a lack of maintenance, upkeep, and general investment.

18 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 19 **Maintenance of the Proposed Water Conveyance Facilities**

20 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operation and
 21 maintenance under Alternative 2A would be similar to those described under Alternative 1A, Impact
 22 ECON-10. While this economic effect would be considered adverse, BDCP proponents would
 23 compensate local governments for the loss of property tax or assessment revenue associated with
 24 construction of water conveyance facilities. Additionally, local entities could benefit from an
 25 increase in sales tax revenue.

26 **CEQA Conclusion:** Continued operation and maintenance of water conveyance facilities for
 27 Alternative 2A would result in the removal of a portion of the property tax base for various local
 28 government entities in the Delta region. However, entities receiving water from the State Water
 29 Project and federal Central Valley Project would mitigate for lost property tax and assessment
 30 revenue associated with land needed for the siting of conveyance facilities (Water Code Section
 31 85089). Additionally, any losses could be offset, at least in part, by an anticipated increase in sales
 32 tax revenue. CEQA does not require a discussion of socioeconomic effects except where they would
 33 result in reasonably foreseeable physical changes. If an alternative is not anticipated to result in a
 34 physical change to the environment, it would not be considered to have a significant impact under
 35 CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any physical consequences resulting
 36 from fiscal impacts are too speculative to ascertain.

37 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 38 **Proposed Water Conveyance Facilities**

39 **NEPA Effects:** Effects on recreation economics during operation and maintenance of the proposed
 40 water conveyance facilities under Alternative 2A would be similar to those described under
 41 Alternative 1A, Impact ECON-11. Maintenance of conveyance facilities, including intakes, would
 42 result in periodic temporary but not substantial adverse effects on boat passage and water-based
 43 recreational activities. Because effects of facility maintenance would be short-term and intermittent,

1 substantial economic effects are not anticipated to result from operation and maintenance of the
2 facilities.

3 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
4 conveyance facilities under Alternative 2A are anticipated to create minor effects on recreational
5 resources and therefore, are not expected to substantially reduce economic activity related to
6 recreational activities. This section considers only the economic effects of recreational changes.
7 Potential physical changes to the environment relating to recreational resources are described and
8 evaluated in Chapter 15, *Recreation*, Section 15.3.3.5, Impacts REC-5 through REC-8.

9 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 10 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

11 Permanent effects on agricultural economics during operation and maintenance of the proposed
12 water conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-
13 12. Total value of irrigated crop production in the Delta would decline on average by \$7.4 million
14 per year during operation and maintenance, with total irrigated crop acreage declining by about
15 4,400 acres. Alternative 2A may also affect production costs on lands even if gross revenues are
16 largely unaffected. Costs could be increased by operational constraints, changes in water quality,
17 and longer travel times due to the permanent footprint of facilities. Additionally, loss of investments
18 in production facilities and standing orchards and vineyards would occur as a result of facilities
19 construction.

20 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
21 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
22 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
23 14.3.3.2, Impact AG-2, would be available to reduce these effects by preserving agricultural
24 productivity and compensating off-site.

25 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities,
26 the value of agricultural production in the Delta region would be reduced. The permanent removal
27 of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
28 14.3.3.5, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
29 considered an environmental impact. Significant environmental impacts would only result if the
30 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
31 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
32 economic losses due to implementation of the alternative. While the compensation to property
33 owners would reduce the severity of economic effects related to the loss of agricultural land, it
34 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
35 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-2, and particularly
36 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
37 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
38 Zones.

39 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 40 **Implementation of CM2–CM21**

41 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
42 to those described under Alternative 1A, Impact ECON-13. In the Delta region, spending on CM2–
43 CM21 would include construction, operation and maintenance activities that would convert or

1 disturb existing land use. Because implementation of CM2–CM21 would be anticipated to result in
 2 an increase in construction and operation and maintenance-related employment and labor income,
 3 this would be considered a beneficial effect. However, implementation of these components would
 4 also be anticipated to result in a decrease in agricultural-related employment and labor income,
 5 which would be considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14,
 6 *Agricultural Resources*, Section 14.3.3.2, Impact AG-2, would be available to reduce these effects by
 7 preserving agricultural productivity and compensating off-site. Additionally, implementation of
 8 these components are anticipated to result in the abandonment of natural gas wells, causing a
 9 decrease in employment and labor income associated with monitoring and maintaining wells, which
 10 would be considered an adverse effect. Mitigation Measure MIN-5, described in Chapter 26, *Mineral*
 11 *Resources*, Section 26.3.3.2, Impact MIN-5, would be available to reduce these effects by minimizing,
 12 to the extent feasible, the need for well abandonment or relocation.

13 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
 14 income in the Delta region. The change in total employment and income in the Delta region is based
 15 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
 16 changes in agricultural production, recreation, and natural gas production activities. The total
 17 change in employment and income is not, in itself, considered an environmental impact. Significant
 18 environmental impacts would only result if the changes in regional economics cause physical
 19 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 20 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 21 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
 22 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
 23 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

24 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 25 **Implementing CM2–CM21**

26 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
 27 described under Alternative 1A, Impact ECON-14. In general, the changes in population and housing
 28 would include increases in population from the construction and operation and maintenance-
 29 related activity and declines in residential housing and business establishments as a result of lands
 30 converted or impaired.

31 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 32 population or new housing, they would not be considered to have an adverse effect.

33 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
 34 housing in the Delta region. The change in total population and housing in the Delta region is based
 35 on employment resulting from implementation of the proposed CM2–CM21. The change in
 36 population and housing is expected to be minor relative to the five-county Delta region, and
 37 dispersed throughout the region. Therefore, significant changes to the physical environment are not
 38 anticipated to result.

39 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

40 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
 41 similar to those described under Alternative 1A, Impact ECON-15 because the measures are similar.
 42 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
 43 welfare of a community, adverse social effects, including effects on community cohesion, could also

1 arise in those communities closest to character-changing effects and those most heavily influenced
 2 by agricultural activities. Implementation of mitigation measures and environmental commitments
 3 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
 4 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 5 summarized under Alternative 1A, Impact ECON-15.

6 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 2A could affect community
 7 character within the Delta region. However, because these impacts are social in nature, rather than
 8 physical, they are not considered impacts under CEQA. To the extent that changes to community
 9 character are related to physical impacts involving population growth, these impacts are described
 10 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
 11 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
 12 individual buildings, could result in alteration of community character stemming from a lack of
 13 maintenance, upkeep, and general investment.

14 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 15 **CM2–CM21**

16 **NEPA Effects:** Under Alternative 2A, effects on local government fiscal conditions as a result of
 17 conservation measure implementation would be similar to those described under Alternative 1A,
 18 Impact ECON-16. CM2–CM21 would remove some private land from local property tax and
 19 assessment rolls. This economic effect would be considered adverse; however, the BDCP proponents
 20 would offset forgone property tax and assessments levied by local governments and special districts
 21 on private lands converted to habitat.

22 **CEQA Conclusion:** Under Alternative 2A, implementation of CM2–CM21 would result in the removal
 23 of a portion of the property tax base for various local government entities in the Delta region. Over
 24 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
 25 \$176.7 million. However, the BDCP proponents would compensate local governments and special
 26 districts for forgone revenue. CEQA does not require a discussion of socioeconomic effects except
 27 where they would result in physical changes. If an alternative is not anticipated to result in a
 28 physical change to the environment, it would not be considered to have a significant impact under
 29 CEQA (CEQA Guidelines Sections 15064(f) and 15131).

30 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

31 **NEPA Effects:** Effects related to implementation of the CM2–CM21 under this alternative would be
 32 similar to those described under Alternative 1A, Impact ECON-17. These measures may result in
 33 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
 34 for decreased or increased economic activities related to recreation.

35 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
 36 recreation and compromise the quality of activities, leading to potential economic impacts.
 37 However, over time, implementation could also improve the quality of existing recreational
 38 opportunities, creating increased economic value with respect to recreation. This section considers
 39 only the economic effects of recreational changes brought about by conservation measure
 40 implementation. Potential physical changes to the environment relating to recreational resources
 41 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.5, Impacts REC-9 through REC-
 42 11.

1 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of**
 2 **Implementing CM2–CM21**

3 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
 4 described under Alternative 1A, Impact ECON-18. CM2–CM21 would convert land from existing
 5 agricultural uses. These direct effects on agricultural land are described qualitatively in Chapter 14,
 6 *Agricultural Resources*, Section 14.3.3.5, Impacts AG-3 and AG-4. Effects on agricultural economics
 7 would include effects on crop production and agricultural investments resulting from restoration
 8 actions on agricultural lands. The effects would be similar in kind to those described for lands
 9 converted due to construction and operation of the conveyance features and facilities. The total
 10 acreage and crop mix of agricultural land potentially affected is not specified at this time, but when
 11 required, the BDCP proponents would provide compensation to property owners for losses due to
 12 implementation of the alternative.

13 **NEPA Effects:** Because implementation of the CM2–CM21 would be anticipated to lead to reductions
 14 in crop acreage and in the value of agricultural production in the Delta region, this is considered an
 15 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 16 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 17 productivity and compensating off-site.

18 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
 19 production in the Delta region. The permanent removal of agricultural land from production is
 20 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.5, Impacts AG-3 and AG-4. The
 21 reduction in the value of agricultural production is not considered an environmental impact.
 22 Significant environmental impacts would only result if the changes in regional economics cause
 23 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 24 required, the BDCP proponents would provide compensation to property owners for economic
 25 losses due to implementation of the alternative. While the compensation to property owners would
 26 reduce the severity of economic effects related to the loss of agricultural land, it would not
 27 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 28 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

29 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

30 The socioeconomic effects associated with operation of Alternative 2A would be similar to those
 31 described under Alternative 1A, Impact ECON-19; however, the magnitude of the effects would be
 32 different based on different operational guidelines leading to different deliveries to hydrologic
 33 regions. Changes in deliveries to hydrologic regions could result in beneficial or adverse
 34 socioeconomic effects in these areas. In hydrologic regions where water deliveries are predicted to
 35 increase when compared with the No Action Alternative, more stable agricultural activities could
 36 support employment and economic production associated with agriculture.

37 **NEPA Effects:**

38 **Changes in CVP and SWP Deliveries Compared to No Action Alternative**

39 Compared to No Action Alternative (LLT 2060), Alternative 2A would increase deliveries to all
 40 south-of-Delta hydrologic. The average annual increase in CVP and SWP deliveries would be 602
 41 TAF, and the distribution of these increased deliveries to each hydrologic region are given in Table
 42 30-21. Where M&I deliveries increase, population growth could lead to general economic growth

1 and support water-intensive industries. Changes to agricultural production and population growth
 2 with its associated economic activity could also lead to shifts in the character of communities in the
 3 hydrologic regions with resultant beneficial or adverse effects. Likewise, growth associated with
 4 deliveries could require additional expenditures for local governments while also supporting
 5 increases in revenue.

6 **CEQA Conclusion:** As described above, the operational components of BDCP CM1 could result in a
 7 number of effects in areas receiving SWP and CVP water deliveries outside of the Delta.

8 **Changes in CVP and SWP Deliveries Compared to Existing Conditions**

9 Compared to Existing Conditions, Alternative 2A would decrease deliveries to all hydrologic regions
 10 south of the Delta. The average annual decrease in CVP and SWP deliveries would be 48 TAF, and the
 11 distribution of these increased deliveries to each hydrologic region are given in Table 30-20.

12 **Summary**

13 Operation of water conveyance facilities under Alternative 2A could affect socioeconomic conditions
 14 in the hydrologic regions receiving water from the SWP and CVP. However, because these impacts
 15 are social and economic in nature, rather than physical, they are not considered environmental
 16 impacts under CEQA. To the extent that changes in socioeconomic conditions in the hydrologic
 17 regions would lead to physical impacts, such impacts are described in Chapter 30, *Growth*
 18 *Inducement and Other Indirect Effects*.

19 **16.3.3.6 Alternative 2B—Dual Conveyance with East Alignment and Five** 20 **Intakes (15,000 cfs; Operational Scenario B)**

21 Facilities constructed under Alternative 2B would be almost identical to those described for
 22 Alternative 1B. Alternative 2B could involve relocation of two of the intakes to a site south of the
 23 confluence of Sutter and Steamboat Sloughs and the Sacramento River (Intakes 6 and 7). Under this
 24 alternative, an operable barrier would also be constructed at the Head of Old River. Operations
 25 would be different under Alternative 2B than under Alternative 1B.

26 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 27 **Region during Construction of the Proposed Water Conveyance Facilities**

28 Temporary effects on regional economics during construction of the proposed water conveyance
 29 facilities would be similar to those described under Alternative 1B, Impact ECON-1. As shown in
 30 Table 16-25, over the construction period, regional effects of construction activities is anticipated to
 31 vary over the 8-year construction period, with an estimated 2,599 FTE in the first year and 245 FTE
 32 in the final year of the construction period. Construction employment is estimated to peak at 6,279
 33 FTE in year 4. Total employment (direct, indirect, and induced) would also peak in year 4, at 12,985
 34 FTE. Declines in agricultural production would be expected to lead to a decrease in employment of
 35 90 FTE, with total effects leading to a decline of 340 FTE. Similarly, labor income related to these
 36 positions would decline, as shown in Table 16-26.

37 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 38 construction-related employment and labor income, this would be considered a beneficial effect.
 39 However, these activities would also be anticipated to result in a decrease in agricultural-related
 40 employment and labor income, which would be considered an adverse effect. Mitigation Measure

1 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
2 available to reduce these effects by preserving agricultural productivity and compensating off-site.

3 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
4 employment and income in the Delta region, temporarily. The increase in employment and income
5 that would result from expenditures on construction would be greater than the reduction in
6 employment and income attributable to losses in agricultural production. Changes in recreational
7 expenditures and natural gas well operations could also affect regional employment and income, but
8 these have not been quantified. The total change in employment and income is not, in itself,
9 considered an environmental impact. Significant environmental impacts would only result if the
10 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
11 throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation Costs and*
12 *Funding Sources*; removal of agricultural land from production is addressed in Chapter 14,
13 *Agricultural Resources*, Section 14.3.3.6, Impacts AG-1 and AG-2; changes in recreation related
14 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.6, REC-1 through REC-4;
15 abandonment of natural gas wells is addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.6,
16 Impact MIN-1. When required, DWR would provide compensation to property owners for economic
17 losses due to implementation of the alternative. While the compensation to property owners would
18 reduce the severity of economic effects related to the loss of agricultural land, it would not
19 constitute mitigation for any related physical impact. Measures to reduce these impacts are
20 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
21 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
22 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
23 Zones.

24 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 25 **the Proposed Water Conveyance Facilities**

26 Effects on population and housing during construction of the proposed water conveyance facilities
27 would be similar to those described under Alternative 1B, Impact ECON-2. It is anticipated that non-
28 local workers would temporarily relocate to the Delta region, thus adding to the local population.
29 However, this additional population would constitute a minor increase in the total 2020 projected
30 regional population of 4.6 million and be distributed throughout the region. Within specific local
31 communities, there could be localized effects on housing. However, given the availability of housing
32 within the five-county region, predicting where this impact might fall would be speculative. In
33 addition, new residents would likely be dispersed across the region, thereby not creating a burden
34 on any one community.

35 **NEPA Effects:** Because these activities would not result in permanent concentrated, substantial
36 increases in population or new housing, they would not be considered to have an adverse effect.

37 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
38 temporary population increases in the Delta region, which has an adequate housing supply to
39 accommodate the change in population. Therefore, adverse physical changes resulting from the
40 minor increase in population are not anticipated.

1 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed**
 2 **Water Conveyance Facilities**

3 **NEPA Effects:** Under Alternative 2B, effects on community character would be similar in nature,
 4 location, and magnitude to those described under Alternative 1B, Impact ECON-3. Variations in the
 5 location of effects would result from the potential construction of Intakes 6 and 7 rather than
 6 Intakes 4 and 5 and the construction of an operable barrier at the Head of Old River. While water
 7 conveyance construction could result in beneficial effects relating to the economic welfare of a
 8 community, adverse social effects could also arise as a result of declining economic stability or
 9 changes in community cohesion in communities closest to construction effects and in those most
 10 heavily influenced by agricultural and recreational activities. Implementation of mitigation
 11 measures and environmental commitments related to noise, visual effects, transportation,
 12 agriculture, and recreation would reduce adverse effects (see Appendix 3B, *Environmental*
 13 *Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A, Impact ECON-
 14 3.

15 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 2B could affect
 16 community character in the Delta region. However, because these impacts are social in nature,
 17 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
 18 community character would lead to physical impacts involving population growth, such impacts are
 19 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
 20 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
 21 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
 22 character stemming from a lack of maintenance, upkeep, and general investment. However,
 23 implementation of mitigation measures and environmental commitments related to noise, visual
 24 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
 25 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
 26 erosion and sediment control plans, hazardous materials management plans, notification of
 27 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
 28 mosquito management plans.

29 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing**
 30 **the Proposed Water Conveyance Facilities**

31 **NEPA Effects:** Effects on tax revenue as a result of water conveyance construction under Alternative
 32 2B would be similar to those described under Alternative 1B, Impact ECON-4. While this economic
 33 effect would be considered adverse, BDCP proponents would compensate local governments for the
 34 loss of property tax or assessment revenue associated with construction of water conveyance
 35 facilities. Additionally, local entities could benefit from an increase in sales tax revenue.

36 **CEQA Conclusion:** Construction of water conveyance facilities for Alternative 2B would result in the
 37 removal of a portion of the property tax base for various local government entities in the Delta
 38 region. However, entities receiving water from the State Water Project and federal Central Valley
 39 Project would mitigate for lost property tax and assessment revenue associated with land needed
 40 for the construction of new conveyance facilities (Water Code Section 85089). Additionally, any
 41 losses could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
 42 require a discussion of socioeconomic effects except where they would result in reasonably
 43 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
 44 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines

1 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
2 speculative to ascertain.

3 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 4 **Water Conveyance Facilities**

5 **NEPA Effects:** Under Alternative 2B, disruption of recreational activities during the construction
6 period would be similar in character and magnitude to that described under Alternative 1B, Impact
7 ECON-5. Access to recreational facilities may be restricted throughout the construction period.
8 Additionally, the quality of recreational activities including boating, fishing, waterfowl hunting, and
9 hiking in the Delta could be indirectly affected by noise, lighting, traffic, and visual degradation in
10 proximity to water conveyance construction.

11 Construction of water conveyance structures under this alternative would be anticipated to result in
12 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite
13 the implementation of mitigation measures, including enhancement of fishing access sites and
14 incorporation of recreational access into project design, and environmental and other commitments,
15 including providing funding to implement recreational improvements and control aquatic weeds,
16 providing notification of maintenance activities in waterways, and developing and implementing a
17 noise abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*.
18 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
19 in areas closest to construction activities. The multi-year schedule and geographic scale of
20 construction activities and the anticipated decline in recreational spending would be considered an
21 adverse effect. The commitments and mitigation measure cited above would contribute to the
22 reduction of this effect.

23 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 2B
24 could impact recreational revenue in the Delta region if construction activities result in fewer visits
25 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
26 recreational activities. This section considers only the economic effects of recreational changes
27 brought about by construction of the proposed water conveyance facilities. Potential physical
28 changes to the environment relating to recreational resources are described and evaluated in
29 Chapter 15, *Recreation*, Section 15.3.3.6, Impacts REC-1 through REC-4.

30 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 31 **the Proposed Water Conveyance Facilities**

32 Effects on agricultural economics during construction of the proposed water conveyance facilities
33 would be similar to those described under Alternative 1B, Impact ECON-6. Total value of irrigated
34 crop production in the Delta would decline on average by \$32.8 million per year during the
35 construction period, with total irrigated crop acreage declining by about 19,460 acres. Alternative
36 2B may also affect production costs on lands even if gross revenues are largely unaffected. Costs
37 could be increased by operational constraints and longer travel times due to facilities construction.
38 Additionally, loss of investments in production facilities and standing orchards and vineyards would
39 occur as a result of facilities construction.

40 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
41 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
42 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*

1 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
2 agricultural productivity and compensating off-site.

3 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
4 value of agricultural production in the Delta region. The removal of agricultural land from
5 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.6, Impacts AG-1 and
6 AG-2. The reduction in the value of agricultural production is not considered an environmental
7 impact. Significant environmental impacts would only result if the changes in regional economics
8 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
9 required, DWR would provide compensation to property owners for economic losses due to
10 implementation of the alternative. While the compensation to property owners would reduce the
11 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
12 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
13 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
14 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
15 and land subject to Williamson Act contracts or in Farmland Security Zones.

16 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 17 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

18 Permanent effects on regional economics during operation and maintenance of the proposed water
19 conveyance facilities would be similar to those described under Alternative 1B, Impact ECON-7.
20 Increased expenditures related to operation and maintenance of water conveyance facilities would
21 be expected to result in a permanent increase in regional employment and income, as presented in
22 Table 16-28. The permanent removal of agricultural land following construction would have lasting
23 negative effects on agricultural employment and income, as shown in Table 16-29.

24 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
25 result in an increase in operations-related employment and labor income, this would be considered
26 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
27 agricultural-related employment and labor income, which would be considered an adverse effect.
28 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
29 AG-1, would be available to reduce these effects by preserving agricultural productivity and
30 compensating off-site.

31 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
32 decrease total employment and income in the Delta region. The change would result from
33 expenditures on operation and maintenance, increasing employment, and from changes in
34 agricultural production, decreasing employment. The total change in income and employment is not,
35 in itself, considered an environmental impact. Significant environmental impacts would only result if
36 the changes in regional economics cause physical impacts. Such effects are discussed in other
37 chapters throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation*
38 *Costs and Funding Sources*; removal of agricultural land from production is addressed in Chapter 14,
39 *Agricultural Resources*, Section 14.3.3.6, Impacts AG-3 and AG-4; changes in recreation related
40 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.6, Impacts REC-5 through REC-8.
41 When required, DWR would provide compensation to landowners as a result of acquiring lands for
42 the proposed conveyance facilities. While the compensation to property owners would reduce the
43 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
44 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,

1 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 2 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 3 and land subject to Williamson Act contracts or in Farmland Security Zones.

4 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during**
 5 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

6 Permanent effects on population and housing during operation and maintenance of the proposed
 7 water conveyance facilities would be similar to those described under Alternative 1B, Impact ECON-
 8 8. It is anticipated that non-local workers would relocate to the five-county region, thus adding to
 9 the local population. However, this additional population would constitute a minor increase in the
 10 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It
 11 is anticipated that most of the operational workforce would be drawn from within the five-county
 12 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

13 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 14 population or new housing, they would not be considered to have an adverse effect.

15 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 16 result in minor population increases in the Delta region with adequate housing supply to
 17 accommodate the change in population and therefore adverse changes in the physical environment
 18 are not anticipated.

19 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the**
 20 **Proposed Water Conveyance Facilities**

21 **NEPA Effects:** Under Alternative 2B, effects on community character would be similar in nature,
 22 location, and magnitude to those described under Alternative 1B, Impact ECON-9. Variations in the
 23 location of effects would result from the potential operation and maintenance of Intakes 6 and 7
 24 rather than Intakes 4 and 5 and the operation of an operable barrier at the Head of Old River. While
 25 water conveyance operation and maintenance could result in beneficial effects relating to the
 26 economic welfare of a community, lasting adverse social effects, including effects on community
 27 cohesion, could also arise in communities closest to physical features and in those most heavily
 28 influenced by agricultural and recreational activities. Implementation of mitigation measures and
 29 environmental related to noise, visual effects, transportation, agriculture, and recreation would
 30 reduce adverse effects. These actions are summarized under Alternative 1A, Impact ECON-9.

31 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 2B
 32 could affect community character in the Delta region. However, because these impacts are social in
 33 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 34 changes to community character would lead to physical impacts involving population growth, such
 35 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
 36 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
 37 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
 38 community character stemming from a lack of maintenance, upkeep, and general investment.

1 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and**
 2 **Maintenance of the Proposed Water Conveyance Facilities**

3 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operation and
 4 maintenance under Alternative 2B would be similar to those described under Alternative 1B, Impact
 5 ECON-10. While this economic effect would be considered adverse, BDCP proponents would
 6 compensate local governments for the loss of property tax or assessment revenue associated with
 7 construction of water conveyance facilities.

8 **CEQA Conclusion:** Continued operation and maintenance of water conveyance facilities for
 9 Alternative 2B would result in the removal of a portion of the property tax base for various local
 10 government entities in the Delta region. However, entities receiving water from the State Water
 11 Project and federal Central Valley Project would mitigate for lost property tax and assessment
 12 revenue associated with land needed for the siting of conveyance facilities (Water Code Section
 13 85089). CEQA does not require a discussion of socioeconomic effects except where they would
 14 result in reasonably foreseeable physical changes. If an alternative is not anticipated to result in a
 15 physical change to the environment, it would not be considered to have a significant impact under
 16 CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any physical consequences resulting
 17 from fiscal impacts are too speculative to ascertain.

18 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the**
 19 **Proposed Water Conveyance Facilities**

20 **NEPA Effects:** Effects on recreation economics during operation and maintenance of the proposed
 21 water conveyance facilities under Alternative 2B would be similar to those described under
 22 Alternative 1A, Impact ECON-11. Maintenance of conveyance facilities, including intakes, would
 23 result in periodic temporary but not substantial adverse effects on boat passage and water-based
 24 recreational activities. Because effects of facility maintenance would be short-term and intermittent,
 25 substantial economic effects are not anticipated to result from operation and maintenance of the
 26 facilities.

27 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 28 conveyance facilities under Alternative 2B are anticipated to create minor effects on recreational
 29 resources and therefore, are not expected to substantially reduce economic activity related to
 30 recreational activities. This section considers only the economic effects of recreational changes.
 31 Potential physical changes to the environment relating to recreational resources are described and
 32 evaluated in Chapter 15, *Recreation*, Section 15.3.3.6, Impacts REC-5 through REC-8.

33 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during**
 34 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

35 Permanent effects on agricultural economics during operation and maintenance of the proposed
 36 water conveyance facilities would be similar to those described under Alternative 1B, Impact ECON-
 37 12. Total value of irrigated crop production in the Delta would decline on average by \$29.2 million
 38 per year during operation and maintenance, with total irrigated crop acreage declining by about
 39 17,700 acres. Alternative 2B may also affect production costs on lands even if gross revenues are
 40 largely unaffected. Costs could be increased by operational constraints, changes in water quality,
 41 and longer travel times due to the permanent footprint of facilities. Additionally, loss of investments
 42 in production facilities and standing orchards and vineyards would occur as a result of facilities
 43 construction.

1 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 2 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 3 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 4 14.3.3.2, Impact AG-2, would be available to reduce these effects by preserving agricultural
 5 productivity and compensating off-site.

6 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities,
 7 the value of agricultural production in the Delta region would be reduced. The permanent removal
 8 of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 9 14.3.3.6, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 10 considered an environmental impact. Significant environmental impacts would only result if the
 11 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 12 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 13 economic losses due to implementation of the alternative. While the compensation to property
 14 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 15 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
 16 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-2, and particularly
 17 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 18 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 19 Zones.

20 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 21 **Implementation of CM2–CM21**

22 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
 23 to those described under Alternative 1A, Impact ECON-13. In the Delta region, spending on CM2–
 24 CM21 would include construction, operation and maintenance activities that would convert or
 25 disturb existing land use. Because implementation of CM2–CM21 would be anticipated to result in
 26 an increase in construction and operation and maintenance-related employment and labor income,
 27 this would be considered a beneficial effect. However, implementation of these components would
 28 also be anticipated to result in a decrease in agricultural-related employment and labor income,
 29 which would be considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14,
 30 *Agricultural Resources*, Section 14.3.3.2, Impact AG-2, would be available to reduce these effects by
 31 preserving agricultural productivity and compensating off-site. Additionally, implementation of
 32 these components are anticipated to result in the abandonment of natural gas wells, causing a
 33 decrease in employment and labor income associated with monitoring and maintaining wells, which
 34 would be considered an adverse effect. Mitigation Measure MIN-5, described in Chapter 26, *Mineral*
 35 *Resources*, Section 26.3.3.2, Impact MIN-5, would be available to reduce these effects by minimizing,
 36 to the extent feasible, the need for well abandonment or relocation.

37 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
 38 income in the Delta region. The change in total employment and income in the Delta region is based
 39 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
 40 changes in agricultural production, recreation, and natural gas production activities. The total
 41 change in employment and income is not, in itself, considered an environmental impact. Significant
 42 environmental impacts would only result if the changes in regional economics cause physical
 43 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 44 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 45 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter

1 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
2 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

3 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 4 **Implementing CM2–CM21**

5 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
6 described under Alternative 1A, Impact ECON-14. In general, the changes in population and housing
7 would include increases in population from the construction and operation and maintenance-
8 related activity and declines in residential housing and business establishments as a result of lands
9 converted or impaired.

10 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
11 population or new housing, they would not be considered to have an adverse effect.

12 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
13 housing in the Delta region. The change in total population and housing in the Delta region is based
14 on employment resulting from implementation of the proposed CM2–CM21. The change in
15 population and housing is expected to be minor relative to the five-county Delta region, and
16 dispersed throughout the region. Therefore, significant changes to the physical environment are not
17 anticipated to result.

18 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

19 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
20 similar to those described under Alternative 1A, Impact ECON-15 because the measures are similar.
21 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
22 welfare of a community, adverse social effects, including effects on community cohesion, could also
23 arise in those communities closest to character-changing effects and those most heavily influenced
24 by agricultural activities. Implementation of mitigation measures and environmental commitments
25 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
26 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
27 summarized under Alternative 1A, Impact ECON-15.

28 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 2B could affect community
29 character within the Delta region. However, because these impacts are social in nature, rather than
30 physical, they are not considered impacts under CEQA. To the extent that changes to community
31 character are related to physical impacts involving population growth, these impacts are described
32 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
33 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
34 individual buildings, could result in alteration of community character stemming from a lack of
35 maintenance, upkeep, and general investment.

36 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 37 **CM2–CM21**

38 **NEPA Effects:** Under Alternative 2B, effects on local government fiscal conditions as a result of
39 conservation measure implementation would be similar to those described under Alternative 1A,
40 Impact ECON-16. CM2–CM21 would remove some private land from local property tax and
41 assessment rolls. This economic effect would be considered adverse; however, the BDCP proponents

1 would offset forgone property tax and assessments levied by local governments and special districts
2 on private lands converted to habitat.

3 **CEQA Conclusion:** Under Alternative 2B, implementation of CM2–CM21 would result in the removal
4 of a portion of the property tax base for various local government entities in the Delta region. Over
5 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
6 \$176.7 million. However, the BDCP proponents would compensate local governments and special
7 districts for forgone revenue. CEQA does not require a discussion of socioeconomic effects except
8 where they would result in physical changes. If an alternative is not anticipated to result in a
9 physical change to the environment, it would not be considered to have a significant impact under
10 CEQA (CEQA Guidelines Sections 15064(f) and 15131).

11 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

12 **NEPA Effects:** Effects related to implementation of the CM2–CM21 under this alternative would be
13 similar to those described under Alternative 1B, Impact ECON-17. These measures may result in
14 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
15 for decreased or increased economic activities related to recreation.

16 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
17 recreation and compromise the quality of activities, leading to potential economic impacts.
18 However, over time, implementation could also improve the quality of existing recreational
19 opportunities, creating increased economic value with respect to recreation. This section considers
20 only the economic effects of recreational changes brought about by conservation measure
21 implementation. Potential physical changes to the environment relating to recreational resources
22 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.6, Impacts REC-9 through REC-
23 11.

24 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of** 25 **Implementing CM2–CM21**

26 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
27 described under Alternative 1A, Impact ECON-18, because the measures are similar. CM2–CM21
28 would convert land from existing agricultural uses. These direct effects on agricultural land are
29 described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.6, Impacts AG-3 and AG-
30 4. Effects on agricultural economics would include effects on crop production and agricultural
31 investments resulting from restoration actions on agricultural lands. The effects would be similar in
32 kind to those described for lands converted due to construction and operation of the conveyance
33 features and facilities. The total acreage and crop mix of agricultural land potentially affected is not
34 specified at this time, but when required, the BDCP proponents would provide compensation to
35 property owners for losses due to implementation of the alternative.

36 **NEPA Effects:** Because implementation of the CM2–CM21 would be anticipated to lead to reductions
37 in crop acreage and in the value of agricultural production in the Delta region, this is considered an
38 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
39 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
40 productivity and compensating off-site.

1 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
 2 production in the Delta region. The permanent removal of agricultural land from production is
 3 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.6, Impacts AG-3 and AG-4. The
 4 reduction in the value of agricultural production is not considered an environmental impact.
 5 Significant environmental impacts would only result if the changes in regional economics cause
 6 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 7 required, the BDCP proponents would provide compensation to property owners for economic
 8 losses due to implementation of the alternative. While the compensation to property owners would
 9 reduce the severity of economic effects related to the loss of agricultural land, it would not
 10 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 11 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

12 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

13 **NEPA Effects:** The socioeconomic effects associated with operation of Alternative 2B would be the
 14 same as those described under Alternative 2A, Impact ECON-19, because deliveries would be based
 15 on the same operational guidelines. Changes in deliveries to hydrologic regions could result in
 16 beneficial or adverse socioeconomic effects in these areas. In hydrologic regions where water
 17 deliveries are predicted to increase when compared with the No Action Alternative, more stable
 18 agricultural activities could support employment and economic production associated with
 19 agriculture. Where M&I deliveries increase, population growth could lead to general economic
 20 growth and support water-intensive industries. Such changes could also lead to shifts in the
 21 character of communities in the hydrologic regions with resultant beneficial or adverse effects.
 22 Likewise, growth associated with deliveries could require additional expenditures for local
 23 governments while also supporting increases in revenue.

24 **CEQA Conclusion:** Operation of water conveyance facilities under Alternative 2B could affect
 25 socioeconomic conditions in the hydrologic regions receiving water from the SWP and CVP.
 26 However, because these impacts are social and economic in nature, rather than physical, they are
 27 not considered environmental impacts under CEQA. To the extent that changes in socioeconomic
 28 conditions in the hydrologic regions would lead to physical impacts, such impacts are described in
 29 Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.

30 **16.3.3.7 Alternative 2C—Dual Conveyance with West Alignment and** 31 **Intakes W1–W5 (15,000 cfs; Operational Scenario B)**

32 Facilities construction under Alternative 2C would be almost identical to those described for
 33 Alternative 1C. However, an operable barrier would be constructed at the Head of Old River, which
 34 could lead to minor variations in effects from this alternative. Operations would be different under
 35 Alternative 2C than under Alternative 1C.

36 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 37 **Region during Construction of the Proposed Water Conveyance Facilities**

38 Temporary effects on regional economics during construction of the proposed water conveyance
 39 facilities would be similar to those described under Alternative 1C, Impact ECON-1. As shown in
 40 Table 16-31, direct construction employment is anticipated to vary over the 8-year construction
 41 period, with an estimated 2,747 FTE jobs in the first year and 236 FTE jobs in the final year of the
 42 construction period. Construction employment is estimated to peak at 5,300 FTE jobs in year 4.

1 Total employment (direct, indirect, and induced) would peak in year 3 at 11,698 FTE jobs. Declines
 2 in agricultural production would be expected to lead to a decrease in employment of 64 FTE, with
 3 total effects leading to a decline of 240 FTE. Similarly, labor income related to these positions would
 4 decline, as shown in Table 16-32.

5 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 6 construction-related employment and labor income, this would be considered a beneficial effect.
 7 However, these activities would also be anticipated to result in a decrease in agricultural-related
 8 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 9 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 10 available to reduce these effects by preserving agricultural productivity and compensating off-site.

11 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
 12 employment and income in the Delta region, temporarily. The increase in employment and income
 13 that would result from expenditures on construction would be greater than the reduction in
 14 employment and income attributable to losses in agricultural production. Changes in recreational
 15 expenditures and natural gas well operations could also affect regional employment and income, but
 16 these have not been quantified. The total change in employment and income is not, in itself,
 17 considered an environmental impact. Significant environmental impacts would only result if the
 18 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 19 throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation Costs and*
 20 *Funding Sources*; removal of agricultural land from production is addressed in Chapter 14,
 21 *Agricultural Resources*, Section 14.3.3.7, Impacts AG-1 and AG-2; changes in recreation related
 22 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.7, REC-1 through REC-4;
 23 abandonment of natural gas wells is addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.7,
 24 Impact MIN-1. When required, DWR would provide compensation to property owners for economic
 25 losses due to implementation of the alternative. While the compensation to property owners would
 26 reduce the severity of economic effects related to the loss of agricultural land, it would not
 27 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 28 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 29 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 30 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 31 Zones.

32 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 33 **the Proposed Water Conveyance Facilities**

34 Effects on population and housing during construction of the proposed water conveyance facilities
 35 would be similar to those described under Alternative 1C, Impact ECON-2. It is anticipated that non-
 36 local workers would temporarily relocate to the Delta region, thus adding to the local population.
 37 However, this additional population would constitute a minor increase in the total 2020 projected
 38 regional population of 4.6 million and be distributed throughout the region. Within specific local
 39 communities, there could be localized effects on housing. However, given the availability of housing
 40 within the five-county region, predicting where this impact might fall would be speculative. In
 41 addition, new residents would likely be dispersed across the region, thereby not creating a burden
 42 on any one community.

43 **NEPA Effects:** Because these activities would not result in permanent concentrated, substantial
 44 increases in population or new housing, they would not be considered to have an adverse effect.

1 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
2 temporary population increases in the Delta region, which has an adequate housing supply to
3 accommodate the change in population. Therefore, adverse physical changes resulting from the
4 minor increase in population are not anticipated.

5 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 6 **Water Conveyance Facilities**

7 **NEPA Effects:** Under Alternative 2C, effects on community character would be similar in nature,
8 location, and magnitude to those described under Alternative 1C, Impact ECON-3. Variation in the
9 location of effects would result from the construction of an operable barrier at the Head of Old River.
10 While water conveyance construction could result in beneficial effects relating to the economic
11 welfare of a community, adverse social effects could also arise as a result of declining economic
12 stability or changes in community cohesion in communities closest to construction effects and in
13 those most heavily influenced by agricultural and recreational activities. Implementation of
14 mitigation measures and environmental commitments related to noise, visual effects,
15 transportation, agriculture, and recreation would reduce adverse effects (see Appendix 3B,
16 *Environmental Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A,
17 Impact ECON-3.

18 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 2A could affect
19 community character in the Delta region. However, because these impacts are social in nature,
20 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
21 community character would lead to physical impacts involving population growth, such impacts are
22 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
23 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
24 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
25 character stemming from a lack of maintenance, upkeep, and general investment. However,
26 implementation of mitigation measures and environmental commitments related to noise, visual
27 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
28 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
29 erosion and sediment control plans, hazardous materials management plans, notification of
30 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
31 mosquito management plans.

32 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 33 **the Proposed Water Conveyance Facilities**

34 **NEPA Effects:** Effects on tax revenue as a result of water conveyance construction under Alternative
35 2C would be similar to those described under Alternative 1C, Impact ECON-4. While this economic
36 effect would be considered adverse, BDCP proponents would compensate local governments for the
37 loss of property tax or assessment revenue associated with construction of water conveyance
38 facilities. Additionally, local entities could benefit from an increase in sales tax revenue.

39 **CEQA Conclusion:** Construction of water conveyance facilities for Alternative 2C would result in the
40 removal of a portion of the property tax base for various local government entities in the Delta
41 region. However, entities receiving water from the State Water Project and federal Central Valley
42 Project would mitigate for lost property tax and assessment revenue associated with land needed
43 for the construction of new conveyance facilities (Water Code Section 85089). Additionally, any

1 losses could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
 2 require a discussion of socioeconomic effects except where they would result in reasonably
 3 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
 4 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
 5 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
 6 speculative to ascertain.

7 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 8 **Water Conveyance Facilities**

9 **NEPA Effects:** Under Alternative 2C, disruption of recreational activities during the construction
 10 period would be similar in character and magnitude to that described under Alternative 1C, Impact
 11 ECON-5. Access to recreational facilities may be restricted throughout the construction period.
 12 Additionally, the quality of recreational activities including boating, fishing, waterfowl hunting, and
 13 hiking in the Delta could be indirectly affected by noise, lighting, traffic, and visual degradation in
 14 proximity to water conveyance construction.

15 Construction of water conveyance structures under this alternative would be anticipated to result in
 16 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite
 17 the implementation of mitigation measures, including enhancement of fishing access sites and
 18 incorporation of recreational access into project design, and environmental and other commitments,
 19 including providing funding to implement recreational improvements and control aquatic weeds,
 20 providing notification of maintenance activities in waterways, and developing and implementing a
 21 noise abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*.
 22 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
 23 in areas closest to construction activities. The multi-year schedule and geographic scale of
 24 construction activities and the anticipated decline in recreational spending would be considered an
 25 adverse effect. The commitments and mitigation measure cited above would contribute to the
 26 reduction of this effect.

27 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 2C
 28 could impact recreational revenue in the Delta region if construction activities result in fewer visits
 29 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
 30 recreational activities. This section considers only the economic effects of recreational changes
 31 brought about by construction of the proposed water conveyance facilities. Potential physical
 32 changes to the environment relating to recreational resources are described and evaluated in
 33 Chapter 15, *Recreation*, Section 15.3.3.7, Impacts REC-1 through REC-4.

34 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 35 **the Proposed Water Conveyance Facilities**

36 Effects on agricultural economics during construction of the proposed water conveyance facilities
 37 would be similar to those described under Alternative 1C, Impact ECON-6. Total value of irrigated
 38 crop production in the Delta would decline on average by \$22.2 million per year during the
 39 construction period, with total irrigated crop acreage declining by about 14,300 acres. Alternative
 40 2C may also affect production costs on lands even if gross revenues are largely unaffected. Costs
 41 could be increased by operational constraints and longer travel times due to facilities construction.
 42 Additionally, loss of investments in production facilities and standing orchards and vineyards would
 43 occur as a result of facilities construction.

1 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 2 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 3 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 4 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 5 agricultural productivity and compensating off-site.

6 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 7 value of agricultural production in the Delta region. The removal of agricultural land from
 8 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.7, Impacts AG-1 and
 9 AG-2. The reduction in the value of agricultural production is not considered an environmental
 10 impact. Significant environmental impacts would only result if the changes in regional economics
 11 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 12 required, DWR would provide compensation to property owners for economic losses due to
 13 implementation of the alternative. While the compensation to property owners would reduce the
 14 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 15 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 16 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 17 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 18 and land subject to Williamson Act contracts or in Farmland Security Zones.

19 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 20 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

21 Permanent effects on regional economics during operation and maintenance of the proposed water
 22 conveyance facilities would be similar to those described under Alternative 1C, Impact ECON-7.
 23 Increased expenditures related to operation and maintenance of water conveyance facilities would
 24 be expected to result in a permanent increase in regional employment and income, as presented in
 25 Table 16-34. The permanent removal of agricultural land following construction would have lasting
 26 negative effects on agricultural employment and income, as shown in Table 16-35.

27 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 28 result in an increase in operations-related employment and labor income, this would be considered
 29 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 30 agricultural-related employment and labor income, which would be considered an adverse effect.
 31 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 32 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 33 compensating off-site.

34 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 35 increase total employment and income in the Delta region. The net change would result from
 36 expenditures on operation and maintenance and from changes in agricultural production. The total
 37 change in income and employment is not, in itself, considered an environmental impact. Significant
 38 environmental impacts would only result if the changes in regional economics cause physical
 39 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 40 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 41 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.7, Impacts AG-3
 42 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 43 15.3.3.7, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
 44 landowners as a result of acquiring lands for the proposed conveyance facilities. While the

1 compensation to property owners would reduce the severity of economic effects related to the loss
 2 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 3 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 4 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
 5 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
 6 contracts or in Farmland Security Zones.

7 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 8 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

9 Permanent effects on population and housing during operation and maintenance of the proposed
 10 water conveyance facilities would be similar to those described under Alternative 1C, Impact ECON-
 11 8. It is anticipated that non-local workers would relocate to the five-county region, thus adding to
 12 the local population. However, this additional population would constitute a minor increase in the
 13 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It
 14 is anticipated that most of the operational workforce would be drawn from within the five-county
 15 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

16 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 17 population or new housing, they would not be considered to have an adverse effect.

18 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 19 result in minor population increases in the Delta region with adequate housing supply to
 20 accommodate the change in population and therefore adverse changes in the physical environment
 21 are not anticipated.

22 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 23 **Proposed Water Conveyance Facilities**

24 **NEPA Effects:** Under Alternative 2C, effects on community character would be similar in nature,
 25 location, and magnitude to those described under Alternative 1C, Impact ECON-9. Variations in the
 26 location of effects would result from the operation and maintenance of an operable barrier at the
 27 Head of Old River. While water conveyance operation and maintenance could result in beneficial
 28 effects relating to the economic welfare of a community, lasting adverse social effects, including
 29 effects on community cohesion, could also arise in communities closest to physical features and in
 30 those most heavily influenced by agricultural and recreational activities. Implementation of
 31 mitigation measures and environmental commitments related to noise, visual effects,
 32 transportation, agriculture, and recreation would reduce adverse effects (see Appendix 3B,
 33 *Environmental Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A,
 34 Impact ECON-9.

35 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 2C
 36 could affect community character in the Delta region. However, because these impacts are social in
 37 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 38 changes to community character would lead to physical impacts involving population growth, such
 39 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
 40 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
 41 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
 42 community character stemming from a lack of maintenance, upkeep, and general investment.

1 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and**
 2 **Maintenance of the Proposed Water Conveyance Facilities**

3 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operation and
 4 maintenance under Alternative 2C would be similar to those described under Alternative 1C, Impact
 5 ECON-10. While this economic effect would be considered adverse, BDCP proponents would
 6 compensate local governments for the loss of property tax or assessment revenue associated with
 7 construction of water conveyance facilities. Additionally, local entities may benefit from an increase
 8 in sales tax revenue.

9 **CEQA Conclusion:** Continued operation and maintenance of water conveyance facilities for
 10 Alternative 2C would result in the removal of a portion of the property tax base for various local
 11 government entities in the Delta region. However, entities receiving water from the State Water
 12 Project and federal Central Valley Project would mitigate for lost property tax and assessment
 13 revenue associated with land needed for the siting of conveyance facilities (Water Code Section
 14 85089). Additionally, any losses may be offset, at least in part, by an increase in sales tax revenue.
 15 CEQA does not require a discussion of socioeconomic effects except where they would result in
 16 reasonably foreseeable physical changes. If an alternative is not anticipated to result in a physical
 17 change to the environment, it would not be considered to have a significant impact under CEQA
 18 (CEQA Guidelines Sections 15064(f) and 15131). Here, any physical consequences resulting from
 19 fiscal impacts are too speculative to ascertain.

20 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the**
 21 **Proposed Water Conveyance Facilities**

22 **NEPA Effects:** Effects on recreation economics during operation and maintenance of the proposed
 23 water conveyance facilities under Alternative 2C would be similar to those described under
 24 Alternative 1A, Impact ECON-11. Maintenance of conveyance facilities, including intakes, would
 25 result in periodic temporary but not substantial adverse effects on boat passage and water-based
 26 recreational activities. Because effects of facility maintenance would be short-term and intermittent,
 27 substantial economic effects are not anticipated to result from operation and maintenance of the
 28 facilities.

29 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 30 conveyance facilities under Alternative 2C are anticipated to create minor effects on recreational
 31 resources and therefore, are not expected to substantially reduce economic activity related to
 32 recreational activities. This section considers only the economic effects of recreational changes.
 33 Potential physical changes to the environment relating to recreational resources are described and
 34 evaluated in Chapter 15, *Recreation*, Section 15.3.3.7, Impacts REC-5 through REC-8.

35 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during**
 36 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

37 Permanent effects on agricultural economics during operation and maintenance of the proposed
 38 water conveyance facilities would be similar to those described under Alternative 1C, Impact ECON-
 39 12. Total value of irrigated crop production in the Delta would decline on average by \$17.7 million
 40 per year during operation and maintenance, with total irrigated crop acreage declining by about
 41 11,700 acres. Alternative 2C may also affect production costs on lands even if gross revenues are
 42 largely unaffected. Costs could be increased by operational constraints, changes in water quality,
 43 and longer travel times due to the permanent footprint of facilities. Additionally, loss of investments

1 in production facilities and standing orchards and vineyards would occur as a result of facilities
2 construction.

3 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
4 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
5 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
6 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
7 productivity and compensating off-site.

8 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities,
9 the value of agricultural production in the Delta region would be reduced. The permanent removal
10 of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
11 14.3.3.7, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
12 considered an environmental impact. Significant environmental impacts would only result if the
13 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
14 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
15 economic losses due to implementation of the alternative. While the compensation to property
16 owners would reduce the severity of economic effects related to the loss of agricultural land, it
17 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
18 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
19 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
20 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
21 Zones.

22 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 23 **Implementation of CM2–CM21**

24 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
25 to those described under Alternative 1A, Impact ECON-13 because the measures are similar. In the
26 Delta region, spending on CM2–CM21 would include construction, operation and maintenance
27 activities that would convert or disturb existing land use. Because implementation of CM2–CM21
28 would be anticipated to result in an increase in construction and operation and maintenance-related
29 employment and labor income, this would be considered a beneficial effect. However,
30 implementation of these components would also be anticipated to result in a decrease in
31 agricultural-related employment and labor income, which would be considered an adverse effect.
32 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
33 AG-1, would be available to reduce these effects by preserving agricultural productivity and
34 compensating off-site. Additionally, implementation of these components are anticipated to result in
35 the abandonment of natural gas wells, causing a decrease in employment and labor income
36 associated with monitoring and maintaining wells, which would be considered an adverse effect.
37 Mitigation Measure MIN-5, described in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-
38 5, would be available to reduce these effects by minimizing, to the extent feasible, the need for well
39 abandonment or relocation.

40 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
41 income in the Delta region. The change in total employment and income in the Delta region is based
42 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
43 changes in agricultural production, recreation, and natural gas production activities. The total
44 change in employment and income is not, in itself, considered an environmental impact. Significant

1 environmental impacts would only result if the changes in regional economics cause physical
 2 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 3 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 4 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
 5 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
 6 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

7 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 8 **Implementing CM2–CM21**

9 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
 10 described under Alternative 1A, Impact ECON-14 because the measures are similar. In general, the
 11 changes in population and housing would include increases in population from the construction and
 12 operation and maintenance-related activity and declines in residential housing and business
 13 establishments as a result of lands converted or impaired.

14 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 15 population or new housing, they would not be considered to have an adverse effect.

16 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
 17 housing in the Delta region. The change in total population and housing in the Delta region is based
 18 on employment resulting from implementation of the proposed CM2–CM21. The change in
 19 population and housing is expected to be minor relative to the five-county Delta region, and
 20 dispersed throughout the region. Therefore, significant changes to the physical environment are not
 21 anticipated to result.

22 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

23 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
 24 similar to those described under Alternative 1A, Impact ECON-15 because the measures are similar.
 25 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
 26 welfare of a community, adverse social effects, including effects on community cohesion, could also
 27 arise in those communities closest to character-changing effects and those most heavily influenced
 28 by agricultural activities. Implementation of mitigation measures and environmental commitments
 29 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
 30 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 31 summarized under Alternative 1A, Impact ECON-15.

32 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 2C could affect community
 33 character within the Delta region. However, because these impacts are social in nature, rather than
 34 physical, they are not considered impacts under CEQA. To the extent that changes to community
 35 character are related to physical impacts involving population growth, these impacts are described
 36 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
 37 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
 38 individual buildings, could result in alteration of community character stemming from a lack of
 39 maintenance, upkeep, and general investment.

1 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing**
 2 **CM2–CM21**

3 **NEPA Effects:** Under Alternative 2C, effects on local government fiscal conditions as a result of
 4 conservation measure implementation would be similar to those described under Alternative 1A,
 5 Impact ECON-16 because the measures are similar. CM2–CM21 would remove some private land
 6 from local property tax and assessment rolls. This economic effect would be considered adverse;
 7 however, the BDCP proponents would offset forgone property tax and assessments levied by local
 8 governments and special districts on private lands converted to habitat.

9 **CEQA Conclusion:** Under Alternative 2C, implementation of CM2–CM21 would result in the removal
 10 of a portion of the property tax base for various local government entities in the Delta region. Over
 11 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
 12 \$176.7 million. However, the BDCP proponents would compensate local governments and special
 13 districts for forgone revenue. CEQA does not require a discussion of socioeconomic effects except
 14 where they would result in physical changes. If an alternative is not anticipated to result in a
 15 physical change to the environment, it would not be considered to have a significant impact under
 16 CEQA (CEQA Guidelines Sections 15064(f) and 15131).

17 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

18 **NEPA Effects:** Effects related to implementation of CM2–CM21 under this alternative would be
 19 similar to those described under Alternative 1A, Impact ECON-17 because the measures are similar.
 20 These measures may result in adverse and beneficial effects on recreational resources in the Delta
 21 region, resulting in the potential for decreased or increased economic activities related to
 22 recreation.

23 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
 24 recreation and compromise the quality of activities, leading to potential economic impacts.
 25 However, over time, implementation could also improve the quality of existing recreational
 26 opportunities, creating increased economic value with respect to recreation. This section considers
 27 only the economic effects of recreational changes brought about by conservation measure
 28 implementation. Potential physical changes to the environment relating to recreational resources
 29 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.7, Impacts REC-9 through REC-
 30 11.

31 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of**
 32 **Implementing CM2–CM21**

33 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
 34 described under Alternative 1A, Impact ECON-18 because the measures are similar. CM2–CM21
 35 would convert land from existing agricultural uses. These direct effects on agricultural land are
 36 described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.7, Impacts AG-3 and AG-
 37 4. Effects on agricultural economics would include effects on crop production and agricultural
 38 investments resulting from restoration actions on agricultural lands. The effects would be similar in
 39 kind to those described for lands converted due to construction and operation of the conveyance
 40 features and facilities. The total acreage and crop mix of agricultural land potentially affected is not
 41 specified at this time, but when required, the BDCP proponents would provide compensation to
 42 property owners for losses due to implementation of the alternative.

1 **NEPA Effects:** Because implementation of the CM2–CM21 would be anticipated to lead to reductions
 2 in crop acreage and in the value of agricultural production in the Delta region, this is considered an
 3 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 4 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 5 productivity and compensating off-site.

6 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
 7 production in the Delta region. The permanent removal of agricultural land from production is
 8 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.7, Impacts AG-3 and AG-4. The
 9 reduction in the value of agricultural production is not considered an environmental impact.
 10 Significant environmental impacts would only result if the changes in regional economics cause
 11 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 12 required, the BDCP proponents would provide compensation to property owners for economic
 13 losses due to implementation of the alternative. While the compensation to property owners would
 14 reduce the severity of economic effects related to the loss of agricultural land, it would not
 15 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 16 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

17 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

18 **NEPA Effects:** The socioeconomic effects associated with operation of Alternative 2C would be the
 19 same as those described under Alternative 2A, Impact ECON-19, because deliveries would be based
 20 on the same operational guidelines. Changes in deliveries to hydrologic regions could result in
 21 beneficial or adverse socioeconomic effects in these areas. In hydrologic regions where water
 22 deliveries are predicted to increase when compared with the No Action Alternative, more stable
 23 agricultural activities could support employment and economic production associated with
 24 agriculture. Where M&I deliveries increase, population growth could lead to general economic
 25 growth and support water-intensive industries. Such changes could also lead to shifts in the
 26 character of communities in the hydrologic regions with resultant beneficial or adverse effects.
 27 Likewise, growth associated with deliveries could require additional expenditures for local
 28 governments while also supporting increases in revenue.

29 **CEQA Conclusion:** Operation of water conveyance facilities under Alternative 2C could affect
 30 socioeconomic conditions in the hydrologic regions receiving water from the SWP and CVP.
 31 However, because these impacts are social and economic in nature, rather than physical, they are
 32 not considered environmental impacts under CEQA. To the extent that changes in socioeconomic
 33 conditions in the hydrologic regions would lead to physical impacts, such impacts are described in
 34 Chapter 30, *Growth Inducement and Other Indirect Effects*.

35 **16.3.3.8 Alternative 3—Dual Conveyance with Pipeline/Tunnel and** 36 **Intakes 1 and 2 (6,000 cfs; Operational Scenario A)**

37 Facilities construction under Alternative 3 would be similar to those described for Alternative 1A
 38 but with only two intakes as opposed to five. Operations would be different under Alternative 3 than
 39 under Alternative 1A.

1 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta**
 2 **Region during Construction of the Proposed Water Conveyance Facilities**

3 The regional economic effects on employment and income in the Delta region during construction
 4 were evaluated. Changes are shown relative to the Existing Conditions and the No Action Alternative
 5 (regional economic conditions do not differ between Existing Conditions and No Action Alternative).
 6 The effects on employment and income are displayed in Table 16-37. The table shows the direct and
 7 total change that would result from conveyance-related spending. As evident in Table 16-37,
 8 spending on conveyance construction results in substantial local economic activity in the region. As
 9 shown, direct construction employment is anticipated to vary over the 8-year construction period,
 10 with an estimated 1,818 FTE jobs in the first year and 111 FTE jobs in the final year of the
 11 construction period. Construction employment is estimated to peak at 2,849 FTE jobs in year 4.
 12 Total employment (direct, indirect, and induced) would peak in year 1, at 10,297 FTE jobs.

13 **Table 16-37. Regional Economic Effects on Employment and Labor Income during Construction**
 14 **(Alternative 3)**

Regional Economic Impact ^a	Year							
	1	2	3	4	5	6	7	8
Employment (FTE)								
Direct	1,818	2,034	2,713	2,849	2,578	2,320	482	111
Total ^b	10,297	8,515	9,634	8,656	6,787	5,013	813	157
Labor Income (million \$)								
Direct	282.5	207.7	214.8	172.5	118.3	67.0	5.7	0.2
Total ^b	507.2	384.4	407.4	338.5	242.4	151.5	17.6	2.2

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

15
 16 The footprint of conveyance and related facilities such as roads and utilities would remove some
 17 existing agricultural land from production, so the effects on employment and income would be
 18 negative. The regional economic effects on employment and income in the Delta region from the
 19 change in agricultural production are reported in Table 16-38. As shown, direct agricultural
 20 employment would be reduced by an estimated 23 FTE jobs, while total employment (direct,
 21 indirect, and induced) associated with agricultural employment would fall by 88 FTE jobs. Based on
 22 the crop production values changes described in Impact ECON-6 for construction effects, the direct
 23 agricultural job losses would more likely be concentrated in the vegetable, truck, orchard, and
 24 vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage crop
 25 sectors, where more jobs are mechanized. Note that direct agricultural job losses could be higher
 26 than the 23 FTE jobs shown in Table 16-38 because many agricultural jobs are seasonal rather than
 27 year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every FTE job
 28 lost as a result of construction of conveyance facilities construction. Mapbook Figures M14-1 and
 29 M14-2 display areas of Important Farmland and lands under Williamson Act contracts that could be
 30 converted to other uses due to the construction of water conveyance facilities for the
 31 Pipeline/Tunnel alignment. Note that not all of these structures would be constructed under this
 32 alternative.

1 **Table 16-38. Regional Economic Effects on Agricultural Employment and Labor Income during**
 2 **Construction (Alternative 3)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-23
Total ^b	-88
Labor Income (million \$)	
Direct	-2.9
Total ^b	-5.6

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.
^b Includes direct, indirect, and induced effects.

3
 4 Additionally, the Alternative 3 construction footprint would result in the abandonment of an
 5 estimated six producing natural gas wells in the study area, as described in Chapter 26, *Mineral*
 6 *Resources*, Section 26.3.3.8, Impact MIN-1. This could result in the loss of employment and labor
 7 income associated with monitoring and maintaining these wells. Generally, small crews perform
 8 ongoing monitoring and maintenance of several wells at a time. As shown in Chapter 26, *Mineral*
 9 *Resources*, Table 26-2, 516 active producer wells are located in the study area. Even if all six
 10 producing wells in the Alternative 3 construction footprint were abandoned and not replaced with
 11 new wells installed outside the construction footprint, the percentage reduction in the number of
 12 natural gas wells would be very small. As a result, the employment and labor income effects
 13 associated with well abandonment, while negative, would be minimal.

14 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 15 construction-related employment and labor income, this would be considered a beneficial effect.
 16 However, these activities would also be anticipated to result in a decrease in agricultural-related
 17 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 18 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 19 available to reduce these effects by preserving agricultural productivity and compensating off-site.

20 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
 21 employment and income in the Delta region during the construction period. The change would
 22 result from expenditures on construction, increasing employment, and from changes in agricultural
 23 production, decreasing employment. Changes in recreational expenditures and natural gas well
 24 operations could also affect regional employment and income, but these have not been quantified.
 25 The total change in employment and income is not, in itself, considered an environmental impact.
 26 Significant environmental impacts would only result if the changes in regional economics cause
 27 physical impacts. Such effects are discussed in other chapters throughout the EIR/EIS. Costs are
 28 addressed in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of
 29 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 30 14.3.3.8, Impacts AG-1 and AG-2; changes in recreation related activities are addressed in Chapter
 31 15, *Recreation*, Section 15.3.3.8, REC-1 through REC-4; abandonment of natural gas wells is
 32 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.8, Impact MIN-1. When required, DWR
 33 would provide compensation to property owners for economic losses due to implementation of the
 34 alternative. While the compensation to property owners would reduce the severity of economic

1 effects related to the loss of agricultural land, it would not constitute mitigation for any related
 2 physical impact. Measures to reduce these impacts are discussed in Chapter 14, *Agricultural*
 3 *Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP
 4 to preserve agricultural productivity and mitigate for loss of Important Farmland and land subject to
 5 Williamson Act contracts or in Farmland Security Zones.

6 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 7 **the Proposed Water Conveyance Facilities**

8 **Population**

9 Construction of conveyance facilities would require an estimated peak of 2,850 workers in year 4 of
 10 the assumed 8-year construction period. It is anticipated that many of these new jobs would be filled
 11 from within the existing five-county labor force. However, construction of the tunnels may require
 12 specialized worker skills not readily available in the local labor pool. As a result, it is anticipated that
 13 some specialized workers may be recruited from outside the five-county region. Considering the
 14 multi-year duration of conveyance facility construction, it is anticipated that non-local workers
 15 would temporarily relocate to the five-county region, thus adding to the local population. As
 16 discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, Direct
 17 Growth Inducement, an estimated 30 percent of workers could come from out of the Delta region,
 18 suggesting that approximately 900 workers could relocate to the Delta region at the peak of the
 19 construction period. However, this additional population would constitute a minor increase in the
 20 total 2020 projected regional population of 4.6 million and be distributed throughout the region.
 21 Changes in demand for public services resulting from any increase in population are addressed in
 22 Chapter 20, *Public Services and Utilities*, Section 20.3.3.8, Impact UT-1 through UT-6.

23 **Housing**

24 Changes in housing demand are based on changes in supply resulting from displacement during
 25 facilities construction and changes in housing demand resulting from employment associated with
 26 construction of conveyance facilities. As described in Chapter 13, *Land Use*, Section 13.3.3.8, Impact
 27 LU-2, construction of water conveyance facilities under Alternative 3 would conflict with
 28 approximately 37 residential structures.

29 The construction workforce would most likely commute daily to the work site from within the five-
 30 county region; however, if needed, there are about 53,000 housing units available to accommodate
 31 workers who may choose to commute on a workweek basis or who may choose to temporarily
 32 relocate to the region for the duration of the construction period, including the estimated 900
 33 workers who may temporarily relocate to the Delta region from out of the region. In addition to the
 34 available housing units, there are recreational vehicle parks and hotels and motels within the five-
 35 county region to accommodate any construction workers. As a result, and as discussed in more
 36 detail in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, Direct Growth
 37 Inducement, construction of the proposed conveyance facilities is not expected to substantially
 38 increase the demand for housing within the five-county region.

39 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
 40 However, given the availability of housing within the five-county region, predicting where this
 41 impact might fall would be speculative. In addition, new residents would likely be dispersed across
 42 the region, thereby not creating a burden on any one community.

1 Because these activities would not result in permanent concentrated, substantial increases in
2 population or new housing, they would not be considered to have an adverse effect.

3 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
4 population increases in the Delta region with adequate housing supply to accommodate the change
5 in population. Therefore, the minor increase in population is not anticipated to result in any adverse
6 changes to the physical environment.

7 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 8 **Water Conveyance Facilities**

9 **NEPA Effects:** Under Alternative 3, effects on community character would be similar in nature and
10 location to those described under Alternative 1A, Impact ECON-3. However, the intensity of these
11 effects would be reduced due to the construction of only two intake facilities. As such, regional
12 population and employment would increase to levels described above under Impact ECON-1 and
13 ECON-2. While water conveyance construction could result in beneficial effects relating to the
14 economic welfare of a community, adverse social effects could also arise as a result of declining
15 economic stability or changes in community cohesion in communities closest to construction effects
16 and in those most heavily influenced by agricultural and recreational activities. Implementation of
17 mitigation measures and environmental commitments related to noise, visual effects,
18 transportation, agriculture, and recreation would reduce adverse effects (see Appendix 3B,
19 *Environmental Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A,
20 Impact ECON-3.

21 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 3 could affect
22 community character in the Delta region. However, because these impacts are social in nature,
23 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
24 community character would lead to physical impacts involving population growth, such impacts are
25 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
26 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
27 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
28 character stemming from a lack of maintenance, upkeep, and general investment. However,
29 implementation of mitigation measures and environmental commitments related to noise, visual
30 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
31 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
32 erosion and sediment control plans, hazardous materials management plans, notification of
33 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
34 mosquito management plans.

35 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 36 **the Proposed Water Conveyance Facilities**

37 **NEPA Effects:** Effects on tax revenue as a result of water conveyance construction under Alternative
38 3 would be similar to those described under Alternative 1A, Impact ECON-4. However, due to the
39 construction of fewer intake facilities, forgone revenue is estimated at \$7.6 million over the
40 construction period. These decreases in revenue could potentially result in the loss of a substantial
41 share of some agencies' tax bases, particularly for smaller districts affected by the BDCP. This
42 economic effect would be adverse; however, the BDCP proponents would make arrangements to
43 compensate local governments for the loss of property tax or assessment revenue for land used for

1 constructing, locating, operating, or mitigating for new Delta water conveyance facilities.
 2 Additionally, as discussed under Impact ECON-2, construction of the water conveyance facilities
 3 would be anticipated to result in a net increase of income and employment in the Delta region. This
 4 would also create an indirect beneficial effect through increased sales tax revenue for local
 5 government entities that rely on sales taxes.

6 **CEQA Conclusion:** Under Alternative 3, construction of water conveyance facilities would result in
 7 the removal of a portion of the property tax base for various local government entities in the Delta
 8 region. Over the construction period, property tax and assessment revenue forgone is estimated at
 9 \$7.6 million. However, the Sacramento-San Joaquin Delta Reform Act commits the entities receiving
 10 water from the State Water Project and federal Central Valley Project to mitigate for lost property
 11 tax and assessment revenue associated with land needed for the construction of new conveyance
 12 facilities (Water Code Section 85089). Additionally, any losses could be offset, at least in part, by an
 13 anticipated increase in sales tax revenue. CEQA does not require a discussion of socioeconomic
 14 effects except where they would result in reasonably foreseeable physical changes. If an alternative
 15 is not anticipated to result in a physical change to the environment, it would not be considered to
 16 have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any
 17 physical consequences resulting from fiscal impacts are too speculative to ascertain.

18 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 19 **Water Conveyance Facilities**

20 **NEPA Effects:** Under Alternative 3, disruption of recreational activities during the construction
 21 period would be similar in character to that described under Alternative 1A, Impact ECON-5.
 22 However, only Intakes 1 and 2 would be constructed under this alternative. While access to
 23 recreational facilities would be maintained throughout construction, the quality of recreational
 24 activities including boating, fishing, waterfowl hunting, and hiking in the Delta could be indirectly
 25 affected by noise, lighting, traffic, and visual degradation in proximity to water conveyance
 26 construction. Relative to Alternative 1A, however, two fewer established recreational sites or areas
 27 would be affected by this alternative.

28 Construction of water conveyance structures under this alternative would be anticipated to result in
 29 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite
 30 the implementation of mitigation measures, including enhancement of fishing access sites and
 31 incorporation of recreational access into project design, and environmental and other commitments,
 32 including providing funding to implement recreational improvements and control aquatic weeds,
 33 providing notification of maintenance activities in waterways, and developing and implementing a
 34 noise abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*.
 35 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
 36 in areas closest to construction activities. The multi-year schedule and geographic scale of
 37 construction activities and the anticipated decline in recreational spending would be considered an
 38 adverse effect. The commitments and mitigation measure cited above would contribute to the
 39 reduction of this effect.

40 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 3
 41 could impact recreational revenue in the Delta region if construction activities result in fewer visits
 42 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
 43 recreational activities. This section considers only the economic effects of recreational changes
 44 brought about by construction of the proposed water conveyance facilities. Potential physical

1 changes to the environment relating to recreational resources are described and evaluated in
2 Chapter 15, *Recreation*, Section 15.3.3.8, Impacts REC-1 through REC-4.

3 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of**
4 **the Proposed Water Conveyance Facilities**

5 Construction of conveyance facilities would convert land from existing agricultural uses to uses that
6 include direct facility footprints, construction staging areas, borrow/spoils areas, RTM storage,
7 temporary and permanent roads, and utilities. Agricultural land could also be affected by changes in
8 water quality and other conditions that would affect crop productivity. These direct effects on
9 agricultural land are described in Chapter 14, *Agricultural Resources*, Section 14.3.3.8, Impacts AG-1
10 and AG-2.

11 Changes in crop acreage were used to describe the associated changes in economic values. Unit
12 prices, yields, and crop production and investment costs were presented in Section 16.1,
13 *Environmental Setting/Affected Environment*. Table 16-39 summarizes the changes in acreage and
14 value of agricultural production that would result in the Delta region as a result of Alternative 3
15 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative,
16 by aggregate crop category (agricultural resources under Existing Conditions and in the No Action
17 Alternative were assumed to be the same). The table also includes a summary of changes in crop
18 acreages that are reported in greater detail in Appendix 14A, *Individual Crop Effects as a Result of*
19 *BDCP Water Conveyance Facility Construction*.

20 Total value of irrigated crop production in the Delta would decline on average by \$8.3 million per
21 year during the construction period, with total irrigated crop acreage declining by about 5,100 acres,
22 These estimates are not dependent on water year type.

23 Alternative 3 may also affect production costs, investments in production facilities and standing
24 orchards and vineyards, and salinity of agricultural water supply. Effects would be similar to those
25 qualitatively described under Alternative 1A, Impact ECON-6. Chapter 14, *Agricultural Resources*,
26 Section 14.3.3.8, Impacts AG-1 and AG-2, provides discussion of indirect effects on agricultural
27 resources.

1 **Table 16-39. Crop Acres and Value of Agricultural Production in the Delta during Construction**
 2 **(Alternative 3)**

Analysis Metric	Alternative 3	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	478.5	-5.1
Grains	58.2	-0.5
Field crops	189.5	-1.6
Forage crops	111.5	-1.2
Vegetable, truck, and specialty crops	76.6	-0.5
Orchards and vineyards	42.7	-1.3
Total Value of Production (million \$)	641.8	-8.3
Grains	24.1	-0.1
Field crops	112.8	-1.0
Forage crops	72.1	-1.0
Vegetable, truck, and specialty crops	266.5	-1.8
Orchards and vineyards	166.2	-4.3

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

3
 4 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 5 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 6 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 7 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 8 agricultural productivity and compensating off-site.

9 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 10 value of agricultural production in the Delta region. The removal of agricultural land from
 11 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.8, Impacts AG-1 and
 12 AG-2. The reduction in the value of agricultural production is not considered an environmental
 13 impact. Significant environmental impacts would only result if the changes in regional economics
 14 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 15 required, DWR would provide compensation to property owners for economic losses due to
 16 implementation of the alternative. While the compensation to property owners would reduce the
 17 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 18 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 19 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 20 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 21 and land subject to Williamson Act contracts or in Farmland Security Zones.

22 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region**
 23 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

24 Permanent effects on regional economics during operation and maintenance of the proposed water
 25 conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-7.
 26 Increased expenditures related to operation and maintenance of water conveyance facilities would
 27 be expected to result in a permanent increase in regional employment and income, as presented in

1 Table 16-22. The permanent removal of agricultural land following construction would have lasting
 2 negative effects on agricultural employment and income, as shown in Table 16-23.

3 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 4 result in an increase in operations-related employment and labor income, this would be considered
 5 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 6 agricultural-related employment and labor income, which would be considered an adverse effect.
 7 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 8 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 9 compensating off-site.

10 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 11 increase total employment and income in the Delta region. The net change would result from
 12 expenditures on operation and maintenance and from changes in agricultural production. The total
 13 change in income and employment is not, in itself, considered an environmental impact. Significant
 14 environmental impacts would only result if the changes in regional economics cause physical
 15 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 16 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 17 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.8, Impacts AG-3
 18 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 19 15.3.3.8, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
 20 landowners as a result of acquiring lands for the proposed conveyance facilities. While the
 21 compensation to property owners would reduce the severity of economic effects related to the loss
 22 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 23 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 24 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
 25 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
 26 contracts or in Farmland Security Zones.

27 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 28 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

29 Permanent effects on population and housing during operation and maintenance of the proposed
 30 water conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-
 31 8. It is anticipated that non-local workers would relocate to the five-county region, thus adding to
 32 the local population. However, this additional population would constitute a minor increase in the
 33 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It
 34 is anticipated that most of the operational workforce would be drawn from within the five-county
 35 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

36 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 37 population or new housing, they would not be considered to have an adverse effect.

38 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 39 result in minor population increases in the Delta region with adequate housing supply to
 40 accommodate the change in population and therefore adverse changes in the physical environment
 41 are not anticipated.

1 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the**
 2 **Proposed Water Conveyance Facilities**

3 **NEPA Effects:** Under Alternative 3, effects on community character would be similar in nature and
 4 location to those described under Alternative 1A, Impact ECON-9. However, the intensity of these
 5 effects would be reduced based on the operation and maintenance of two intake facilities. While
 6 water conveyance operation and maintenance could result in beneficial effects relating to the
 7 economic welfare of a community, lasting adverse social effects, including effects on community
 8 cohesion, could also arise in communities closest to physical features and in those most heavily
 9 influenced by agricultural and recreational activities. Implementation of mitigation measures and
 10 environmental commitments related to noise, visual effects, transportation, agriculture, and
 11 recreation would reduce adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and*
 12 *CMs*). These actions are summarized under Alternative 1A, Impact ECON-9.

13 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 3
 14 could affect community character in the Delta region. However, because these impacts are social in
 15 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 16 changes to community character would lead to physical impacts involving population growth, such
 17 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
 18 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
 19 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
 20 community character stemming from a lack of maintenance, upkeep, and general investment.

21 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and**
 22 **Maintenance of the Proposed Water Conveyance Facilities**

23 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operations under
 24 Alternative 3 would be similar to those described under Alternative 1A, Impact ECON-10. However,
 25 with the construction of fewer intake facilities, forgone revenue is estimated at \$45.8 million over
 26 the 50-year permit period, a smaller reduction than in Alternative 1A. These decreases in revenue
 27 could potentially result in the loss of a significant share of some agencies' tax bases, particularly for
 28 smaller districts affected by the BDCP. This economic effect would be adverse; however, the BDCP
 29 proponents would make arrangements to compensate local governments for the loss of property tax
 30 or assessment revenue for land used for constructing, locating, operating, or mitigating for new
 31 Delta water conveyance facilities. Additionally, as discussed under Impact ECON-7, continued
 32 operation and maintenance of the water conveyance facilities would be anticipated to result in a net
 33 increase of income and employment in the Delta region. This could also create an indirect beneficial
 34 effect through increased sales tax revenue for local government entities that rely on sales taxes.

35 **CEQA Conclusion:** Under Alternative 3, the ongoing operation and maintenance of water
 36 conveyance facilities would reduce property tax revenues for various local government entities in
 37 the Delta region. Over the 50-year permit period, property tax and assessment revenue forgone is
 38 estimated at \$45.8 million, compared with annual property tax revenue of more than \$934 million in
 39 the Delta counties (California State Controller's Office 2012). Projected over the 50-year period,
 40 these removals would likely represent less than 1% of these counties' property tax revenue.
 41 However, the Sacramento-San Joaquin Delta Reform Act commits the entities receiving water from
 42 the State Water Project and federal Central Valley Project to mitigate for lost property tax and
 43 assessment revenue associated with land needed for the construction of new conveyance facilities
 44 (Water Code Section 85089). Additionally, any losses could be offset, at least in part, by an

1 anticipated increase in sales tax revenue. CEQA does not require a discussion of socioeconomic
 2 effects except where they would result in reasonably foreseeable physical changes. If an alternative
 3 is not anticipated to result in a physical change to the environment, it would not be considered to
 4 have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any
 5 physical consequences resulting from fiscal impacts are too speculative to ascertain.

6 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 7 **Proposed Water Conveyance Facilities**

8 Effects on recreation economics during operation and maintenance of the proposed water
 9 conveyance facilities under Alternative 3 would be similar to those described under Alternative 1A,
 10 Impact ECON-11.

11 **NEPA Effects:** Maintenance of conveyance facilities, including intakes, would result in periodic
 12 temporary but not substantial adverse effects on boat passage and water-based recreational
 13 activities. Because effects of facility maintenance would be short-term and intermittent, significant
 14 economic effects are not anticipated to result from operation and maintenance of the facilities.

15 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 16 conveyance facilities under Alternative 3 are anticipated to create minor effects on recreational
 17 resources and therefore, are not expected to significantly reduce economic activity related to
 18 recreational activities. This section considers only the economic effects of recreational changes.
 19 Potential physical changes to the environment relating to recreational resources are described and
 20 evaluated in Chapter 15, *Recreation*, Section 15.3.3.8, Impacts REC-5 through REC-8.

21 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 22 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

23 During operation and maintenance of conveyance facilities existing agricultural land would be in
 24 uses that include direct facility footprints and associated permanent roads and utilities. Agricultural
 25 land could also be affected by changes in water quality and other conditions that would affect crop
 26 productivity. These direct effects on agricultural land are described in Chapter 14, *Agricultural*
 27 *Resources*, Section 14.3.3.8, Impacts AG-1 and AG-2.

28 Changes in crop acreage were used to estimate the associated changes in economic values. Unit
 29 prices, yields, and crop production and investment costs were presented in Section 16.1,
 30 *Environmental Setting/Affected Environment*. Table 16-40 summarizes the changes in acreage and
 31 value of agricultural production that would result in the Delta region during operation of Alternative
 32 3. Changes are shown relative to the Existing Conditions and the No Action Alternative by aggregate
 33 crop category (agricultural resources under Existing Conditions and in the No Action Alternative
 34 were assumed to be the same). The changes in crop acreages are reported in greater detail in
 35 Appendix 14A, *Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction*.

36 Total value of irrigated crop production in the Delta region would decline on average by \$7.1 million
 37 per year during operation and maintenance, with total irrigated crop acreage declining by about
 38 4,300 acres. These estimates are not dependent on water year type.

1 **Table 16-40. Crop Acres and Value of Agricultural Production in the Delta during Operations and**
 2 **Maintenance (Alternative 3)**

Analysis Metric	Alternative 3	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	479.3	-4.3
Grains	58.3	-0.3
Field crops	189.8	-1.3
Forage crops	111.6	-1.1
Vegetable, truck, and specialty crops	76.7	-0.4
Orchards and vineyards	42.8	-1.2
Total Value of Production (million \$)	642.9	-7.1
Grains	24.1	-0.1
Field crops	113.1	-0.8
Forage crops	72.2	-0.9
Vegetable, truck, and specialty crops	266.9	-1.5
Orchards and vineyards	166.7	-3.8

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

3
 4 Alternative 3 may also affect production costs on lands even if gross revenues are largely unaffected.
 5 Costs could be associated with operational constraints and longer travel times due to permanent
 6 facilities. In most cases, affected lands fall within the facilities footprint, and are included in the
 7 agricultural acreage and value of production described elsewhere in this chapter and in Chapter 14,
 8 *Agricultural Resources*, Section 14.3.3.8.

9 Crop yields and crop selection on lands in the Delta could be affected by changes in salinity of
 10 agricultural water supply during operation and maintenance activities. If operation of the proposed
 11 conveyance facilities increases salinity in part of the Delta, crops that are more sensitive to salinity
 12 could shift to other lands in the five-county Delta region. See Chapter 14, *Agricultural Resources*,
 13 Section 14.3.3.8, Impact AG-2, for further discussion of effects from changes in salinity.

14 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 15 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 16 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 17 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 18 productivity and compensating off-site.

19 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities
 20 the value of agricultural production in the Delta region would be reduced. The permanent removal
 21 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 22 14.3.3.8, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 23 considered an environmental impact. Significant environmental impacts would only result if the
 24 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 25 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 26 economic losses due to implementation of the alternative. While the compensation to property
 27 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 28 would not constitute mitigation for any related physical effect. Measures to reduce these impacts are

1 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 2 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 3 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 4 Zones.

5 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 6 **Implementation of CM2–CM21**

7 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
 8 to those described under Alternative 1A, Impact ECON-13 because the measures are similar. In the
 9 Delta region, spending on CM2–CM21 would include construction, operation and maintenance
 10 activities that would convert or disturb existing land use. Because implementation of CM2–CM21
 11 would be anticipated to result in an increase in construction and operation and maintenance-related
 12 employment and labor income, this would be considered a beneficial effect. However,
 13 implementation of these components would also be anticipated to result in a decrease in
 14 agricultural-related employment and labor income, which would be considered an adverse effect.
 15 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 16 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 17 compensating off-site. Additionally, implementation of these components are anticipated to result in
 18 the abandonment of natural gas wells, causing a decrease in employment and labor income
 19 associated with monitoring and maintaining wells, which would be considered an adverse effect.
 20 Mitigation Measure MIN-5, described in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-
 21 5, would be available to reduce these effects by minimizing, to the extent feasible, the need for well
 22 abandonment or relocation.

23 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
 24 income in the Delta region. The change in total employment and income in the Delta region is based
 25 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
 26 changes in agricultural production, recreation, and natural gas production activities. The total
 27 change in employment and income is not, in itself, considered an environmental impact. Significant
 28 environmental impacts would only result if the changes in regional economics cause physical
 29 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 30 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 31 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
 32 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
 33 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

34 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 35 **Implementing CM2–CM21**

36 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
 37 described under Alternative 1A, Impact ECON-14 because the measures are similar. In general, the
 38 changes in population and housing would include increases in population from the construction and
 39 operation and maintenance-related activity and declines in residential housing and business
 40 establishments as a result of lands converted or impaired.

41 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 42 population or new housing, they would not be considered to have an adverse effect.

1 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
 2 housing in the Delta region. The change in total population and housing in the Delta region is based
 3 on employment resulting from implementation of the proposed CM2–CM21. The change in
 4 population and housing is expected to be minor relative to the five-county Delta region, and
 5 dispersed throughout the region. Therefore, significant changes to the physical environment are not
 6 anticipated to result.

7 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

8 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
 9 similar to those described under Alternative 1A, Impact ECON-15 because the measures are similar.
 10 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
 11 welfare of a community, adverse social effects, including effects on community cohesion, could also
 12 arise in those communities closest to character-changing effects and those most heavily influenced
 13 by agricultural activities. Implementation of mitigation measures and environmental commitments
 14 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
 15 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 16 summarized under Alternative 1A, Impact ECON-15.

17 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 3 could affect community
 18 character within the Delta region. However, because these impacts are social in nature, rather than
 19 physical, they are not considered impacts under CEQA. To the extent that changes to community
 20 character are related to physical impacts involving population growth, these impacts are described
 21 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
 22 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
 23 individual buildings, could result in alteration of community character stemming from a lack of
 24 maintenance, upkeep, and general investment.

25 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 26 **CM2–CM21**

27 **NEPA Effects:** Under Alternative 3, effects on local government fiscal conditions as a result of
 28 conservation measure implementation would be similar to those described under Alternative 1A,
 29 Impact ECON-16. CM2–CM21 would remove some private land from local property tax and
 30 assessment rolls. This economic effect could be considered substantial and adverse; however, the
 31 magnitude of this effect would depend on the footprints of restoration areas. The BDCP proponents
 32 would arrange to offset forgone property tax and assessments levied by local governments and
 33 special districts on private lands converted to habitat.

34 **CEQA Conclusion:** Under Alternative 3, implementation of CM2–CM21 would result in the removal
 35 of a portion of the property tax base for various local government entities in the Delta region. Over
 36 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
 37 \$176.7 million. However, the BDCP proponents would compensate local governments and special
 38 districts for forgone revenue. CEQA does not require a discussion of socioeconomic effects except
 39 where they would result in physical changes. If an alternative is not anticipated to result in a
 40 physical change to the environment, it would not be considered to have a significant impact under
 41 CEQA (CEQA Guidelines Sections 15064(f) and 15131).

1 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

2 **NEPA Effects:** Effects related to implementation of CM2–CM21 under this alternative would be
3 similar to those described under Alternative 1A, Impact ECON-17. These measures may result in
4 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
5 for decreased or increased economic activities related to recreation.

6 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
7 recreation and compromise the quality of activities, leading to potential economic impacts.
8 However, over time, implementation could also improve the quality of existing recreational
9 opportunities, creating increased economic value with respect to recreation. This section considers
10 only the economic effects of recreational changes brought about by conservation measure
11 implementation. Potential physical changes to the environment relating to recreational resources
12 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.8, Impacts REC-9 through REC-
13 11.

14 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of** 15 **Implementing CM2–CM21**

16 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
17 described under Alternative 1A, Impact ECON-18 because the measures are similar. CM2–CM21
18 would convert land from existing agricultural uses. These direct effects on agricultural land are
19 described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.8, Impacts AG-3 and AG-
20 4. Effects on agricultural economics would include effects on crop production and agricultural
21 investments resulting from restoration actions on agricultural lands. The effects would be similar in
22 kind to those described for lands converted due to construction and operation of the conveyance
23 features and facilities. The total acreage and crop mix of agricultural land potentially affected is not
24 specified at this time, but when required, the BDCP proponents would provide compensation to
25 property owners for losses due to implementation of the alternative.

26 **NEPA Effects:** Because implementation of CM2–CM21 would be anticipated to lead to reductions in
27 crop acreage and in the value of agricultural production in the Delta region, this is considered an
28 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
29 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
30 productivity and compensating off-site.

31 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
32 production in the Delta region. The permanent removal of agricultural land from production is
33 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.8, Impacts AG-3 and AG-4. The
34 reduction in the value of agricultural production is not considered an environmental impact.
35 Significant environmental impacts would only result if the changes in regional economics cause
36 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
37 required, the BDCP proponents would provide compensation to property owners for economic
38 losses due to implementation of the alternative. While the compensation to property owners would
39 reduce the severity of economic effects related to the loss of agricultural land, it would not
40 constitute mitigation for any related physical impact. Measures to reduce these impacts are
41 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

1 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

2 The socioeconomic effects associated with operation of Alternative 3 would be similar to those
 3 described under Alternative 1A, Impact ECON-19; however, the magnitude of the effects would be
 4 different based the construction of two intakes and different operational guidelines leading to
 5 different deliveries to hydrologic regions. Changes in deliveries to hydrologic regions could result in
 6 beneficial or adverse socioeconomic effects in these areas. In hydrologic regions where water
 7 deliveries are predicted to increase when compared with the No Action Alternative, more stable
 8 agricultural activities could support employment and economic production associated with
 9 agriculture.

10 ***NEPA Effects:***

11 **Changes in CVP and SWP Deliveries Compared to No Action Alternative**

12 Compared to No Action Alternative (LLT 2060), Alternative 3 would increase deliveries to all south-
 13 of-Delta hydrologic regions. The average annual increase in CVP and SWP deliveries would be 903
 14 TAF, and the distribution of these increased deliveries to each hydrologic region are given in Table
 15 30-21. Where M&I deliveries increase, population growth could lead to general economic growth
 16 and support water-intensive industries. Changes to agricultural production and population growth
 17 with its associated economic activity could also lead to shifts in the character of communities in the
 18 hydrologic regions with resultant beneficial or adverse effects. Likewise, growth associated with
 19 deliveries could require additional expenditures for local governments while also supporting
 20 increases in revenue.

21 ***CEQA Conclusion:***

22 **Changes in CVP and SWP Deliveries Compared to Existing Conditions**

23 Compared to Existing Conditions, Alternative 3 would increase deliveries to all hydrologic regions
 24 south of the Delta. The average annual increase in CVP and SWP deliveries would be 253 TAF, and
 25 the distribution of these increased deliveries to each hydrologic region are given in Table 30-20.

26 **Summary**

27 Operation of water conveyance facilities under Alternative 3 could affect socioeconomic conditions
 28 in the hydrologic regions receiving water from the SWP and CVP. However, because these impacts
 29 are social and economic in nature, rather than physical, they are not considered environmental
 30 impacts under CEQA. To the extent that changes in socioeconomic conditions in the hydrologic
 31 regions would lead to physical impacts, such impacts are described in Chapter 30, *Growth*
 32 *Inducement and Other Indirect Effects.*

33 **16.3.3.9 Alternative 4—Dual Conveyance with Modified Pipeline/Tunnel** 34 **and Intakes 2, 3, and 5 (9,000 cfs; Operational Scenario H)**

35 Alternative 4 would result in temporary effects on lands and communities associated with
 36 construction of three intakes and associated facilities; an intermediate forebay; tunnels; an operable
 37 barrier at the head of Old River; pumping plants and an expanded and modified Clifton Court
 38 Forebay. Nearby areas would be altered as work or staging areas, concrete batch plants, fuel
 39 stations, or be used for spoils storage areas. Transmission lines, access roads, and other incidental

1 facilities would also be needed for operations, and construction of these structures would also have
2 effects on lands and communities.

3 The following impact analysis is divided into four subsections: effects of construction of facilities
4 under CM1 in the Delta region, effects of operations of facilities under CM1 in the Delta region,
5 effects of implementation of other conservation measures, and effects in hydrologic regions outside
6 of the Delta as a result of changes in water deliveries.

7 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 8 **Region during Construction of the Proposed Water Conveyance Facilities**

9 The regional economic effects on employment and income in the Delta region during construction
10 were evaluated. Changes are shown relative to the Existing Conditions and the No Action Alternative
11 (regional economic conditions do not differ between Existing Conditions and No Action Alternative).
12 The effects on employment and income are displayed in Table 16-41. The table shows the direct and
13 total changes that would result from conveyance-related spending. As evident in Table 16-41,
14 spending on conveyance construction would result in substantial economic activity in the region. As
15 shown, direct construction employment is anticipated to vary over the 14-year construction period,
16 with an estimated 66 FTE jobs in the first year and 486 FTE jobs in the final year of construction.
17 Construction employment is estimated to peak at 2,427 FTE jobs in year 3. Total employment
18 (direct, indirect, and induced) would peak in year 12, at 8,673 FTE jobs.

19 **Table 16-41. Regional Economic Effects on Employment and Labor Income during Construction**
20 **(Alternative 4)**

Regional Economic Impact ^a	Year							
	1	2	3	4	5	6	7	8
Employment (FTE)								
Direct	66	747	2,427	1,743	1,124	1,572	2,207	2,272
Total ^b	90	1,025	7,988	6,644	5,402	6,451	8,185	8,274
Labor Income (million \$)								
Direct	0.0	0.5	168.6	153.3	139.0	154.8	185.9	185.9
Total ^b	1.1	13.0	324.6	287.8	253.4	287.4	350.6	351.7

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

Regional Economic Impact ^a	Year					
	9	10	11	12	13	14
Employment (FTE)						
Direct	2,278	2,194	2,114	2,248	1,723	486
Total ^b	8,320	8,187	8,113	8,673	4,964	795
Labor Income (million \$)						
Direct	187.4	186.7	187.9	201.5	94.0	4.8
Total ^b	354.2	351.6	352.4	377.5	187.2	16.1

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

21

1 The footprint of conveyance and related facilities such as roads and utilities would remove some
 2 existing agricultural land from production, so the effects on employment and income would be
 3 negative. The regional economic effects on employment and income in the Delta region from the
 4 change in agricultural production are reported in Table 16-42. As shown, direct agricultural
 5 employment would be reduced by an estimated 13 FTE jobs, while total employment (direct,
 6 indirect, and induced) associated with agricultural employment would fall by 47 FTE jobs. Based on
 7 the crop production values changes described in Impact ECON-6 for construction effects, the direct
 8 agricultural job losses would more likely be concentrated in the vegetable, truck, orchard, and
 9 vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage crop
 10 sectors, where more jobs are mechanized. Note that direct agricultural job losses could be higher
 11 than the 13 FTE jobs shown in Table 16-42 because many agricultural jobs are seasonal rather than
 12 year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every FTE job
 13 lost as a result of construction of conveyance facilities construction. Mapbook Figures M14-7 and
 14 M14-8 display areas of Important Farmland and lands under Williamson Act contracts that could be
 15 converted to other uses due to the construction of water conveyance facilities for the Modified
 16 Pipeline/Tunnel alignment.

17 **Table 16-42. Regional Economic Effects on Agricultural Employment and Labor Income during**
 18 **Construction (Alternative 4)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-13
Total ^b	-47
Labor Income (million \$)	
Direct	-2.0
Total ^b	-3.5

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects.

19
 20 The Alternative 4 construction footprint would not result in the abandonment of any active
 21 producing natural gas wells in the study area, as described in Chapter 26, *Mineral Resources*, Section
 22 26.3.3.9, Impact MIN-1. Therefore, this alternative would not be anticipated to result in the loss of
 23 employment or labor income associated with monitoring and maintaining these wells.

24 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 25 construction-related employment and labor income, this would be considered a beneficial effect.
 26 However, these activities would also be anticipated to result in a decrease in agricultural-related
 27 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 28 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 29 available to reduce these effects by preserving agricultural productivity and compensating off-site.

30 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would temporarily
 31 increase total employment and income in the Delta region. The change would result from
 32 expenditures on construction, increasing employment, and from changes in agricultural production,
 33 decreasing employment. Changes in recreational expenditures and natural gas well operations could
 34 also affect regional employment and income, but these have not been quantified. The total change in

1 employment and income is not, in itself, considered an environmental impact. Significant
 2 environmental impacts would only result if the changes in regional economics cause physical
 3 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 4 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 5 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts AG-1
 6 and AG-2; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 7 15.3.3.9, REC-1 through REC-4; abandonment of natural gas wells is addressed in Chapter 26,
 8 *Mineral Resources*, Section 26.3.3.9, Impact MIN-1. When required, DWR would provide
 9 compensation to property owners for economic losses due to implementation of the alternative.
 10 While the compensation to property owners would reduce the severity of economic effects related
 11 to the loss of agricultural land, it would not constitute mitigation for any related physical impact.
 12 Measures to reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section
 13 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve
 14 agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson
 15 Act contracts or in Farmland Security Zones.

16 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 17 **the Proposed Water Conveyance Facilities**

18 **Population**

19 Construction of conveyance facilities would require an estimated peak of 2,427 workers in year 3 of
 20 the assumed 14-year construction period. It is anticipated that many of these new jobs would be
 21 filled from within the existing five-county labor force. However, construction of the tunnels may
 22 require specialized worker skills not readily available in the local labor pool. As a result, it is
 23 anticipated that some specialized workers may be recruited from outside the five-county region.

24 Considering the multi-year duration of conveyance facility construction, it is anticipated that non-
 25 local workers would temporarily relocate to the five-county region, thus adding to the local
 26 population. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section
 27 30.3.2.1, Direct Growth Inducement, an estimated 30 percent of workers could come from out of the
 28 Delta region, suggesting that approximately 730 workers could relocate to the Delta region at the
 29 peak of the construction period. However, this additional population would constitute a minor
 30 increase in the total 2020 projected regional population of 4.6 million and be distributed throughout
 31 the region. Changes in demand for public services resulting from any increase in population are
 32 addressed in Chapter 20, *Public Services and Utilities*, Section 20.3.3.9, Impact UT-1 through UT-6.

33 **Housing**

34 Changes in housing demand are based on changes in supply resulting from displacement during
 35 facilities construction and changes in housing demand resulting from employment associated with
 36 construction of conveyance facilities. As described in Chapter 13, *Land Use*, Section 13.3.3.9, Impact
 37 LU-2, construction of water conveyance facilities under Alternative 4 would conflict with
 38 approximately 19 residential structures. The physical footprints of the three intake facilities, along
 39 with associated work areas, are anticipated to create the largest disruption to structures, conflicting
 40 with 12 of these residences.

41 The construction workforce would most likely commute daily to the work sites from within the five-
 42 county region; however, if needed, there are about 53,000 housing units available to accommodate
 43 workers who may choose to commute to on a workweek basis or who may choose to temporarily

1 relocate to the region for the duration of the construction period, including the estimated 730
 2 workers who may temporarily relocate to the Delta region from out of the region. In addition to the
 3 available housing units, there are recreational vehicle parks and hotels and motels within the five-
 4 county region to accommodate any construction workers. As a result, and as discussed in more
 5 detail in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, Direct Growth
 6 Inducement, construction of the proposed conveyance facilities is not expected to substantially
 7 increase the demand for housing within the five-county region.

8 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
 9 However, given the availability of housing within the five-county region, predicting where this
 10 impact might fall would be speculative. In addition, new residents would likely be dispersed across
 11 the region, thereby not creating a burden on any one community.

12 Because these activities would not result in permanent concentrated, substantial increases in
 13 population or new housing, they would not be considered to have an adverse effect.

14 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
 15 population increases in the Delta region with adequate housing supply to accommodate the change
 16 in population. Therefore, the minor increase in housing is not anticipated to lead to adverse physical
 17 changes constituting a significant impact on the environment.

18 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 19 **Water Conveyance Facilities**

20 **NEPA Effects:** Throughout the five-county Delta region, population and employment would expand
 21 as a result of the construction of water conveyance facilities, as discussed under Impacts ECON-1
 22 and ECON-2. Agricultural contributions to the character and culture of the Delta would be likely to
 23 decline commensurate with the projected decline in agricultural-related acreage, employment, and
 24 production. This could result in the closure of agriculture-dependent businesses or those catering to
 25 agricultural workers, particularly in areas where conversion of agricultural land would be most
 26 concentrated, including near the intakes in the vicinity of Clarksburg and Hood and the expanded
 27 Clifton Court Forebay east of Byron. Similar effects on community character could result from
 28 anticipated changes to recreation in the study area. However, social influences associated with the
 29 construction industry would grow during the multi-year construction period for water conveyance
 30 structures under Alternative 4. To the extent that this anticipated economic shift away from
 31 agriculture and towards construction results in demographic changes in population, employment
 32 level, income, age, gender, or race, the study area would be expected to see changes to its character,
 33 particularly in those Delta communities most substantially affected by demographic changes based
 34 on their size, ability to accommodate growth, or proximity to BDCP activities. In comparing the
 35 existing demographic composition of agricultural workers and construction laborers within the five-
 36 county Delta Region, men make up a large proportion of both occupations: 84 percent of agricultural
 37 workers were male, compared with 98 percent of construction laborers. Approximately 92 percent
 38 of agricultural workers made less than \$35,000, while 60 percent of construction laborers made less
 39 than \$35,000. Additionally, 87 percent of agricultural workers within the study area report Hispanic
 40 origin, while 54 percent of construction laborers claim Hispanic origin within the five-county area
 41 (U.S. Census Bureau 2012b).

42 Legacy communities in the Delta, which are those identified as containing distinct historical and
 43 cultural character, include Locke, Bethel Island, Clarksburg, Courtland, Freeport, Hood, Isleton,
 44 Knightsen, Rio Vista, Ryde, and Walnut Grove. These communities provide support services and

1 limited workforce housing for the area's agricultural industry. Some housing is also provided to
2 retirees and workers commuting to nearby urban areas including Sacramento. Construction
3 activities associated with BDCP water conveyance facilities would be anticipated to result in changes
4 to the rural qualities of these communities during the construction period (characterized by
5 predominantly agricultural land uses, relatively low population densities, and low levels of
6 associated noise and vehicular traffic), particularly for those communities in proximity to water
7 conveyance structures, including Clarksburg, Hood, and Walnut Grove. Effects associated with
8 construction activities could also result in changes to community cohesion if they were to restrict
9 mobility, reduce opportunities for maintaining face-to-face relationships, or disrupt the functions of
10 community organizations or community gathering places (such as schools, libraries, places of
11 worship, and recreational facilities). Under Alternative 4, several gathering places that lie in the
12 vicinity of construction areas could be indirectly affected by noise and traffic associated with
13 construction activities, including Delta High School, the Clarksburg Library, Clarksburg Community
14 Church, Resurrection Life Community Church, Citizen Land Alliance, Discovery Bay Chamber of
15 Commerce, Courtland Fire Department, and several marinas or other recreational facilities (see
16 Chapter 15, *Recreation*, Table 15-15).

17 In addition to potential changes in the demographic composition of communities in the study area,
18 construction of water conveyance facilities under Alternative 4 could also affect the size of the
19 communities, as suggested above. Based upon the projections developed under Impacts ECON-1 and
20 ECON-2, the total population and employment base of the study area would expand during water
21 facility construction. This expansion could provide economic opportunities during this period, which
22 could support community stability by increasing investment in Delta communities. However, as
23 noted under the discussion of housing above, predicting the specific location of such investments
24 within the study area would be speculative.

25 Under Alternative 4, additional regional employment and income could create net positive effects on
26 the character of Delta communities. In addition to potential demographic effects associated with
27 changes in employment, however, property values may decline in areas that become less desirable
28 in which to live, work, shop, or participate in recreational activities. For instance, negative visual- or
29 noise-related effects on residential property could lead to localized abandonment of buildings. While
30 water conveyance construction could result in beneficial effects relating to the economic welfare of a
31 community, adverse social effects could also arise as a result of declining economic stability in
32 communities closest to construction effects and in those most heavily influenced by agricultural and
33 recreational activities. Implementation of mitigation measures and environmental commitments
34 related to noise, visual effects, transportation, agriculture, and recreation, would reduce adverse
35 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these
36 commitments include erosion and sediment control plans, hazardous materials management plans,
37 notification of maintenance activities in waterways, noise abatement plan, fire prevention and
38 control plan, and mosquito management plans.

39 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 4 could affect
40 community character in the Delta region. However, because these impacts are social in nature,
41 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
42 community character would lead to physical impacts involving population growth, such impacts are
43 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
44 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
45 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
46 character stemming from a lack of maintenance, upkeep, and general investment. However,

1 implementation of mitigation measures and environmental commitments related to noise, visual
 2 effects, transportation, agriculture, and recreation, would reduce the extent of these effects such that
 3 a significant impact would not occur (see Appendix 3B, *Environmental Commitments, AMMs, and*
 4 *CMs*). Specifically, these include commitments to develop and implement erosion and sediment
 5 control plans, develop and implement hazardous materials management plans, provide notification
 6 of maintenance activities in waterways, develop and implement a noise abatement plan, develop
 7 and implement a fire prevention and control plan, and prepare and implement mosquito
 8 management plans.

9 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 10 **the Proposed Water Conveyance Facilities**

11 **NEPA Effects:** Under Alternative 4, publicly owned water conveyance facilities would be constructed
 12 on land of which some is currently held by private owners. Property tax and assessment revenue
 13 forgone as a result of water conveyance facilities is estimated at \$6.7 million over the construction
 14 period. These decreases in revenue could potentially result in the loss of a substantial share of some
 15 agencies' tax bases, particularly for smaller districts affected by the BDCP, such as reclamation
 16 districts where conveyance facilities and associated work areas are proposed. This economic effect
 17 would be considered adverse; however, the BDCP proponents would make arrangements to
 18 compensate local governments for the loss of property tax or assessment revenue for land used for
 19 constructing, locating, operating, or mitigating for new Delta water conveyance facilities.⁸
 20 Additionally, as discussed under Impact ECON-1, construction of the water conveyance facilities
 21 would be anticipated to result in a net temporary increase of income and employment in the Delta
 22 region. This would also create an indirect beneficial effect through increased sales tax revenue for
 23 local government entities that rely on sales taxes.

24 **CEQA Conclusion:** Under Alternative 4, construction of water conveyance facilities would result in
 25 the removal of a portion of the property tax base for various local government entities in the Delta
 26 region. Over the construction period, property tax and assessment revenue forgone is estimated at
 27 \$6.7 million. However, the Sacramento-San Joaquin Delta Reform Act commits the entities receiving
 28 water from the State Water Project and federal Central Valley Project to mitigate for lost property
 29 tax and assessment revenue associated with land needed for the construction of new conveyance
 30 facilities (Water Code Section 85089). Additionally, any losses could be offset, at least in part, by an
 31 anticipated increase in sales tax revenue. CEQA does not require a discussion of socioeconomic
 32 effects except where they would result in reasonably foreseeable physical changes. If an alternative
 33 is not anticipated to result in a physical change to the environment, it would not be considered to
 34 have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any
 35 physical consequences resulting from fiscal impacts are too speculative to ascertain.

⁸ Under the Sacramento-San Joaquin Delta Reform Act of 2009 (85089), construction of a new conveyance facility cannot begin until "the persons or entities that contract to receive water from the State Water Project and the federal Central Valley Project or a joint powers authority representing those entities have made arrangements or entered into contracts to pay for... (b) Full mitigation of property tax or assessments levied by local governments or special districts for land used in the construction, location, mitigation, or operation of new Delta conveyance facilities."

1 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 2 **Water Conveyance Facilities**

3 **NEPA Effects:** As described and defined in Chapter 15, *Recreation*, 15.3.3.9, Impacts REC-1 through
4 REC-4, construction of water conveyance facilities under Alternative 4 would include elements that
5 would be permanently located in two existing recreation areas. Additionally, substantial disruption
6 of other recreational activities considered temporary and permanent would occur in certain areas
7 during the construction period. The quality of recreational activities including boating, fishing,
8 waterfowl hunting, and hiking in the Delta could be affected by noise, lighting, traffic, and visual
9 degradation in proximity to water conveyance construction. For example, in-water construction
10 activities associated with the intakes or temporary barge areas could restrict navigation and create
11 noise and vibration that could lead to lower fishing success rates. Were it to occur, a decline in visits
12 to Delta recreational sites as a result of facility construction would be expected to reduce recreation-
13 related spending, creating an adverse effect throughout the Delta region. Additionally, if
14 construction activities shift the relative popularity of different recreational sites, the BDCP may
15 carry localized beneficial or adverse effects.

16 Access would be maintained to all existing recreational facilities, including marinas, throughout
17 construction. As part of Mitigation Measure REC-2, BDCP proponents would enhance nearby fishing
18 access sites and would incorporate public recreational access into design of the intakes along the
19 Sacramento River. Implementation of this measure along with separate other commitments as set
20 forth in Appendix 3B, *Environmental Commitments, AMMs, and CMs*, relating to the enhancement of
21 recreational access and control of aquatic weeds in the Delta would reduce these effects.

22 Environmental commitments would also be implemented to reduce some of the effects of
23 construction activities upon the recreational experience. These include providing notification of
24 maintenance activities in waterways and developing and implementing a noise abatement plan, as
25 described in Appendix 3B. Similarly, mitigation measures proposed throughout other chapters of
26 this document, and listed under Impact REC-2 in Chapter 15, *Recreation*, would also contribute to
27 reducing construction effects on recreational experiences in the study area. These include Chapter
28 12, *Terrestrial Biological Resources*, Chapter 17, *Aesthetics and Visual Resources*, Chapter 19,
29 *Transportation*, and Chapter 23, *Noise*.

30 Construction of water conveyance structures would be anticipated to result in a lower-quality
31 recreational experience in a number of localized areas throughout the Delta, despite the
32 implementation of environmental commitments. With a decrease in recreational quality,
33 particularly for boating and fishing (two of the most popular activities in the Delta), the number of
34 visits would be anticipated to decline, at least in areas close to construction activities. Under this
35 alternative, small areas of the Cosumnes River Preserve on Staten Island would be affected by the
36 construction of tunnels and associated activities. In the Clifton Court Forebay, permanent siphons,
37 canals, forebay embankment areas, a control structure, and a forebay overflow structure would be
38 built. New pumping plants would also be constructed at the northeast corner of the forebay. There
39 are no formal recreation facilities at Clifton Court Forebay, although well-established recreation,
40 mostly fishing and hunting, takes place at the southern end of the forebay along the embankment.
41 This access would be lost during construction, but once new embankments are built, recreation
42 could again occur. Six other recreational sites or areas would experience periods of construction-
43 related effects, including noise, access, visual disturbances, or a combination of these effects. As
44 described in Chapter 15, *Recreation*, 15.3.3.9, Impact REC-2, these include Clarksburg Boat Launch
45 (fishing access), Stone Lakes National Wildlife Refuge, Wimpy's Marina, Delta Meadows River Park,
46 Bullfrog Landing Marina, and Lazy M Marina. Fewer visits to these sites or areas would lead to less

1 spending, creating an adverse effect. While visitors can adjust their recreational patterns to avoid
2 areas substantially affected by construction activities (by boating or fishing elsewhere in the Delta,
3 for instance), recreation-dependent businesses including marinas and recreational supply retailers
4 may not be able to economically weather the effects of multiyear construction activities and may be
5 forced to close as a result, even while businesses in areas that become more popular could benefit.
6 Overall, the multi-year schedule and geographic scale of construction activities and the anticipated
7 decline in recreational spending would be considered an adverse effect. The commitments and
8 mitigation measures cited above would contribute to the reduction of this effect.

9 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 4
10 could impact recreational revenue in the Delta region if construction activities result in fewer visits
11 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
12 recreational activities. This section considers only the economic effects of recreational changes
13 brought about by construction of the proposed water conveyance facilities. Potential physical
14 changes to the environment relating to recreational resources are described and evaluated in
15 Chapter 15, *Recreation*, Section 15.3.3.9, Impacts REC-1 through REC-4.

16 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 17 **the Proposed Water Conveyance Facilities**

18 Construction of conveyance facilities would convert land from existing agricultural uses to uses that
19 include direct facility footprints, construction staging areas, borrow/spoils areas, RTM storage,
20 temporary and permanent roads, and utilities. Agricultural land could also be affected by changes in
21 water quality and other conditions that would affect crop productivity. These direct effects on
22 agricultural land are described in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts AG-1
23 and AG-2.

24 Changes in crop acreage were used to describe the associated changes in economic values. Unit
25 prices, yields, and crop production and investment costs were presented in Section 16.1,
26 *Environmental Setting/Affected Environment*. Table 16-43 summarizes the changes in acreage and
27 value of agricultural production that would result in the Delta region as a result of Alternative 4
28 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative
29 by aggregate crop category (agricultural resources under Existing Conditions and in the No Action
30 Alternative were assumed to be the same). The table also includes a summary of changes in crop
31 acreages that are reported in greater detail in Appendix 14A, *Individual Crop Effects as a Result of*
32 *BDCP Water Conveyance Facility Construction*.

33 Total value of irrigated crop production in the Delta would decline on average by \$5.3 million per
34 year during the construction period, with total irrigated crop acreage declining by about 4,700 acres.
35 These estimates are not dependent on water year type.

1 **Table 16-43. Crop Acres and Value of Agricultural Production in the Delta during Construction**
 2 **(Alternative 4)**

Analysis Metric	Alternative 4	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	479.0	-4.7
Grains	58.0	-0.7
Field crops	189.5	-1.6
Forage crops	111.3	-1.5
Vegetable, truck, and specialty crops	76.6	-0.6
Orchards and vineyards	43.7	-0.4
Total Value of Production (million \$)	644.8	-5.3
Grains	23.9	-0.3
Field crops	112.9	-1.0
Forage crops	72.0	-1.1
Vegetable, truck, and specialty crops	266.9	-1.5
Orchards and vineyards	169.2	-1.4

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

3
 4 Alternative 4 may also affect production costs on lands even if gross revenues are largely unaffected.
 5 Costs could be increased by operational constraints and longer travel times due to facilities
 6 construction. Construction designs and costs have provided for such costs in two ways. In most
 7 cases, affected lands fall within the facilities footprint, and are included in the agricultural acreage
 8 and value of production described elsewhere in this chapter and in Chapter 14, *Agricultural*
 9 *Resources*, Section 14.3.3.9, Impacts AG-1 and AG-2. For potentially affected lands not included in the
 10 facilities footprint, conveyance construction costs include temporary and permanent roads, bridges,
 11 and other facilities as needed to service agricultural lands (California Department of Water
 12 Resources 2010a, 2010b). There could be some additional travel time and other costs associated
 13 with using these facilities, but such costs are not environmental impacts requiring mitigation.

14 Loss of investments in production facilities and standing orchards and vineyards would occur as a
 15 result of facilities construction. The value of structures and equipment potentially affected would
 16 vary widely across parcels. Much of the equipment is portable (e.g., machinery, tools, portable
 17 sprinkler pipe), and could be sold or used on other lands. Shop and storage buildings and permanent
 18 irrigation and drainage equipment plus orchards and vineyards may have little or no salvage value.
 19 The negotiated purchase of lands for the conveyance and associated facilities would compensate for
 20 some, but perhaps not all of that value. According to Cooperative Extension cost of production
 21 studies (University of California Cooperative Extension 2003a, 2003b, 2004, 2005, 2006a, 2006b,
 22 2007a, 2007b, 2008a, 2008b, 2008c, 2008d), permanent structures, irrigation systems, and drainage
 23 systems can represent a wide range of investment, from less than \$100 per acre for field and
 24 vegetable crops up to over \$3,000 per acre for some orchards. Most such investments would not be
 25 new, so their depreciated values would be substantially lower.

26 Investment in standing orchards and vineyards would also be considered during negotiations for
 27 land purchases. Typical investments required to bring permanent crops into production are shown
 28 in Section 16.1, *Environmental Setting/Affected Environment*. For example, the establishment of wine

1 grapes requires an investment of over \$15,000 per acre and Bartlett pears require over \$20,000 per
2 acre. Forage crops such as irrigated pasture and alfalfa may require an establishment cost of about
3 \$400 per acre. The depreciated values of the growing stock could be substantially below these
4 establishment costs, depending on the ages of the stands that would be affected.

5 Only minor changes in salinity of agricultural water supply are expected during construction.
6 Consequently, costs related to salinity changes would also be minor. Further discussion of effects
7 from changes in salinity is presented in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts
8 AG-1 and AG-2.

9 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
10 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
11 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
12 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
13 agricultural productivity and compensating off-site.

14 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
15 value of agricultural production in the Delta region. The removal of agricultural land from
16 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.8, Impacts AG-1 and
17 AG-2. The reduction in the value of agricultural production is not considered an environmental
18 impact. Significant environmental impacts would only result if the changes in regional economics
19 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
20 required, DWR would provide compensation to property owners for economic losses due to
21 implementation of the alternative. While the compensation to property owners would reduce the
22 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
23 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
24 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
25 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
26 and land subject to Williamson Act contracts or in Farmland Security Zones.

27 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 28 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

29 In the Delta region, ongoing operation and maintenance of BDCP facilities would result in increased
30 expenditures relative to the Existing Conditions and the No Action Alternative (regional economic
31 conditions do not differ across Existing Conditions and No Action Alternative). The increased project
32 operation and maintenance expenditures are expected to result in a permanent increase in regional
33 employment and income, including an estimated 129 direct and 183 total (direct, indirect, and
34 induced) FTE jobs (Table 16-44), relative to the Existing Conditions and the No Action Alternative.
35 Potential changes in the value of agricultural production result in changes to regional employment
36 and income in the Delta region under the Alternative 4 relative to the Existing Conditions and the No
37 Action Alternative.

Table 16-44. Regional Economic Effects on Employment and Labor Income in the Delta Region during Operations and Maintenance (Alternative 4)

Regional Economic Impact ^a	Impacts from Operations and Maintenance
Employment (FTE)	
Direct	129
Total ^b	183
Labor Income (million \$)	
Direct	7.8
Total ^b	10.3

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.
^b Includes direct, indirect, and induced effects.

The operation and maintenance of conveyance and related facilities such as roads and utilities would result in the permanent removal of agricultural land from production following construction, and the effects on employment and income would be negative, including the loss of an estimated 11 agricultural and 39 total (direct, indirect, and induced) FTE jobs. The regional economic effects on employment and income in the Delta region from the change in agricultural production are reported in Table 16-45. Based on the permanent crop production value changes described in Impact ECON-12, the agricultural job losses would more likely be concentrated in the vegetable, truck, orchard, and vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage crop sectors, where more jobs are mechanized. Note that direct agricultural job losses could be higher than the 11 FTE jobs shown in Table 16-45 because many agricultural jobs are seasonal rather than year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every FTE job lost as a result of permanent agricultural production changes. Mapbook Figures M14-7 and M14-8 display areas of Important Farmland and lands under Williamson Act contracts that could be converted to other uses due to the construction of water conveyance facilities for the Modified Pipeline/Tunnel alignment.

Table 16-45. Regional Economic Effects on Agricultural Employment and Labor Income during Operations and Maintenance (Alternative 4)

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-11
Total ^b	-39
Labor Income (million \$)	
Direct	-1.6
Total ^b	-2.8

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.
^b Includes direct, indirect & induced effects.

1 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 2 result in an increase in operations-related employment and labor income, this would be considered
 3 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 4 agricultural-related employment and labor income, which would be considered an adverse effect.
 5 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 6 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 7 compensating off-site.

8 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 9 increase total employment and income in the Delta region. The net change would result from
 10 expenditures on operation and maintenance and from changes in agricultural production. The total
 11 change in income and employment is not, in itself, considered an environmental impact. Significant
 12 environmental impacts would only result if the changes in regional economics cause physical
 13 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 14 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 15 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts AG-1
 16 and AG-2; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 17 15.3.3.9, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
 18 landowners as a result of acquiring lands for the proposed conveyance facilities. While the
 19 compensation to property owners would reduce the severity of economic effects related to the loss
 20 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 21 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 22 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
 23 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
 24 contracts or in Farmland Security Zones.

25 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 26 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

27 **Population**

28 Operations and maintenance of conveyance facilities would require approximately 130 permanent
 29 new workers. Given the nature of those operation and maintenance jobs, the existing water
 30 conveyance facilities already in the five-county region, the large workforce in the region, and the
 31 large water agencies with headquarters in that region, it is anticipated that most of these new jobs
 32 would be filled from within the existing five-county labor force. However, operation and
 33 maintenance may require specialized worker skills not readily available in the local labor pool. As a
 34 result, it is anticipated that workers with specialized skills may be recruited from outside the five-
 35 county region.

36 It is anticipated that non-local workers would relocate to the five-county region, thus adding to the
 37 local population. However, this additional population would constitute a minor increase in the total
 38 2020 projected regional population of 4.6 million and be distributed throughout the region. Changes
 39 in demand for public services resulting from any increase in population are addressed in Chapter 20,
 40 *Public Services and Utilities*, Section 20.3.3.9, Impact UT-7.

41 **Housing**

42 It is anticipated that most of the operational workforce would be drawn from within the five-county
 43 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

1 There are about 53,000 housing units available to accommodate any nonlocal workers who relocate
 2 to the five-county region. In addition, new residents would likely be dispersed across the region,
 3 thereby not creating a burden on any one community. As a result, operation and maintenance of the
 4 proposed conveyance facilities is not expected to increase the demand for housing.

5 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 6 population or new housing, they would not be considered to have an adverse effect.

7 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 8 result in minor population increases in the Delta region with adequate housing supply to
 9 accommodate the change in population and therefore significant impacts on the physical
 10 environment are not anticipated.

11 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 12 **Proposed Water Conveyance Facilities**

13 **NEPA Effects:** Throughout the five-county Delta region, population and employment could slightly
 14 expand as a result of continued operation and maintenance of the water conveyance facilities.
 15 Agricultural contributions to the character and culture of the Delta would be likely to decline
 16 commensurate with the projected decline in agricultural-related employment and production. This
 17 could result in the closure of agriculture-dependent businesses or those catering to agricultural
 18 employees, particularly in areas where conversion of agricultural land would be most concentrated,
 19 including near the intakes in the vicinity of Clarksburg and Hood and near the expanded Clifton
 20 Court Forebay. Similar effects could accrue to areas disproportionately dependent upon existing
 21 recreational activities. However, influences associated with those hired to operate, repair, and
 22 maintain water conveyance facilities would grow. To the extent that this anticipated economic shift
 23 away from agriculture results in demographic changes in population, employment level, income,
 24 age, gender, or race, the study area would be expected to see changes to its character, particularly in
 25 those Delta communities most substantially affected by demographic changes based on their size or
 26 proximity to BDCP facilities.

27 While some of the rural qualities of Delta communities, including relatively low noise and traffic
 28 levels, could return to near pre-construction conditions during the operational phase, other effects
 29 would be lasting. For instance, the visual appearance of intakes and other permanent features would
 30 compromise the predominantly undeveloped and agricultural nature of communities like
 31 Clarksburg, Courtland, and Hood, which would be located closest to the permanent water
 32 conveyance features. Lasting effects on areas made less desirable in which to live, work, shop, or
 33 participate in recreational activities as a result of BDCP operations could lead to localized
 34 abandonment of buildings. Such lasting effects could also result in changes to community cohesion if
 35 they were to restrict mobility, reduce opportunities for maintaining face-to-face relationships, or
 36 disrupt the functions of community organizations or community gathering places (such as schools,
 37 libraries, places of worship, and recreational facilities). While ongoing operations could result in
 38 beneficial effects relating to the economic welfare of a community, adverse social effects could linger
 39 in communities closest to character-changing effects and in those most heavily influenced by
 40 agricultural and recreational activities. Implementation of mitigation measures and environmental
 41 commitments related to noise, visual effects, transportation, agriculture, and recreation would
 42 reduce adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically,
 43 these commitments include notification of maintenance activities in waterways, development and

1 implementation of a noise abatement plan, and preparation and implementation of mosquito
2 management plans.

3 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 4
4 could affect community character in the Delta region. However, because these impacts are social in
5 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
6 changes to community character would lead to physical impacts involving population growth, such
7 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
8 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
9 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
10 community character stemming from a lack of maintenance, upkeep, and general investment.
11 However, implementation of mitigation measures and environmental commitments related to noise,
12 visual effects, transportation, agriculture, and recreation, would reduce the extent of these effects
13 such that a significant impact would not occur (see Appendix 3B, *Environmental Commitments,*
14 *AMMs, and CMs*). Specifically, these include commitments to develop and implement erosion and
15 sediment control plans, develop and implement hazardous materials management plans, provide
16 notification of maintenance activities in waterways, develop and implement a noise abatement plan,
17 develop and implement a fire prevention and control plan, and prepare and implement mosquito
18 management plans.

19 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 20 **Maintenance of the Proposed Water Conveyance Facilities**

21 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operations under
22 Alternative 4 would be similar to those described under Alternative 1A, Impact ECON-10. However,
23 with the construction of fewer intake facilities and a modified alignment, forgone revenue is
24 estimated at \$40.3 million over the 50-year permit period. These decreases in revenue could
25 potentially result in the loss of a substantial share of some agencies' tax bases, particularly for
26 smaller districts affected by the BDCP. This economic effect would be adverse; however, the BDCP
27 proponents would make arrangements to compensate local governments for the loss of property tax
28 or assessment revenue for land used for constructing, locating, operating, or mitigating for new
29 Delta water conveyance facilities. Additionally, as discussed under Impact ECON-7, continued
30 operation and maintenance of the water conveyance facilities would be anticipated to result in a net
31 increase of income and employment in the Delta region. This could also create an indirect beneficial
32 effect through increased sales tax revenue for local government entities that rely on sales taxes.

33 **CEQA Conclusion:** Under Alternative 4, the ongoing operation and maintenance of water
34 conveyance facilities would restrict property tax revenue levels for various local government
35 entities in the Delta region. Over the 50-year permit period, property tax and assessment revenue
36 forgone is estimated at \$40.3 million. However, the Sacramento-San Joaquin Delta Reform Act
37 commits the entities receiving water from the State Water Project and federal Central Valley Project
38 to mitigate for lost property tax and assessment revenue associated with land needed for the
39 construction of new conveyance facilities (Water Code Section 85089). Additionally, any losses
40 could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
41 require a discussion of socioeconomic effects except where they would result in reasonably
42 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
43 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
44 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
45 speculative to ascertain.

1 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 2 **Proposed Water Conveyance Facilities**

3 **NEPA Effects:** As discussed in Chapter 15, *Recreation*, Section 15.3.3.9, Impacts REC-5 through REC-
4 8, operation and maintenance activities associated with the proposed water conveyance facilities
5 under Alternative 4 are anticipated to create minor effects on recreational resources. Maintenance
6 of conveyance facilities, including intakes, would result in periodic temporary but not substantial
7 adverse effects on boat passage and water-based recreational activities. As discussed in Impact REC-
8 7, most intake maintenance, such as painting, cleaning, and repairs, would be done with barges and
9 divers, and could cause a temporary impediment to boat movement in the Sacramento River in the
10 immediate vicinity of the affected intake structure and reduce opportunities for waterskiing,
11 wakeboarding, or tubing in the immediate vicinity of the intake structures. However, boat passage
12 and navigation on the river would still be possible around any barges or other maintenance
13 equipment and these effects would be expected to be short-term (2 years or less). Although water-
14 based recreation (i.e. boating, waterskiing, wakeboarding, etc.) may be restricted at and in the
15 vicinity of intakes, many miles of the Sacramento River would still be usable for these activities
16 during periodic maintenance events. Additionally, implementation of the environmental
17 commitment to provide notification of maintenance activities in waterways (Appendix 3B,
18 *Environmental Commitments, AMMs, and CMs*) would reduce these effects. Because effects of facility
19 maintenance would be short-term and intermittent, substantial economic effects are not anticipated
20 to result from operation and maintenance of the facilities.

21 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
22 conveyance facilities under Alternative 4 are anticipated to create minor effects on recreational
23 resources and therefore, are not expected to substantially reduce economic activity related to
24 recreational activities. This section considers only the economic effects of recreational changes.
25 Potential physical changes to the environment relating to recreational resources are described and
26 evaluated in Chapter 15, *Recreation*, Section 15.3.3.9, Impacts REC-5 through REC-8.

27 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 28 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

29 During operation and maintenance of conveyance facilities existing agricultural land would be in
30 uses that include direct facility footprints and associated permanent roads and utilities. Agricultural
31 land could also be affected by changes in water quality and other conditions that would affect crop
32 productivity. These direct effects on agricultural land are described in Chapter 14, *Agricultural*
33 *Resources*, Section 14.3.3.9, Impacts AG-1 and AG-2.

34 Changes in crop acreage were used to estimate the associated changes in economic values. Unit
35 prices, yields, and crop production and investment costs were presented in Section 16.1,
36 *Environmental Setting/Affected Environment*. Table 16-46 summarizes the changes in acreage and
37 value of agricultural production that would result in the Delta region during operation of Alternative
38 4. Changes are shown relative to the Existing Conditions and the No Action Alternative by aggregate
39 crop category (agricultural resources under Existing Conditions and in the No Action Alternative
40 were assumed to be the same). The changes in crop acreages are reported in greater detail in
41 Appendix 14A, *Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction*.

42 Total value of irrigated crop production in the Delta region would decline on average by \$3.6 million
43 per year during operation and maintenance, with total irrigated crop acreage declining by about
44 3,400 acres. These estimates are not dependent on water year type.

1 **Table 16-46. Crop Acres and Value of Agricultural Production in the Delta during Operations and**
 2 **Maintenance (Alternative 4)**

Analysis Metric	Alternative 4	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	480.2	-3.4
Grains	58.2	-0.4
Field crops	189.9	-1.2
Forage crops	111.5	-1.3
Vegetable, truck, and specialty crops	76.8	-0.4
Orchards and vineyards	43.8	-0.2
Total Value of Production (million \$)	646.5	-3.6
Grains	24.0	-0.2
Field crops	113.1	-0.7
Forage crops	72.2	-0.9
Vegetable, truck, and specialty crops	267.4	-1.0
Orchards and vineyards	169.8	-0.8

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

3
 4 Alternative 4 may also affect production costs on lands even if gross revenues are largely unaffected.
 5 Costs could be associated with operational constraints and longer travel times due to permanent
 6 facilities. In most cases, affected lands fall within the facilities footprint, and are included in the
 7 agricultural acreage and value of production described elsewhere in this chapter and in Chapter 14,
 8 *Agricultural Resources*, Section 14.3.3.9.

9 Crop yields and crop selection on lands in the Delta could be affected by changes in salinity of
 10 agricultural water supply during operation and maintenance activities. If operation of the proposed
 11 conveyance facilities increases salinity in part of the Delta, crops that are more sensitive to salinity
 12 could shift to other lands in the five-county Delta region. See Chapter 14, *Agricultural Resources*,
 13 Section 14.3.3.9, Impact AG-2, for further discussion of effects from changes in salinity.

14 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 15 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 16 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 17 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 18 productivity and compensating off-site.

19 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities
 20 the value of agricultural production in the Delta region would be reduced. The permanent removal
 21 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 22 14.3.3.9, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 23 considered an environmental impact. Significant environmental impacts would only result if the
 24 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 25 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 26 economic losses due to implementation of the alternative. While the compensation to property
 27 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 28 would not constitute mitigation for any related physical effect. Measures to reduce these impacts are

1 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 2 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 3 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 4 Zones.

5 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 6 **Implementation of CM2–CM21**

7 In the Delta region, spending on CM2–CM21 would include construction, operation and maintenance
 8 activities that would convert or disturb existing land use. The effects on the economy of the Delta
 9 region would be similar in kind, though not in magnitude, to those estimated for conveyance
 10 features and facilities. In general, the changes in regional economic activity (employment and
 11 income) would include increases from the construction and operation and maintenance-related
 12 activity, declines resulting from agricultural or other land uses converted or impaired, changes in
 13 recreation spending that could be positive or negative depending on the specific restoration action,
 14 and declines from abandonment of natural gas wells.

15 The *Yolo Bypass Flood Date and Flow Volume Agricultural Impact Analysis*, a report created for Yolo
 16 County, evaluates the expected losses of agricultural employment that could result from
 17 implementing CM2 (Howitt et al. 2012) (see Chapter 3, *Description of Alternatives*, Section 3.6.2, for a
 18 description of conservation measures). CM2 would lower a portion of the Fremont Weir to allow
 19 Sacramento River water to flow into the Yolo Bypass to reduce migratory delays for fish and
 20 enhance fish rearing habitat. However, it may also translate into financial losses for farmers and the
 21 regional economy. Annual reductions in agricultural employment under the CM2 scenario are
 22 expected to range from 9 FTE at 3,000 cfs to 21 FTE at 6,000 cfs.

23 As discussed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5, operations of natural
 24 gas wells in the Delta region would be affected where wells are located in restoration areas to be
 25 inundated under CM4, CM5, and CM10. In areas that would be permanently inundated under these
 26 conservation measures, producing natural gas wells may be abandoned. There are approximately
 27 233 active wells in these areas (Table 26-6 in Chapter 26, *Mineral Resources*); an unknown number
 28 of these wells would likely be abandoned. (Specific inundation areas have not been identified for
 29 CM2–CM21 at this time, and there is potential for some of these wells to be modified and to remain
 30 in production.) In permanently flooded areas, the active wells could be relocated and replaced using
 31 conventional or directional drilling techniques at a location outside of inundation zones to maintain
 32 production. However, if a large number of wells had to be abandoned and could not be redrilled,
 33 there could be an adverse effect related to the permanent elimination of employment and income
 34 generated by well monitoring and maintenance activities. Generally, small crews perform ongoing
 35 monitoring and maintenance of several wells at a time. Assuming none of the wells in inundation
 36 areas are redrilled, the abandonment of 233 natural gas wells would represent 37 percent of the 629
 37 producing wells in the Delta region (see active producer, dual, and new wells in Table 26-2 in
 38 Chapter 26, *Mineral Resources*). According to 2011 data available through the U.S. Census Bureau's
 39 *2011 County Business Patterns* report (2013), an estimated 255-310 jobs are supported by the two
 40 sectors of the Delta region economy that could be affected by well abandonment: crude petroleum
 41 and natural gas extraction, and support activities for oil and gas operations. (Note that these jobs
 42 include non-natural gas production jobs and non-operations and maintenance jobs, so the number
 43 of jobs solely related to operations and maintenance of natural gas wells would be smaller.)
 44 Assuming a worst-case scenario in which the loss of 37 percent of the Delta region's natural gas
 45 wells would result in the loss of a similar percentage of the region's employment in these two

1 sectors, an estimated 95-115 jobs would be lost as the result of implementing CM4, CM5, and CM10.
 2 However, considering that this estimate is high and that some wells would be relocated, the actual
 3 job losses probably would be somewhat lower.

4 **NEPA Effects:** Because implementation of CM2–CM21 would be anticipated to result in an increase
 5 in construction and operation and maintenance-related employment and labor income, this would
 6 be considered a beneficial effect. However, implementation of these components would also be
 7 anticipated to result in a decrease in agricultural-related and natural gas production-related
 8 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 9 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 10 available to reduce these effects by preserving agricultural productivity and compensating off-site.
 11 Additionally, measures to reduce impacts on natural gas wells are discussed in Chapter 26, *Mineral*
 12 *Resources*, Section 26.3.3.2, Impact MIN-5.

13 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
 14 income in the Delta region. The change in total employment and income in the Delta region is based
 15 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
 16 changes in agricultural production, recreation, and natural gas production. The total change in
 17 employment and income is not, in itself, considered an environmental impact. Significant
 18 environmental impacts would only result if the changes in regional economics cause physical
 19 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 20 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 21 14.3.3.9, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
 22 15, *Recreation*, Section 15.3.3.9, Impacts REC-9 through REC-11; abandonment of natural gas wells is
 23 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.9, Impact MIN-5. When required, the
 24 BDCP proponents would provide compensation to property owners for economic losses due to
 25 implementation of the alternative. While the compensation to property owners would reduce the
 26 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 27 for any related physical impact. Measures to reduce these impacts and impacts on natural gas wells
 28 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and Chapter 26,
 29 *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

30 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 31 **Implementing CM2–CM21**

32 **NEPA Effects:** In the Delta region, implementation of CM2–CM21 would increase employment and
 33 convert land from existing uses, including possible displacement of residential housing and business
 34 establishments. The effects on population and housing in the Delta region would be similar in kind,
 35 though not in magnitude, to those estimated for conveyance features and facilities. In general, the
 36 changes in population and housing would include increases in population from the construction and
 37 operation and maintenance-related activity and declines in residential housing and business
 38 establishments as a result of lands converted or impaired. Because these activities would not result
 39 in concentrated, substantial increases in population or new housing, they would not be considered
 40 to have an adverse effect.

41 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
 42 housing in the Delta region. The change in total population and housing in the Delta region is based
 43 on employment resulting from implementation of the proposed CM2–CM21. The change in
 44 population and housing is expected to be minor relative to the five-county Delta region, and

1 dispersed throughout the region. Therefore, significant impacts on the physical environment are not
2 anticipated to result.

3 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

4 **NEPA Effects:** As noted under Impacts ECON-13, and ECON-14, conservation measures designed to
5 restore, conserve, or enhance natural habitat would be anticipated to create economic effects similar
6 in kind, if not in magnitude, to those described for the water conveyance facilities, including
7 increases to employment and changes in land use that could trigger the disruption of agricultural
8 and recreational economies. They could also affect the possible displacement of residences and
9 businesses. The effects these activities would create with regard to community character would
10 depend on the nature of each measure along with its specific location, size, and other factors that are
11 not yet defined.

12 Under Alternative 4, temporary construction associated with implementation of these measures
13 could lead to demographic changes and resulting effects on the composition and size of Delta
14 communities. Earthwork and site preparation associated with conservation measures could also
15 detract from the rural qualities of the Delta region; however, their implementation would take place
16 in phases over the 50-year permit period, which would limit the extent of effects taking place at any
17 one point in time.

18 Implementation of these measures could also alter community character over the long term.
19 Conversion of agricultural land to restored habitat would result in the erosion of some economic and
20 social contributions stemming from agriculture in Delta communities. However, in the context of the
21 Delta region, a substantial proportion of land would not be converted. Additionally, restored habitat
22 could support some rural qualities, particularly in terms of visual resources and recreational
23 opportunities. These effects could attract more residents to some areas of the Delta, and could
24 replace some agricultural economic activities with those related to recreation and tourism. To the
25 extent that agricultural facilities and supportive businesses were affected and led to vacancy,
26 alteration of community character could result from these activities. However, the cultivated lands
27 natural community strategy of CM3 would ensure the continuation of agricultural production on
28 thousands of acres in the Delta (see Chapter 3, *Description of Alternatives*, Section 3.6.2, for a
29 description of conservation measures).

30 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
31 welfare of a community, adverse social effects could also arise in those communities closest to
32 character-changing effects and those most heavily influenced by agricultural activities. Noise, visual
33 effects, air pollution, and traffic associated with earthwork and site preparation for the restoration,
34 enhancement, protection, and management of various natural community types could alter the rural
35 characteristics of Delta communities, where they occur in close proximity to these communities.
36 Additionally, changes in the extent and nature of regional agricultural and recreational activities
37 could also be anticipated to alter the character of communities in the Delta and result in changes to
38 community cohesion. If necessary, implementation of mitigation measures and environmental
39 commitments related to transportation, agriculture, and recreation would be anticipated to reduce
40 these adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically,
41 these include commitments to develop and implement erosion and sediment control plans, develop
42 and implement hazardous materials management plans, provide notification of maintenance
43 activities in waterways, develop and implement a noise abatement plan, develop and implement a
44 fire prevention and control plan, and prepare and implement mosquito management plans.

1 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 4 could affect community
 2 character within the Delta region. However, because these impacts are social in nature, rather than
 3 physical, they are not considered impacts under CEQA. To the extent that changes to community
 4 character are related to physical impacts involving population growth, these impacts are described
 5 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
 6 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
 7 individual buildings, could result in decay and blight stemming from a lack of maintenance, upkeep,
 8 and general investment. However, implementation of mitigation measures and environmental
 9 commitments related to noise, visual effects, transportation, agriculture, and recreation, would
 10 reduce the extent of these effects such that a significant impact would not occur (see Appendix 3B,
 11 *Environmental Commitments, AMMs, and CMs*). Specifically, these include commitments to develop
 12 and implement erosion and sediment control plans, develop and implement hazardous materials
 13 management plans, provide notification of maintenance activities in waterways, develop and
 14 implement a noise abatement plan, develop and implement a fire prevention and control plan, and
 15 prepare and implement mosquito management plans.

16 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing**
 17 **CM2–CM21**

18 As discussed in relation to construction of water conveyance facilities, habitat restoration and
 19 implementation of CM2–CM21 under Alternative 4 would also take place, in part, on land held by
 20 private owners and from which local governments derive revenue through property taxes and
 21 assessments. In particular, conservation measures related to protection of natural communities
 22 (CM3) and restoration of tidal habitat (CM4), seasonally inundated floodplain (CM5), grassland
 23 communities (CM8), vernal pool complex (CM9), and nontidal marsh (CM10) would require the
 24 acquisition of multiple parcels of land (see Chapter 3, *Description of Alternatives*, Section 3.6.2, for a
 25 description of conservation measures).

26 The *Yolo Bypass Flood Date and Flow Volume Agricultural Impact Analysis*, as described under Impact
 27 ECON-13, evaluates the expected losses of total Yolo County revenue and state tax revenue for
 28 implementing CM2 (Howitt et al. 2012) (see Chapter 3, *Description of Alternatives*, Section 3.6.2, for a
 29 description of conservation measures). The total expected annual losses in state and local tax
 30 revenues under the CM2 proposed inundation scenarios can range from \$.057 million under the
 31 3,000 cfs flow scenario to \$.13 million under the 6,000 cfs flow scenario that extends flooding as late
 32 as May 15.

33 The loss of a substantial portion of an entity's tax base would represent an adverse effect on an
 34 agency, resulting in a decrease in local government's ability to provide public goods and services.
 35 Under Alternative 4, property tax and assessment revenue forgone as a result of conservation
 36 measure implementation is estimated to reach \$176.7 million over the BDCP's 50-year permit
 37 period (in 2012 undiscounted dollars; see BDCP Chapter 8, *Implementation Costs and Funding*
 38 *Sources*, Table 8-28 for further detail). Decreases in revenue could potentially represent a
 39 substantial share of individual agency tax bases, particularly for smaller districts affected by large,
 40 contiguous areas identified for habitat restoration.

41 Additionally, other conservation measures related to control of invasive species, expansion of fish
 42 hatchery facilities, installation of non-physical fish barriers, modification of water diversions, or
 43 treatment of urban stormwater may also require that land currently on property tax rolls be
 44 acquired and eventually removed from the tax base. The fiscal effects stemming from these

1 conservation measures are, however, anticipated to be minor based upon the relatively small areas
2 of land necessary for their implementation.

3 **NEPA Effects:** Overall, CM2–CM21 would remove many acres of private land from local property tax
4 and assessment rolls. This economic effect would be considered adverse; however, the BDCP
5 proponents would offset forgone property tax and assessments levied by local governments and
6 special districts on private lands converted to habitat. As described under Impact ECON-13, regional
7 economic effects from the implementation of CM2–CM21 would be mixed. While activities
8 associated with construction and establishment of habitat areas could boost regional expenditures
9 and sales tax revenue, reduced agricultural activities may offset these gains. Changes in recreation
10 spending and related sales tax revenue could be positive or negative, depending on the
11 implementation of the measures.

12 **CEQA Conclusion:** Under Alternative 4, implementation of CM2–CM21 would result in the removal
13 of a portion of the property tax base for various local government entities in the Delta region. Over
14 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
15 \$176.7 million, compared with annual property tax revenue of more than \$934 million in the Delta
16 counties (California State Controller’s Office 2012). Projected over the 50-year period, these
17 removals would likely represent less than 1% of these counties’ property tax revenue. However, the
18 BDCP proponents would compensate local governments and special districts for forgone revenue.
19 CEQA does not require a discussion of socioeconomic effects except where they would result in
20 physical changes. If an alternative is not anticipated to result in a physical change to the
21 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
22 Sections 15064(f) and 15131).

23 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

24 **NEPA Effects:** Implementation of the CM2–CM21 under this alternative would be anticipated to
25 create an adverse effect on recreational resources by limiting access to facilities, restricting boat
26 navigation and disturbing fish habitat while restoration activities are taking place. These measures
27 may also permanently reduce the extent of upland recreation sites. However, over the 50-year
28 permit period, these components could also create beneficial effects by enhancing aquatic habitat
29 and fish abundance, expanding the extent of navigable waterways available to boaters, and
30 improving the quality of existing upland recreation opportunities. Therefore, the potential exists for
31 the creation of adverse and beneficial effects related to recreational economics. Adverse effects
32 would be anticipated to be primarily limited to areas close to restoration areas and during site
33 preparation and earthwork phases. These effects could result in a decline in visits to the Delta and
34 reduction in recreation-related spending, creating an adverse economic effect throughout the Delta.
35 Beneficial recreational effects would generally result during later stages of the BDCP permit period
36 as CM2–CM21 are implemented and environmental conditions supporting recreational activities are
37 enhanced. These effects could improve the quality of recreational experiences, leading to increased
38 economic activities related to recreation, particularly in areas where conservation measure
39 implementation would create new recreational opportunities.

40 **CEQA Conclusion:** Site preparation and earthwork activities associated with a number of
41 conservation measures would limit opportunities for recreational activities where they occur in or
42 near existing recreational areas. Noise, odors, and visual effects of construction activities would also
43 temporarily compromise the quality of recreation in and around these areas, leading to potential
44 economic impacts. However, over time, implementation could improve the quality of existing

1 recreational opportunities, leading to increased economic activity. This section considers only the
 2 economic effects of recreational changes brought about by conservation measure implementation.
 3 CEQA does not require a discussion of socioeconomic effects except where they would result in
 4 reasonably foreseeable physical changes. Potential physical changes to the environment relating to
 5 recreational resources are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.9,
 6 Impacts REC-9 through REC-11.

7 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of**
 8 **Implementing CM2–CM21**

9 **NEPA Effects:** CM2–CM21 would convert land from existing agricultural uses. These direct effects on
 10 agricultural land are described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.9,
 11 Impacts AG-3 and AG-4. Effects on agricultural economics would include effects on crop production
 12 and agricultural investments resulting from restoration actions on agricultural lands. The effects
 13 would be similar in kind to those described for lands converted due to construction and operation of
 14 the conveyance features and facilities. The total acreage and crop mix of agricultural land potentially
 15 affected is not specified at this time, but when required, the BDCP proponents would provide
 16 compensation to property owners for losses due to implementation of the alternative. Because
 17 implementation of the CM2–CM21 would be anticipated to lead to reductions in crop acreage and in
 18 the value of agricultural production in the Delta region, this is considered an adverse effect.
 19 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 20 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 21 compensating off-site.

22 The *Yolo Bypass Flood Date and Flow Volume Agricultural Impact Analysis*, as described in Impact
 23 ECON-13, also evaluates the expected losses in gross farm revenue that could result from
 24 implementing CM2 (Howitt et al. 2012) (see Chapter 3, *Description of Alternatives*, Section 3.6.2, for a
 25 description of conservation measures). CM2 would lower a portion of the Fremont Weir to allow
 26 Sacramento River water to flow into the Yolo Bypass to reduce migratory delays for fish and
 27 enhance fish rearing habitat, with flows ranging between 3,000 and 6,000 cfs through an operable
 28 gate at the weir. An increase in flooding in the Yolo Bypass could result in economic losses to
 29 farmers and the local economy, dependent on timing, frequency, volume, and duration. Additionally,
 30 according to the report, flooding may increase the costs of late season rains, potentially affecting
 31 land values, lending institutions, and farming in the bypass.

32 The magnitude of economic effects resulting from implementing CM2 would be driven by the total
 33 acres of farmland inundated, reduced crop yields, and increased land fallowing. As the last day of
 34 flooding through the proposed weir gate increases, farmers must delay field preparation and
 35 planting, resulting in reduced crop yields and increased land fallowing. As agricultural revenues
 36 decrease, losses to the regional economy, including employment, increase. According to the
 37 economic impact assessment in the report, annual reductions in agricultural employment under the
 38 CM2 scenario are expected to range from 9 FTE at 3,000 cfs to 21 FTE at 6,000 cfs. Total output
 39 value (gross farm revenue) expected losses for the CM2 scenario, which corresponds to
 40 supplemental releases only in years where natural flooding occurs, range from \$1.2 to \$2.8 million
 41 per year. Expected losses are zero in years when there is no natural flooding and substantial in years
 42 when there is late natural flooding. Expected loss estimates are sensitive to changes in area
 43 inundated, yield loss and crop prices. It assumed that the costs of production in the Bypass remain
 44 constant even with late flooding; however, if production costs go up, for example, due to overtime
 45 labor or increased preparation costs, loss estimates would increase.

1 The report also evaluates the loss to total value added, or the net value of agricultural production in
2 the Yolo Bypass to the Yolo County economy. Recognizing that many inputs/outputs are produced
3 or consumed outside of Yolo County, those factors are not considered in the analysis. For example,
4 total value added does include compensation for employees, income to business and landowners,
5 and other business specific to Yolo County, but does not include food production that is exported out
6 of the county. A proportion of Yolo Bypass production and crop consumption occurs within Yolo
7 County; therefore, the expected annual losses to value added for Yolo County is expected to range
8 from \$0.63 to \$1.5 million per year.

9 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
10 production in the Delta region. The permanent removal of agricultural land from production is
11 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts AG-3 and AG-4. The
12 reduction in the value of agricultural production is not considered an environmental impact.
13 Significant environmental impacts would only result if the changes in regional economics cause
14 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
15 required, the BDCP proponents would provide compensation to property owners for economic
16 losses due to implementation of the alternative. While the compensation to property owners would
17 reduce the severity of economic effects related to the loss of agricultural land, it would not
18 constitute mitigation for any related physical impact. Measures to reduce these impacts are
19 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
20 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
21 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
22 Zones.

23 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

24 As described in Chapter 30, Growth Inducement and Other Indirect Effects, Section 30.3.2, the
25 operational components of BDCP CM1 could result in a number of effects in south-of-Delta areas
26 receiving SWP and CVP water deliveries because the CVP and SWP water deliveries would change in
27 comparison with the Existing Conditions or the No Action Alternative.

28 Changes in the amount, cost, or reliability of water deliveries could create socioeconomic effects in
29 the south-of-Delta hydrologic regions. Increases in water deliveries would generally be associated
30 with increased agricultural production, increased population growth and increased economic
31 activity. Reductions in water deliveries would generally be associated with reduced agricultural
32 production, reduced population growth and reduced economic activity. To the extent that unreliable
33 or insufficient water supplies currently represent obstacles to agricultural production, Alternative 4
34 may support more stable agricultural activities by enabling broader crop selection or by reducing
35 risk associated with uncertain water deliveries. As a result of an increase in water supply and supply
36 reliability, farmers may choose to leave fewer acres fallow and/or plant higher-value crops. While
37 the locations and extent of any increases in production would depend on local factors and individual
38 economic decisions, a general increase in production would be anticipated to support growth in
39 seasonal and permanent on-farm employment, along with the potential expansion of employment in
40 industries closely associated with agricultural production. These include food processing,
41 agricultural inputs, and transportation.

42 Social changes, including changes in community character, could also result from an expansion in
43 population or economic activity linked to increases in water deliveries. For example, more stable
44 agricultural production and associated economic activities in areas where agriculture is a

1 predominant industry could strengthen and reinforce existing economic and social patterns and
 2 institutions. Increased production could also intensify existing socioeconomic challenges, including
 3 seasonal cycles in employment, housing demand, and provision of social services. In areas where
 4 population growth would be enabled by increased water supplies or reliability, changes to
 5 community character could result from an increased population, including the potential for changes
 6 in urban form, environmental factors such as traffic or noise, demographic composition, or the rise
 7 of new or broader economic or social opportunities. Again, the nature and extent of such changes
 8 would be predominantly influenced by prevailing socioeconomic forces, rather than any specific
 9 change associated with implementation of the BDCP.

10 Increases in agricultural production and population growth could also affect local government fiscal
 11 conditions. Population growth would be anticipated to result in higher property and sales tax
 12 revenue while increased agricultural activity could result in higher sales tax receipts for a local
 13 jurisdiction. However, growth would also require expanded public services to meet the needs of a
 14 larger population and a larger economic base. Expansion could require additional spending on
 15 education, police and fire protection, medical services, and transportation and utility infrastructure.
 16 Whether such growth would result in a long-term net benefit or cost would depend on a number of
 17 factors including prevailing local service levels and tax rates, as well as the characteristics of the
 18 growth.

19 Changes in water deliveries could result in beneficial or adverse socioeconomic effects in areas
 20 receiving water from the SWP and CVP. In hydrologic regions where water deliveries are predicted
 21 to increase, more stable agricultural activities could support employment and economic production
 22 associated with agriculture. Where M&I deliveries increase, population growth could lead to general
 23 economic growth and support water-intensive industries. Such changes could also lead to shifts in
 24 the character of communities in the hydrologic regions with resultant beneficial or adverse effects.
 25 Likewise, growth associated with increased water deliveries could require additional expenditures
 26 for local governments while also supporting increases in revenue.

27 ***NEPA Effects:***

28 **Changes in SWP Deliveries Compared to No Action Alternative**

29 Based on Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.3, compared to
 30 the No Action Alternative (LLT 2060), implementation of operational Scenario H1 under Alternative 4
 31 would increase SWP deliveries to all hydrologic regions south of the Delta. The average annual
 32 increase in CVP and SWP deliveries would be 788 TAF, and the distribution of these increased
 33 deliveries to each hydrologic region are given in Table 30-21.

34 Increases in average annual water deliveries to service areas could induce population growth and
 35 new housing to accommodate growth. Such deliveries could also provide support for water-
 36 intensive industries. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*,
 37 Section 30.3.2.5, long-term water supply reliability is an important component in enabling long-term
 38 population increases. However, other factors—including natural growth, employment opportunities,
 39 local policy, and quality of life—are more likely to determine population growth. Nonetheless,
 40 population growth could stimulate economic activity resulting from increased demand for goods
 41 and services. This increased demand could create broad economic benefits for regions whose
 42 growth is supported by increased deliveries under BDCP.

1 **CEQA Conclusion:**

2 **Changes in CVP and SWP Deliveries Compared to Existing Conditions**

3 Compared to Existing Conditions, Scenario H1 would increase deliveries to all south-of-Delta
4 hydrologic regions. The average annual increase in CVP and SWP deliveries would be 138 TAF, and
5 the distribution of these increased deliveries to each hydrologic region are given in Table 30-20.

6 Operation of water conveyance facilities under this alternative could affect socioeconomic
7 conditions in the south-of-Delta hydrologic regions receiving water from the SWP and CVP.
8 However, because these impacts are social and economic in nature, rather than physical, they are
9 not considered environmental impacts under CEQA. To the extent that changes in socioeconomic
10 conditions in the hydrologic regions would lead to physical impacts, such impacts are described in
11 Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.

12 **16.3.3.10 Alternative 5—Dual Conveyance with Pipeline/Tunnel and**
13 **Intake 1 (3,000 cfs; Operational Scenario C)**

14 Facilities construction under Alternative 5 would be similar to those described for Alternative 1A
15 but with only one intake as opposed to five. Operations would be different under Alternative 5 than
16 under Alternative 1A.

17 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta**
18 **Region during Construction of the Proposed Water Conveyance Facilities**

19 The regional economic effects on employment and income in the Delta region were evaluated during
20 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative
21 (regional economic conditions do not differ between Existing Conditions and No Action Alternative).
22 The effects on employment and income are displayed in Table 16-47. The direct and total change is
23 shown that would result from conveyance-related spending. As evident in Table 16-47, spending on
24 conveyance construction results in substantial local economic activity in the region. As shown, direct
25 construction employment is anticipated to vary over the 8-year construction period, with an
26 estimated 886 FTE jobs in the first year and 52 FTE jobs in the final year of the construction period.
27 Construction employment is estimated to peak at 1,372 FTE jobs in year 4. Total employment
28 (direct, indirect, and induced) would peak in year 1, at 5,073 FTE jobs.

1 **Table 16-47. Regional Economic Effects on Employment and Labor Income during Construction**
 2 **(Alternative 5)**

Regional Economic Impact ^a	Year							
	1	2	3	4	5	6	7	8
Employment (FTE)								
Direct	886	1,004	1,317	1,372	1,254	987	249	52
Total ^b	5,073	4,277	4,780	4,290	3,370	2,191	422	73
Labor Income (million \$)								
Direct	139.6	105.2	108.0	87.4	60.0	30.6	3.0	0.1
Total ^b	250.5	194.2	204.1	170.4	122.1	67.9	9.2	1.0

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

3
 4 The footprint of conveyance and related facilities such as roads and utilities would remove some
 5 existing agricultural land from production, so the effects on employment and income would be
 6 negative. The regional economic effects on employment and income in the Delta region from the
 7 change in agricultural production are reported in Table 16-48. As shown, direct agricultural
 8 employment would be reduced by an estimated 22 FTE jobs, while total employment (direct,
 9 indirect, and induced) associated with agricultural employment would fall by 83 FTE jobs. Based on
 10 the crop production values changes described in Impact ECON-6 for construction effects, the direct
 11 agricultural job losses would more likely be concentrated in the vegetable, truck, orchard, and
 12 vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage crop
 13 sectors, where more jobs are mechanized. Note that direct agricultural job losses could be higher
 14 than the 22 FTE jobs shown in Table 16-48 because many agricultural jobs are seasonal rather than
 15 year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every FTE job
 16 lost as a result of construction of conveyance facilities construction. Mapbook Figures M14-1 and
 17 M14-2 display areas of Important Farmland and lands under Williamson Act contracts that could be
 18 converted to other uses due to the construction of water conveyance facilities for the
 19 Pipeline/Tunnel alignment. Note that not all of these structures would be constructed under this
 20 alternative.

1 **Table 16-48. Regional Economic Effects on Agricultural Employment and Labor Income during**
 2 **Construction (Alternative 5)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-22
Total ^b	-83
Labor Income (million \$)	
Direct	-2.8
Total ^b	-5.3

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.
^b Includes direct, indirect, and induced effects.

3
 4 Additionally, the Alternative 5 construction footprint would result in the abandonment of an
 5 estimated six producing natural gas wells in the study area, as described in Chapter 26, *Mineral*
 6 *Resources*, Section 26.3.3.10, Impact MIN-1. This could result in the loss of employment and labor
 7 income associated with monitoring and maintaining these wells. Generally, small crews perform
 8 ongoing monitoring and maintenance of several wells at a time. As shown in Chapter 26, *Mineral*
 9 *Resources*, Table 26-2, 516 active producer wells are located in the study area. Even if all six
 10 producing wells in the Alternative 5 construction footprint were abandoned and not replaced with
 11 new wells installed outside the construction footprint, the percentage reduction in the number of
 12 natural gas wells would be very small. As a result, the employment and labor income effects
 13 associated with well abandonment, while negative, would be minimal.

14 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 15 construction-related employment and labor income, this would be considered a beneficial effect.
 16 However, these activities would also be anticipated to result in a decrease in agricultural-related
 17 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 18 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 19 available to reduce these effects by preserving agricultural productivity and compensating off-site.

20 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
 21 employment and income in the Delta region. The change would result from expenditures on
 22 construction, increasing employment, and from changes in agricultural production, decreasing
 23 employment. Changes in recreational expenditures and natural gas well operations could also affect
 24 regional employment and income, but these have not been quantified. The total change in
 25 employment and income is not, in itself, considered an environmental impact. Significant
 26 environmental impacts would only result if the changes in regional economics cause physical
 27 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. The BDCP costs are
 28 addressed in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of
 29 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 30 14.3.3.10, Impacts AG-1 and AG-2; changes in recreation related activities are addressed in Chapter
 31 15, *Recreation*, Section 15.3.3.10, REC-1 through REC-4.; abandonment of natural gas wells is
 32 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.10, Impact MIN-1 When required, DWR
 33 would provide compensation to property owners for economic losses due to implementation of the
 34 alternative. While the compensation to property owners would reduce the severity of economic

1 effects related to the loss of agricultural land, it would not constitute mitigation for any related
 2 physical impact. Measures to reduce these impacts are discussed in Chapter 14, *Agricultural*
 3 *Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP
 4 to preserve agricultural productivity and mitigate for loss of Important Farmland and land subject to
 5 Williamson Act contracts or in Farmland Security Zones.

6 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 7 **the Proposed Water Conveyance Facilities**

8 **Population**

9 Construction of conveyance facilities would require an estimated peak of 1,370 workers in year 4 of
 10 the assumed 8-year construction period. It is anticipated that many of these new jobs would be filled
 11 from within the existing five-county labor force. However, construction of the tunnels may require
 12 specialized worker skills not readily available in the local labor pool. As a result, it is anticipated that
 13 some specialized workers may be recruited from outside the five-county region.

14 Considering the multi-year duration of conveyance facility construction, it is anticipated that non-
 15 local workers would temporarily relocate to the five-county region, thus adding to the local
 16 population. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section
 17 30.3.2.1, Direct Growth Inducement, an estimated 30 percent of workers could come from out of the
 18 Delta region, suggesting that approximately 400 workers could relocate to the Delta region at the
 19 peak of the construction period. However, this additional population would constitute a minor
 20 increase in the total 2020 projected regional population of 4.6 million and be distributed throughout
 21 the region. Changes in demand for public services resulting from any increase in population are
 22 addressed in Chapter 20, *Public Services and Utilities*, Section 20.3.3.10, Impact UT-1 through UT-6.

23 **Housing**

24 Changes in housing demand are based on changes in supply resulting from displacement during
 25 facilities construction and changes in housing demand resulting from employment associated with
 26 construction of conveyance facilities. As described in Chapter 13, *Land Use*, Section 13.3.3.10, Impact
 27 LU-2, construction of water conveyance facilities under Alternative 5 would conflict with
 28 approximately 29 residential structures.

29 The construction workforce would most likely commute daily to the work sites from within the five-
 30 county region; however, if needed, there are about 53,000 housing units available to accommodate
 31 workers who may choose to commute on a workweek basis or who may choose to temporarily
 32 relocate to the region for the duration of the construction period, including the estimated 400
 33 workers who may temporarily relocate to the Delta region from out of the region. In addition to the
 34 available housing units, there are recreational vehicle parks and hotels and motels within the five-
 35 county region to accommodate any construction workers. As a result, and as discussed in more
 36 detail in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, Direct Growth
 37 Inducement, construction of the proposed conveyance facilities is not expected to substantially
 38 increase the demand for housing within the five-county region.

39 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
 40 However, given the availability of housing within the five-county region, predicting where this
 41 impact might fall would be highly speculative. In addition, new residents would likely be dispersed
 42 across the region, thereby not creating a burden on any one community.

1 Because these activities would not result in permanent concentrated, substantial increases in
2 population or new housing, they would not be considered to have an adverse effect.

3 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
4 population increases in the Delta region with adequate housing supply to accommodate the change
5 in population. Therefore, the minor increase in population is not anticipated to lead to adverse
6 physical changes in the environment.

7 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 8 **Water Conveyance Facilities**

9 **NEPA Effects:** Under Alternative 5, effects on community character would be similar in nature to
10 those described under Alternative 1A, Impact ECON-3. However, the intensity of these effects would
11 be reduced due to the construction of one intake facility and a single bore tunnel. As such, regional
12 population and employment would increase to levels described above under Impact ECON-1 and
13 ECON-2. While water conveyance construction could result in beneficial effects relating to the
14 economic welfare of a community, adverse social effects could also arise as a result of declining
15 economic stability or changes in community cohesion in communities closest to construction effects
16 and in those most heavily influenced by agricultural and recreational activities. Implementation of
17 mitigation measures and environmental commitments related to noise, visual effects,
18 transportation, agriculture, and recreation would reduce adverse effects (see Appendix 3B,
19 *Environmental Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A,
20 Impact ECON-3.

21 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 5 could affect
22 community character in the Delta region. However, because these impacts are social in nature,
23 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
24 community character would lead to physical impacts involving population growth, such impacts are
25 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
26 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
27 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
28 character stemming from a lack of maintenance, upkeep, and general investment. However,
29 implementation of mitigation measures and environmental commitments related to noise, visual
30 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
31 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
32 erosion and sediment control plans, hazardous materials management plans, notification of
33 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
34 mosquito management plans.

35 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 36 **the Proposed Water Conveyance Facilities**

37 **NEPA Effects:** Effects on tax revenue as a result of water conveyance construction under Alternative
38 5 would be similar to those described under Alternative 1A, Impact ECON-4. However, due to the
39 construction of fewer intake facilities, forgone revenue is estimated at \$7.4 million over the
40 construction period. This figure may be smaller if land acquisition needs are smaller due to the
41 construction of a single bore tunnel between the Intermediate Forebay and Byron Tract Forebay.
42 These decreases in revenue could potentially result in the loss of a substantial share of some
43 agencies' tax bases, particularly for smaller districts affected by the BDCP. This economic effect

1 would be considered adverse; however, the BDCP proponents would make arrangements to
 2 compensate local governments for the loss of property tax or assessment revenue for land used for
 3 constructing, locating, operating, or mitigating for new Delta water conveyance facilities.
 4 Additionally, as discussed under Impact ECON-2, construction of the water conveyance facilities
 5 would be anticipated to result in a net increase of income and employment in the Delta region. This
 6 would also create an indirect beneficial effect through increased sales tax revenue for local
 7 government entities that rely on sales taxes.

8 **CEQA Conclusion:** Under Alternative 5, construction of water conveyance facilities would result in
 9 the removal of a portion of the property tax base for various local government entities in the Delta
 10 region. Over the construction period, property tax and assessment revenue forgone is estimated at
 11 \$7.4 million. However, the Sacramento-San Joaquin Delta Reform Act commits the entities receiving
 12 water from the State Water Project and federal Central Valley Project to mitigate for lost property
 13 tax and assessment revenue associated with land needed for the construction of new conveyance
 14 facilities (Water Code Section 85089). Additionally, any losses could be offset, at least in part, by an
 15 anticipated increase in sales tax revenue. CEQA does not require a discussion of socioeconomic
 16 effects except where they would result in reasonably foreseeable physical changes. If an alternative
 17 is not anticipated to result in a physical change to the environment, it would not be considered to
 18 have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any
 19 physical consequences resulting from fiscal impacts are too speculative to ascertain.

20 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 21 **Water Conveyance Facilities**

22 **NEPA Effects:** Under Alternative 5, disruption of recreational activities during the construction
 23 period would be similar in character, but smaller in extent and duration, than that described under
 24 Alternative 1A, Impact ECON-5. This is largely because fewer intake facilities would be constructed
 25 under this alternative. Additionally, the tunnel between the Intermediate Forebay and Byron Tract
 26 Forebay would be constructed with a single bore. While access to recreational facilities would be
 27 maintained throughout construction, the quality of recreational activities including boating, fishing,
 28 waterfowl hunting, and hiking in the Delta could be indirectly affected by noise, lighting, traffic, and
 29 visual degradation in proximity to water conveyance construction. Relative to Alternative 1A,
 30 however, two fewer established recreational sites or areas would be affected by this alternative.

31 Construction of water conveyance structures under this alternative would be anticipated to result in
 32 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite
 33 the implementation of mitigation measures, including enhancement of fishing access sites and
 34 incorporation of recreational access into project design, and environmental and other commitments,
 35 including providing funding to implement recreational improvements and control aquatic weeds,
 36 providing notification of maintenance activities in waterways, and developing and implementing a
 37 noise abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*.
 38 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
 39 in areas closest to construction activities. The multi-year schedule and geographic scale of
 40 construction activities and the anticipated decline in recreational spending would be considered an
 41 adverse effect. The commitments and mitigation measure cited above would contribute to the
 42 reduction of this effect.

1 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 5
2 could impact recreational revenue in the Delta region if construction activities result in fewer visits
3 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
4 recreational activities. This section considers only the economic effects of recreational changes
5 brought about by construction of the proposed water conveyance facilities. Potential physical
6 changes to the environment relating to recreational resources are described and evaluated in
7 Chapter 15, *Recreation*, Section 15.3.3.10, Impacts REC-1 through REC-4.

8 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of**
9 **the Proposed Water Conveyance Facilities**

10 Construction of conveyance facilities would convert land from existing agricultural uses to uses that
11 include direct facility footprints, construction staging areas, borrow/spoils areas, RTM storage,
12 temporary and permanent roads, and utilities. Agricultural land could also be affected by changes in
13 water quality and other conditions that would affect crop productivity. These direct effects on
14 agricultural land are described in Chapter 14, *Agricultural Resources*, Section 14.3.3.10, Impacts AG-
15 1 and AG-2.

16 Changes in crop acreage were used to describe the associated changes in economic values. Unit
17 prices, yields, and crop production and investment costs were presented in Section 16.1,
18 *Environmental Setting/Affected Environment*. Table 16-49 summarizes the changes in acreage and
19 value of agricultural production that would result in the Delta region as a result of Alternative 5
20 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative
21 by aggregate crop category (agricultural resources under Existing Conditions and in the No Action
22 Alternative were assumed to be the same). The table also includes a summary of changes in crop
23 acreages that are reported in greater detail in Appendix 14A, *Individual Crop Effects as a Result of*
24 *BDCP Water Conveyance Facility Construction*.

25 Total value of irrigated crop production in the Delta would decline on average by \$7.8 million per
26 year during the construction period, with total irrigated crop acreage declining by about 5,000 acres,
27 These estimates are not dependent on water year type.

1 **Table 16-49. Crop Acres and Value of Agricultural Production in the Delta during Construction**
 2 **(Alternative 5)**

Analysis Metric	Alternative 5	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	478.7	-5.0
Grains	58.2	-0.4
Field crops	189.5	-1.6
Forage crops	111.5	-1.2
Vegetable, truck, and specialty crops	76.7	-0.5
Orchards and vineyards	42.8	-1.2
Total Value of Production (million \$)	642.2	-7.8
Grains	24.1	-0.1
Field crops	112.8	-1.0
Forage crops	72.1	-1.0
Vegetable, truck, and specialty crops	266.7	-1.7
Orchards and vineyards	166.5	-4.0

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

3
 4 Alternative 5 may also affect production costs, investments in production facilities and standing
 5 orchards and vineyards, and salinity of agricultural water supply. Effects would be similar to those
 6 qualitatively described under Alternative 1A, Impact ECON-6. See Chapter 14, *Agricultural*
 7 *Resources*, Section 14.3.3.10, Impacts AG-1 and AG-2, for further discussion of indirect effects on
 8 agricultural resources.

9 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 10 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 11 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 12 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 13 agricultural productivity and compensating off-site.

14 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 15 value of agricultural production in the Delta region. The removal of agricultural land from
 16 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.10, Impacts AG-1 and
 17 AG-2. The reduction in the value of agricultural production is not considered an environmental
 18 impact. Significant environmental impacts would only result if the changes in regional economics
 19 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 20 required, DWR would provide compensation to property owners for economic losses due to
 21 implementation of the alternative. While the compensation to property owners would reduce the
 22 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 23 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 24 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 25 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 26 and land subject to Williamson Act contracts or in Farmland Security Zones.

1 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region**
 2 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

3 Permanent effects on regional economics during operation and maintenance of the proposed water
 4 conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-7.
 5 Increased expenditures related to operation and maintenance of water conveyance facilities would
 6 be expected to result in a permanent increase in regional employment and income, as presented in
 7 Table 16-22. The permanent removal of agricultural land following construction would have lasting
 8 negative effects on agricultural employment and income, as shown in Table 16-23.

9 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 10 result in an increase in operations-related employment and labor income, this would be considered
 11 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 12 agricultural-related employment and labor income, which would be considered an adverse effect.
 13 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 14 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 15 compensating off-site.

16 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 17 increase total employment and income in the Delta region. The net change would result from
 18 expenditures on operation and maintenance and from changes in agricultural production. The total
 19 change in income and employment is not, in itself, considered an environmental impact. Significant
 20 environmental impacts would only result if the changes in regional economics cause physical
 21 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 22 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 23 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.10, Impacts AG-3
 24 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 25 15.3.3.10, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
 26 landowners as a result of acquiring lands for the proposed conveyance facilities. While the
 27 compensation to property owners would reduce the severity of economic effects related to the loss
 28 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 29 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 30 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
 31 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
 32 contracts or in Farmland Security Zones.

33 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during**
 34 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

35 Permanent effects on population and housing during operation and maintenance of the proposed
 36 water conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-
 37 8. It is anticipated that non-local workers would relocate to the five-county region, thus adding to
 38 the local population. However, this additional population would constitute a minor increase in the
 39 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It
 40 is anticipated that most of the operational workforce would be drawn from within the five-county
 41 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

42 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 43 population or new housing, they would not be considered to have an adverse effect.

1 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 2 result in minor population increases in the Delta region with adequate housing supply to
 3 accommodate the change in population and therefore adverse changes in the physical environment
 4 are not anticipated.

5 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 6 **Proposed Water Conveyance Facilities**

7 **NEPA Effects:** Under Alternative 5, effects on community character would be similar in nature,
 8 location, and magnitude to those described under Alternative 1A, Impact ECON-9. Variations in the
 9 intensity of these effects would result from the operation and maintenance of one intake facility and
 10 a single-bore tunnel between the Intermediate Forebay and Byron Tract Forebay. While water
 11 conveyance operation and maintenance could result in beneficial effects relating to the economic
 12 welfare of a community, lasting adverse social effects, including effects on community cohesion,
 13 could also arise in communities closest to physical features and in those most heavily influenced by
 14 agricultural and recreational activities. Implementation of mitigation measures and environmental
 15 commitments related to noise, visual effects, transportation, agriculture, and recreation would
 16 reduce adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These
 17 actions are summarized under Alternative 1A, Impact ECON-9.

18 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 5
 19 could affect community character in the Delta region. However, because these impacts are social in
 20 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 21 changes to community character would lead to physical impacts involving population growth, such
 22 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
 23 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
 24 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
 25 community character stemming from a lack of maintenance, upkeep, and general investment.

26 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 27 **Maintenance of the Proposed Water Conveyance Facilities**

28 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operations under
 29 Alternative 5 would be similar to those described under Alternative 1A, Impact ECON-10. However,
 30 with the construction of fewer intake facilities, forgone revenue is estimated to \$44.4 million over
 31 the 50-year permit period. These decreases in revenue could potentially result in the loss of a
 32 substantial share of some agencies' tax bases, particularly for smaller districts affected by the BDCP.
 33 This economic effect would be adverse; however, the BDCP proponents would make arrangements
 34 to compensate local governments for the loss of property tax or assessment revenue for land used
 35 for constructing, locating, operating, or mitigating for new Delta water conveyance facilities.
 36 Additionally, as discussed under Impact ECON-7, continued operation and maintenance of the water
 37 conveyance facilities would be anticipated to result in a net increase of income and employment in
 38 the Delta region. This could also create an indirect beneficial effect through increased sales tax
 39 revenue for local government entities that rely on sales taxes.

40 **CEQA Conclusion:** Under Alternative 5, the ongoing operation and maintenance of water
 41 conveyance facilities would restrict property tax revenue levels for various local government
 42 entities in the Delta region. Over the 50-year permit period, property tax and assessment revenue
 43 forgone is estimated at \$44.4 million. However, the Sacramento-San Joaquin Delta Reform Act

1 commits the entities receiving water from the State Water Project and federal Central Valley Project
 2 to mitigate for lost property tax and assessment revenue associated with land needed for the
 3 construction of new conveyance facilities (Water Code Section 85089). Additionally, any losses
 4 could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
 5 require a discussion of socioeconomic effects except where they would result in reasonably
 6 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
 7 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
 8 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
 9 speculative to ascertain.

10 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 11 **Proposed Water Conveyance Facilities**

12 Effects on recreation economics during operation and maintenance of the proposed water
 13 conveyance facilities under Alternative 5 would be similar to those described under Alternative 1A,
 14 Impact ECON-11.

15 **NEPA Effects:** Maintenance of conveyance facilities, including intakes, would result in periodic
 16 temporary but not substantial adverse effects on boat passage and water-based recreational
 17 activities. Because effects of facility maintenance would be short-term and intermittent, substantial
 18 economic effects are not anticipated to result from operation and maintenance of the facilities.

19 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 20 conveyance facilities under Alternative 5 are anticipated to create minor effects on recreational
 21 resources and therefore, are not expected to substantially reduce economic activity related to
 22 recreational activities. This section considers only the economic effects of recreational changes.
 23 Potential physical changes to the environment relating to recreational resources are described and
 24 evaluated in Chapter 15, *Recreation*, Section 15.3.3.10, Impacts REC-5 through REC-8.

25 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 26 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

27 During operation and maintenance of conveyance facilities existing agricultural land would be in
 28 uses that include direct facility footprints and associated permanent roads and utilities. Agricultural
 29 land could also be affected by changes in water quality and other conditions that would affect crop
 30 productivity. These direct effects on agricultural land are described in Chapter 14, *Agricultural*
 31 *Resources*, Section 14.3.3.10, Impacts AG-1 and AG-2.

32 Changes in crop acreage were used to estimate the associated changes in economic values. Unit
 33 prices, yields, and crop production and investment costs were presented in Section 16.1,
 34 *Environmental Setting/Affected Environment*. Table 16-50 summarizes the changes in acreage and
 35 value of agricultural production that would result in the Delta region during operation of Alternative
 36 5. Changes are shown relative to the Existing Conditions and the No Action Alternative by aggregate
 37 crop category (agricultural resources under Existing Conditions and in the No Action Alternative
 38 were assumed to be the same). The changes in crop acreages are reported in greater detail in
 39 Appendix 14A, *Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction*.

40 Total value of irrigated crop production in the Delta region would decline on average by \$7.0 million
 41 per year during operation and maintenance, with total irrigated crop acreage declining by about
 42 4,300 acres. These estimates are not dependent on water year type.

1 **Table 16-50. Crop Acres and Value of Agricultural Production in the Delta Region during**
 2 **Operations and Maintenance (Alternative 5)**

Analysis Metric	Alternative 5	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	479.4	-4.3
Grains	58.3	-0.3
Field crops	189.8	-1.3
Forage crops	111.6	-1.1
Vegetable, truck, and specialty crops	76.7	-0.4
Orchards and vineyards	42.9	-1.1
Total Value of Production (million \$)	643.1	-7.0
Grains	24.1	-0.1
Field crops	113.1	-0.8
Forage crops	72.2	-0.9
Vegetable, truck, and specialty crops	266.9	-1.5
Orchards and vineyards	166.8	-3.7

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

3
 4 Alternative 5 may also affect production costs on lands even if gross revenues are largely unaffected.
 5 Costs could be associated with operational constraints and longer travel times due to permanent
 6 facilities. In most cases, affected lands fall within the facilities footprint, and are included in the
 7 agricultural acreage and value of production described elsewhere in this Chapter and in Chapter 14,
 8 *Agricultural Resources*, Section 14.3.3.10.

9 Crop yields and crop selection on lands in the Delta could be affected by changes in salinity of
 10 agricultural water supply during operation and maintenance activities. If operation of the proposed
 11 conveyance facilities increases salinity in part of the Delta, crops that are more sensitive to salinity
 12 could shift to other lands in the five-county Delta region. See Chapter 14, *Agricultural Resources*,
 13 Section 14.3.3.10, Impact AG-2, for further discussion of effects from changes in salinity.

14 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 15 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 16 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 17 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 18 productivity and compensating off-site.

19 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities
 20 the value of agricultural production in the Delta region would be reduced. The permanent removal
 21 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 22 14.3.3.10, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 23 considered an environmental impact. Significant environmental impacts would only result if the
 24 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 25 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 26 economic losses due to implementation of the alternative. While the compensation to property
 27 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 28 would not constitute mitigation for any related physical effect. Measures to reduce these impacts are

1 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 2 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 3 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 4 Zones.

5 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 6 **Implementation of CM2–CM21**

7 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
 8 to those described under Alternative 1A, Impact ECON-13. However, under this alternative, 25,000
 9 acres would be restored under CM4, rather than 65,000 acres. In the Delta region, spending on CM2–
 10 CM21 would include construction, operation and maintenance activities that would convert or
 11 disturb existing land use. Because implementation of CM2–CM21 would be anticipated to result in
 12 an increase in construction and operation and maintenance-related employment and labor income,
 13 this would be considered a beneficial effect. However, implementation of these components would
 14 also be anticipated to result in a decrease in agricultural-related employment and labor income,
 15 which would be considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14,
 16 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by
 17 preserving agricultural productivity and compensating off-site. Additionally, implementation of
 18 these components are anticipated to result in the abandonment of natural gas wells, causing a
 19 decrease in employment and labor income associated with monitoring and maintaining wells, which
 20 would be considered an adverse effect. These effects, however, would be smaller than those
 21 estimated for Alternative 1A because, under Alternative 5, 40,000 fewer acres would be restored,
 22 displacing fewer wells. Mitigation Measure MIN-5, described in Chapter 26, *Mineral Resources*,
 23 Section 26.3.3.2, Impact MIN-5, would be available to reduce these effects by minimizing, to the
 24 extent feasible, the need for well abandonment or relocation.

25 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
 26 income in the Delta region. The change in total employment and income in the Delta region is based
 27 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
 28 changes in agricultural production, recreation, and natural gas production activities. The total
 29 change in employment and income is not, in itself, considered an environmental impact. Significant
 30 environmental impacts would only result if the changes in regional economics cause physical
 31 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 32 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 33 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
 34 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
 35 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

36 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 37 **Implementing CM2–CM21**

38 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
 39 described under Alternative 1A, Impact ECON-14. However, under this alternative, 25,000 acres
 40 would be restored under CM4, rather than 65,000 acres. In general, the changes in population and
 41 housing would include increases in population from the construction and operation and
 42 maintenance-related activity and declines in residential housing and business establishments as a
 43 result of lands converted or impaired.

1 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
2 population or new housing, they would not be considered to have an adverse effect.

3 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
4 housing in the Delta region. The change in total population and housing in the Delta region is based
5 on employment resulting from implementation of the proposed CM2–CM21. The change in
6 population and housing is expected to be minor relative to the five-county Delta region, and
7 dispersed throughout the region. Therefore, significant changes to the physical environment are not
8 anticipated to result.

9 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

10 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
11 similar to those described under Alternative 1A, Impact ECON-15. However, under this alternative,
12 25,000 acres would be restored under CM4, rather than 65,000 acres. While implementation of
13 CM2–CM21 could result in beneficial effects relating to the economic welfare of a community,
14 adverse social effects, including effects on community cohesion, could also arise in those
15 communities closest to character-changing effects and those most heavily influenced by agricultural
16 activities. Implementation of mitigation measures and environmental commitments related to noise,
17 visual effects, transportation, agriculture, and recreation would reduce adverse effects (see
18 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are summarized under
19 Alternative 1A, Impact ECON-15.

20 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 5 could affect community
21 character within the Delta region. However, because these effects are social in nature, rather than
22 physical, they are not considered impacts under CEQA. To the extent that changes to community
23 character are related to physical impacts involving population growth, these impacts are described
24 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
25 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
26 individual buildings, could result in alteration of community character stemming from a lack of
27 maintenance, upkeep, and general investment.

28 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 29 **CM2–CM21**

30 **NEPA Effects:** Under Alternative 5, effects on local government fiscal conditions as a result of
31 conservation measure implementation would be similar to those described under Alternative 1A,
32 Impact ECON-16. However, under this alternative, 25,000 acres would be restored under CM4,
33 rather than 65,000 acres. Forgone revenue would be estimated to reach approximately \$109.7
34 million. Because CM2–CM21 would remove some private land from local property tax and
35 assessment rolls, this economic effect would still be considered adverse; however, the BDCP
36 proponents would offset forgone property tax and assessments levied by local governments and
37 special districts on private lands converted to habitat.

38 **CEQA Conclusion:** Under Alternative 5, implementation of CM2–CM21 would result in the removal
39 of a portion of the property tax base for various local government entities in the Delta region. Over
40 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
41 approximately \$109.7 million. However, the BDCP proponents would compensate local
42 governments and special districts for forgone revenue. CEQA does not require a discussion of
43 socioeconomic effects except where they would result in physical changes. If an alternative is not

1 anticipated to result in a physical change to the environment, it would not be considered to have a
2 significant impact under CEQA (CEQA Guidelines Sections 15064(f) and 15131).

3 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

4 **NEPA Effects:** Effects related to implementation of the CM2–CM21 under this alternative would be
5 similar to those described under Alternative 1A, Impact ECON-17. However, the magnitude of effects
6 related specifically to CM4, Tidal Habitat Restoration, would be smaller in magnitude, as this
7 alternative would restore 25,000 acres instead of 65,000 acres. These measures may result in
8 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
9 for decreased or increased economic activities related to recreation.

10 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
11 recreation and compromise the quality of activities, leading to potential economic impacts.
12 However, over time, implementation could also improve the quality of existing recreational
13 opportunities, creating increased economic value with respect to recreation. This section considers
14 only the economic effects of recreational changes brought about by conservation measure
15 implementation. Potential physical changes to the environment relating to recreational resources
16 are described and evaluated in Chapter 15, *Recreation* Section 15.3.3.10, Impacts REC-9 through
17 REC-11.

18 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of** 19 **Implementing CM2–CM21**

20 **NEPA Effects:** Effects on agricultural economics as a result of the proposed CM2–CM21 would be
21 similar to those described under Alternative 1A, Impact ECON-18, except the magnitude would be
22 reduced since 25,000 acres of tidal habitat would be restored under CM4 instead of 65,000 acres.
23 CM2–CM21 would convert land from existing agricultural uses. These direct effects on agricultural
24 land are described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.10, Impacts AG-
25 3 and AG-4. Effects on agricultural economics would include effects on crop production and
26 agricultural investments resulting from restoration actions on agricultural lands. The effects would
27 be similar in kind to those described for lands converted due to construction and operation of the
28 conveyance features and facilities. The total acreage and crop mix of agricultural land potentially
29 affected is not specified at this time, but when required, the BDCP proponents would provide
30 compensation to property owners for losses due to implementation of the alternative.

31 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
32 production in the Delta region. The permanent removal of agricultural land from production is
33 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.10, Impacts AG-3 and AG-4. The
34 reduction in the value of agricultural production is not considered an environmental impact.
35 Significant environmental impacts would only result if the changes in regional economics cause
36 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
37 required, the BDCP proponents would provide compensation to property owners for economic
38 losses due to implementation of the alternative. While the compensation to property owners would
39 reduce the severity of economic effects related to the loss of agricultural land, it would not
40 constitute mitigation for any related physical impact. Measures to reduce these impacts are
41 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

1 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

2 The socioeconomic effects associated with operation of Alternative 5 would be similar to those
 3 described under Alternative 1A, Impact ECON-19; however, the magnitude of the effects would be
 4 different based on the construction of one intake and different operational guidelines leading to
 5 different deliveries to hydrologic regions. Changes in deliveries to south-of-Delta hydrologic regions
 6 could result in beneficial or adverse socioeconomic effects in these areas. In hydrologic regions
 7 where water deliveries are predicted to increase when compared with the No Action Alternative,
 8 more stable agricultural activities could support employment and economic production associated
 9 with agriculture.

10 ***NEPA Effects:***

11 **Changes in CVP and SWP Deliveries Compared to No Action Alternative**

12 Compared to No Action Alternative (LLT 2060), Alternative 5 would increase deliveries to all
 13 hydrologic regions. The average annual increase in CVP and SWP deliveries would be 346 TAF, and
 14 the distribution of these increased deliveries to each hydrologic region are given in Table 30-21.
 15 Where M&I deliveries increase, population growth could lead to general economic growth and
 16 support water-intensive industries. Changes to agricultural production and population growth with
 17 its associated economic activity could also lead to shifts in the character of communities in the
 18 hydrologic regions with resultant beneficial or adverse effects. Likewise, growth associated with
 19 deliveries could require additional expenditures for local governments while also supporting
 20 increases in revenue.

21 ***CEQA Conclusion:***

22 **Changes in CVP and SWP Deliveries Compared to Existing Conditions**

23 Compared to Existing Conditions, Alternative 5 would decrease deliveries to all hydrologic regions
 24 south of the Delta. The average annual decrease in CVP and SWP deliveries would be 304 TAF, and
 25 the distribution of these increased deliveries to each hydrologic region are given in Table 30-20.

26 **Summary**

27 Operation of water conveyance facilities under Alternative 5 could affect socioeconomic conditions
 28 in the hydrologic regions receiving water from the SWP and CVP. However, because these impacts
 29 are social and economic in nature, rather than physical, they are not considered environmental
 30 impacts under CEQA. To the extent that changes in socioeconomic conditions in the hydrologic
 31 regions would lead to physical impacts, such impacts are described in Chapter 30, *Growth*
 32 *Inducement and Other Indirect Effects*, Section 30.3.2.

33 **16.3.3.11 Alternative 6A—Isolated Conveyance with Pipeline/Tunnel and** 34 **Intakes 1–5 (15,000 cfs; Operational Scenario D)**

35 Facilities construction under Alternative 6A would be similar to those described for Alternative 1A.
 36 However, this would be an isolated conveyance, no longer involving operation of the existing
 37 SWP/CVP south Delta diversion facilities for Clifton Court Forebay and the Jones Pumping Plant.
 38 Operations would be different under Alternative 6A than under Alternative 1A.

1 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta**
 2 **Region during Construction of the Proposed Water Conveyance Facilities**

3 Temporary effects on regional economics during construction of the proposed water conveyance
 4 facilities would be similar to those described under Alternative 1A, Impact ECON-1. As shown in
 5 Table 16-19, direct construction employment is anticipated to vary over the 8-year construction
 6 period, with an estimated 2,433 FTE in the first year and 165 FTE in the final year of the
 7 construction period. Construction employment is estimated to peak at 4,390 FTE in year 4. Total
 8 employment (direct, indirect, and induced) would peak in year 3, at 12,716 FTE. Declines in
 9 agricultural production would be expected to lead to a decrease in employment of 27 FTE, with total
 10 effects leading to a decline of 100 FTE. Similarly, labor income related to these positions would
 11 decline, as shown in Table 16-20.

12 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 13 construction-related employment and labor income, this would be considered a beneficial effect.
 14 However, these activities would also be anticipated to result in a decrease in agricultural-related
 15 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 16 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 17 available to reduce these effects by preserving agricultural productivity and compensating off-site.

18 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
 19 employment and income in the Delta region, temporarily. The increase in employment and income
 20 that would result from expenditures on construction would be greater than the reduction in
 21 employment and income attributable to losses in agricultural production. Changes in recreational
 22 expenditures and natural gas well operations could also affect regional employment and income, but
 23 these have not been quantified. The total change in employment and income is not, in itself,
 24 considered an environmental impact. Significant environmental impacts would only result if the
 25 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 26 throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation Costs and*
 27 *Funding Sources*; removal of agricultural land from production is addressed in Chapter 14,
 28 *Agricultural Resources*, Section 14.3.3.11, Impacts AG-1 and AG-2; changes in recreation related
 29 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.11, REC-1 through REC-4;
 30 abandonment of natural gas wells is addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.11,
 31 Impact MIN-1. When required, DWR would provide compensation to property owners for economic
 32 losses due to implementation of the alternative. While the compensation to property owners would
 33 reduce the severity of economic effects related to the loss of agricultural land, it would not
 34 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 35 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 36 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 37 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 38 Zones.

39 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of**
 40 **the Proposed Water Conveyance Facilities**

41 Effects on population and housing during construction of the proposed water conveyance facilities
 42 would be similar to those described under Alternative 1A, Impact ECON-2. It is anticipated that non-
 43 local workers would temporarily relocate to the Delta region, thus adding to the local population.
 44 However, this additional population would constitute a minor increase in the total 2020 projected

1 regional population of 4.6 million and be distributed throughout the region. Within specific local
 2 communities, there could be localized effects on housing. However, given the availability of housing
 3 within the five-county region, predicting where this impact might fall would be speculative. In
 4 addition, new residents would likely be dispersed across the region, thereby not creating a
 5 substantial burden on any one community.

6 **NEPA Effects:** Because these activities would not result in permanent concentrated, substantial
 7 increases in population or new housing, they would not be considered to have an adverse effect.

8 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
 9 temporary population increases in the Delta region, which has an adequate housing supply to
 10 accommodate the change in population. Therefore, adverse physical changes resulting from the
 11 minor increase in population are not anticipated.

12 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 13 **Water Conveyance Facilities**

14 **NEPA Effects:** Under Alternative 6A, effects on community character would be similar to those
 15 described under Alternative 1A, Impact ECON-3. While water conveyance construction could result
 16 in beneficial effects relating to the economic welfare of a community, adverse social effects could
 17 also arise as a result of declining economic stability or changes in community cohesion in
 18 communities closest to construction effects and in those most heavily influenced by agricultural and
 19 recreational activities. Implementation of mitigation measures and environmental commitments
 20 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
 21 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 22 summarized under Alternative 1A, Impact ECON-3.

23 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 6A could affect
 24 community character in the Delta region. However, because these impacts are social in nature,
 25 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
 26 community character would lead to physical impacts involving population growth, such impacts are
 27 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
 28 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
 29 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
 30 character stemming from a lack of maintenance, upkeep, and general investment. However,
 31 implementation of mitigation measures and environmental commitments related to noise, visual
 32 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
 33 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
 34 erosion and sediment control plans, hazardous materials management plans, notification of
 35 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
 36 mosquito management plans.

37 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 38 **the Proposed Water Conveyance Facilities**

39 **NEPA Effects:** Effects on tax revenue as a result of water conveyance construction under Alternative
 40 6A would be identical to those described under Alternative 1A, Impact ECON-4. While this economic
 41 effect would be considered adverse, BDCP proponents would compensate local governments for the
 42 loss of property tax or assessment revenue associated with construction of water conveyance
 43 facilities. Additionally, local entities could benefit from an increase in sales tax revenue.

1 **CEQA Conclusion:** Construction of water conveyance facilities for Alternative 6A would result in the
 2 removal of a portion of the property tax base for various local government entities in the Delta
 3 region. However, entities receiving water from the State Water Project and federal Central Valley
 4 Project would mitigate for lost property tax and assessment revenue associated with land needed
 5 for the construction of new conveyance facilities (Water Code Section 85089). Additionally, any
 6 losses could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
 7 require a discussion of socioeconomic effects except where they would result in reasonably
 8 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
 9 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
 10 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
 11 speculative to ascertain.

12 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 13 **Water Conveyance Facilities**

14 **NEPA Effects:** Under Alternative 6A, disruption of recreational activities during the construction
 15 period would be similar that described under Alternative 1A, Impact ECON-5. The quality of
 16 recreational activities including boating, fishing, waterfowl hunting, and hiking in the Delta could be
 17 indirectly affected by noise, lighting, traffic, and visual degradation in proximity to water
 18 conveyance construction.

19 While access to recreational facilities would be maintained, construction of water conveyance
 20 structures under this alternative would be anticipated to result in a lower-quality recreational
 21 experience in a number of localized areas throughout the Delta, despite the implementation of
 22 mitigation measures, including enhancement of fishing access sites and incorporation of
 23 recreational access into project design, and environmental and other commitments, including
 24 providing funding to implement recreational improvements and control aquatic weeds, providing
 25 notification of maintenance activities in waterways, and developing and implementing a noise
 26 abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*. With a
 27 decrease in recreational quality, the number of visits would be anticipated to decline, at least in
 28 areas closest to construction activities. The multi-year schedule and geographic scale of construction
 29 activities and the anticipated decline in recreational spending would be considered an adverse
 30 effect. The commitments and mitigation measure cited above would contribute to the reduction of
 31 this effect.

32 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 6A
 33 could impact recreational revenue in the Delta region if construction activities result in fewer visits
 34 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
 35 recreational activities. This section considers only the economic effects of recreational changes
 36 brought about by construction of the proposed water conveyance facilities. Potential physical
 37 changes to the environment relating to recreational resources are described and evaluated in
 38 Chapter 15, *Recreation*, Section 15.3.3.11, Impacts REC-1 through REC-4.

39 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 40 **the Proposed Water Conveyance Facilities**

41 Effects on agricultural economics during construction of the proposed water conveyance facilities
 42 would be similar to those described under Alternative 1A, Impact ECON-6. Total value of irrigated
 43 crop production in the Delta would decline on average by \$8.9 million per year during the 8 year

1 construction period, with total irrigated crop acreage declining by about 5,600 acres. Alternative 6A
 2 may also affect production costs on lands even if gross revenues are largely unaffected. Costs could
 3 be increased by operational constraints and longer travel times due to facilities construction.
 4 Additionally, loss of investments in production facilities and standing orchards and vineyards would
 5 occur as a result of facilities construction.

6 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 7 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 8 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 9 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 10 agricultural productivity and compensating off-site.

11 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 12 value of agricultural production in the Delta region. The removal of agricultural land from
 13 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.11, Impacts AG-1 and
 14 AG-2. The reduction in the value of agricultural production is not considered an environmental
 15 impact. Significant environmental impacts would only result if the changes in regional economics
 16 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 17 required, DWR would provide compensation to property owners for economic losses due to
 18 implementation of the alternative. While the compensation to property owners would reduce the
 19 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 20 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 21 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 22 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 23 and land subject to Williamson Act contracts or in Farmland Security Zones.

24 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 25 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

26 Permanent effects on regional economics during operation and maintenance of the proposed water
 27 conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-7.
 28 Increased expenditures related to operation and maintenance of water conveyance facilities would
 29 be expected to result in a permanent increase in regional employment and income, as presented in
 30 Table 16-22. The permanent removal of agricultural land following construction would have lasting
 31 negative effects on agricultural employment and income, as shown in Table 16-23.

32 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 33 result in an increase in operations-related employment and labor income, this would be considered
 34 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 35 agricultural-related employment and labor income, which would be considered an adverse effect.
 36 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 37 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 38 compensating off-site.

39 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 40 increase total employment and income in the Delta region. The net change would result from
 41 expenditures on operation and maintenance and from changes in agricultural production. The total
 42 change in income and employment is not, in itself, considered an environmental impact. Significant
 43 environmental impacts would only result if the changes in regional economics cause physical
 44 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed

1 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 2 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.11, Impacts AG-3
 3 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 4 15.3.3.11, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
 5 landowners as a result of acquiring lands for the proposed conveyance facilities. While the
 6 compensation to property owners would reduce the severity of economic effects related to the loss
 7 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 8 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 9 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
 10 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
 11 contracts or in Farmland Security Zones.

12 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 13 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

14 Permanent effects on population and housing during operation and maintenance of the proposed
 15 water conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-
 16 8. It is anticipated that non-local workers would relocate to the five-county region, thus adding to
 17 the local population. However, this additional population would constitute a minor increase in the
 18 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It
 19 is anticipated that most of the operational workforce would be drawn from within the five-county
 20 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

21 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 22 population or new housing, they would not be considered to have an adverse effect.

23 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 24 result in minor population increases in the Delta region with adequate housing supply to
 25 accommodate the change in population and therefore adverse changes in the physical environment
 26 are not anticipated.

27 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 28 **Proposed Water Conveyance Facilities**

29 **NEPA Effects:** Under Alternative 6A, effects on community character would be similar in nature,
 30 location, and magnitude to those described under Alternative 1A, Impact ECON-9. While water
 31 conveyance operation and maintenance could result in beneficial effects relating to the economic
 32 welfare of a community, lasting adverse social effects, including effects on community cohesion,
 33 could also arise in communities closest to physical features and in those most heavily influenced by
 34 agricultural and recreational activities. Implementation of mitigation measures and environmental
 35 commitments related to noise, visual effects, transportation, agriculture, and recreation would
 36 reduce the intensity of adverse effects on the character of Delta communities (see Appendix 3B,
 37 *Environmental Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A,
 38 Impact ECON-9.

39 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 6A
 40 could affect community character in the Delta region. However, because these impacts are social in
 41 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 42 changes to community character would lead to physical impacts involving population growth, such
 43 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*

1 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
 2 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
 3 community character stemming from a lack of maintenance, upkeep, and general investment.

4 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 5 **Maintenance of the Proposed Water Conveyance Facilities**

6 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operation and
 7 maintenance under Alternative 6A would be similar to those described under Alternative 1A, Impact
 8 ECON-10. While this economic effect would be considered adverse, BDCP proponents would
 9 compensate local governments for the loss of property tax or assessment revenue associated with
 10 construction of water conveyance facilities. Additionally, local entities could benefit from an
 11 increase in sales tax revenue.

12 **CEQA Conclusion:** Continued operation and maintenance of water conveyance facilities for
 13 Alternative 6A would result in the removal of a portion of the property tax base for various local
 14 government entities in the Delta region. However, entities receiving water from the State Water
 15 Project and federal Central Valley Project would mitigate for lost property tax and assessment
 16 revenue associated with land needed for the siting of conveyance facilities (Water Code Section
 17 85089). Additionally, any losses could be offset, at least in part, by an anticipated increase in sales
 18 tax revenue. CEQA does not require a discussion of socioeconomic effects except where they would
 19 result in reasonably foreseeable physical changes. If an alternative is not anticipated to result in a
 20 physical change to the environment, it would not be considered to have a significant impact under
 21 CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any physical consequences resulting
 22 from fiscal impacts are too speculative to ascertain.

23 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 24 **Proposed Water Conveyance Facilities**

25 Effects on recreation economics during operation and maintenance of the proposed water
 26 conveyance facilities under Alternative 6A would be similar to those described under Alternative 1A,
 27 Impact ECON-11.

28 **NEPA Effects:** Maintenance of conveyance facilities, including intakes, would result in periodic
 29 temporary but not substantial adverse effects on boat passage and water-based recreational
 30 activities. Because effects of facility maintenance would be short-term and intermittent, substantial
 31 economic effects are not anticipated to result from operation and maintenance of the facilities.

32 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 33 conveyance facilities under Alternative 6A are anticipated to create minor effects on recreational
 34 resources and therefore, are not expected to substantially reduce economic activity related to
 35 recreational activities. This section considers only the economic effects of recreational changes.
 36 Potential physical changes to the environment relating to recreational resources are described and
 37 evaluated in Chapter 15, *Recreation*, Section 15.3.3.11, Impacts REC-5 through REC-8.

38 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 39 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

40 Permanent effects on agricultural economics during operation and maintenance of the proposed
 41 water conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-

1 12. Total value of irrigated crop production in the Delta would decline on average by \$7.4 million
 2 per year during operation and maintenance, with total irrigated crop acreage declining by about
 3 4,400 acres. Alternative 6A may also affect production costs on lands even if gross revenues are
 4 largely unaffected. Costs could be increased by operational constraints, changes in water quality,
 5 and longer travel times due to the permanent footprint of facilities. Additionally, loss of investments
 6 in production facilities and standing orchards and vineyards would occur as a result of facilities
 7 construction.

8 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 9 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 10 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 11 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 12 productivity and compensating off-site.

13 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities,
 14 the value of agricultural production in the Delta region would be reduced. The permanent removal
 15 of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 16 14.3.3.11, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 17 considered an environmental impact. Significant environmental impacts would only result if the
 18 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 19 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 20 economic losses due to implementation of the alternative. While the compensation to property
 21 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 22 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
 23 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 24 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 25 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 26 Zones.

27 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 28 **Implementation of CM2–CM21**

29 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
 30 to those described under Alternative 1A, Impact ECON-13. In the Delta region, spending on CM2–
 31 CM21 would include construction, operation and maintenance activities that would convert or
 32 disturb existing land use. Because implementation of CM2–CM21 would be anticipated to result in
 33 an increase in construction and operation and maintenance-related employment and labor income,
 34 this would be considered a beneficial effect. However, implementation of these components would
 35 also be anticipated to result in a decrease in agricultural-related employment and labor income,
 36 which would be considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14,
 37 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by
 38 preserving agricultural productivity and compensating off-site. Additionally, implementation of
 39 these components are anticipated to result in the abandonment of natural gas wells, causing a
 40 decrease in employment and labor income associated with monitoring and maintaining wells, which
 41 would be considered an adverse effect. Mitigation Measure MIN-5, described in Chapter 26, *Mineral*
 42 *Resources*, Section 26.3.3.2, Impact MIN-5, would be available to reduce these effects by minimizing,
 43 to the extent feasible, the need for well abandonment or relocation.

1 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
 2 income in the Delta region. The change in total employment and income in the Delta region is based
 3 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
 4 changes in agricultural production, recreation, and natural gas production activities. The total
 5 change in employment and income is not, in itself, considered an environmental impact. Significant
 6 environmental impacts would only result if the changes in regional economics cause physical
 7 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 8 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 9 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
 10 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
 11 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

12 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 13 **Implementing CM2–CM21**

14 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
 15 described under Alternative 1A, Impact ECON-14. In general, the changes in population and housing
 16 would include increases in population from the construction and operation and maintenance-
 17 related activity and declines in residential housing and business establishments as a result of lands
 18 converted or impaired.

19 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 20 population or new housing, they would not be considered to have an adverse effect.

21 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
 22 housing in the Delta region. The change in total population and housing in the Delta region is based
 23 on employment resulting from implementation of the proposed CM2–CM21. The change in
 24 population and housing is expected to be minor relative to the five-county Delta region, and
 25 dispersed throughout the region. Therefore, significant changes to the physical environment are not
 26 anticipated to result.

27 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

28 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
 29 similar to those described under Alternative 1A, Impact ECON-15 because the measures are similar.
 30 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
 31 welfare of a community, adverse social effects, including effects on community cohesion, could also
 32 occur to those communities closest to character-changing effects and those most heavily influenced
 33 by agricultural activities. Implementation of mitigation measures and environmental commitments
 34 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
 35 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 36 summarized under Alternative 1A, Impact ECON-15.

37 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 6A could affect community
 38 character within the Delta region. However, because these impacts are social in nature, rather than
 39 physical, they are not considered impacts under CEQA. To the extent that changes to community
 40 character are related to physical impacts involving population growth, these impacts are described
 41 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
 42 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of

1 individual buildings, could result in alteration of community character stemming from a lack of
2 maintenance, upkeep, and general investment.

3 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing**
4 **CM2–CM21**

5 **NEPA Effects:** Under Alternative 6A, effects on local government fiscal conditions as a result of
6 conservation measure implementation would be similar to those described under Alternative 1A,
7 Impact ECON-16. CM2–CM21 would remove some private land from local property tax and
8 assessment rolls. This economic effect would be considered adverse; the BDCP proponents would
9 offset forgone property tax and assessments levied by local governments and special districts on
10 private lands converted to habitat.

11 **CEQA Conclusion:** Under Alternative 6A, implementation of CM2–CM21 would result in the removal
12 of a portion of the property tax base for various local government entities in the Delta region. Over
13 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
14 \$176.7 million. However, the BDCP proponents would compensate local governments and special
15 districts for forgone revenue. CEQA does not require a discussion of socioeconomic effects except
16 where they would result in physical changes. If an alternative is not anticipated to result in a
17 physical change to the environment, it would not be considered to have a significant impact under
18 CEQA (CEQA Guidelines Sections 15064(f) and 15131).

19 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

20 **NEPA Effects:** Effects related to implementation of the CM2–CM21 under this alternative would be
21 similar to those described under Alternative 1A, Impact ECON-17. These measures may result in
22 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
23 for decreased or increased economic activities related to recreation.

24 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
25 recreation and compromise the quality of activities, leading to potential economic impacts.
26 However, over time, implementation could also improve the quality of existing recreational
27 opportunities, creating increased economic value with respect to recreation. This section considers
28 only the economic effects of recreational changes brought about by conservation measure
29 implementation. Potential physical changes to the environment relating to recreational resources
30 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.11, Impacts REC-9 through
31 REC-11.

32 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of**
33 **Implementing CM2–CM21**

34 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
35 described under Alternative 1A, Impact ECON-18. CM2–CM21 would convert land from existing
36 agricultural uses. These direct effects on agricultural land are described qualitatively in Chapter 14,
37 *Agricultural Resources*, Section 14.3.3.11, Impacts AG-3 and AG-4. Effects on agricultural economics
38 would include effects on crop production and agricultural investments resulting from restoration
39 actions on agricultural lands. The effects would be similar in kind to those described for lands
40 converted due to construction and operation of the conveyance features and facilities. The total
41 acreage and crop mix of agricultural land potentially affected is not specified at this time, but when

1 required, the BDCP proponents would provide compensation to property owners for losses due to
2 implementation of the alternative.

3 **NEPA Effects:** Because implementation of CM2–CM21 would be anticipated to lead to reductions in
4 crop acreage and in the value of agricultural production in the Delta region, this is considered an
5 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
6 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
7 productivity and compensating off-site.

8 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
9 production in the Delta region. The permanent removal of agricultural land from production is
10 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.11, Impacts AG-3 and AG-4. The
11 reduction in the value of agricultural production is not considered an environmental impact.
12 Significant environmental impacts would only result if the changes in regional economics cause
13 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
14 required, the BDCP proponents would provide compensation to property owners for economic
15 losses due to implementation of the alternative. While the compensation to property owners would
16 reduce the severity of economic effects related to the loss of agricultural land, it would not
17 constitute mitigation for any related physical impact. Measures to reduce these impacts are
18 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

19 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

20 Decreased water deliveries may affect socioeconomics in hydrologic regions through similar
21 mechanisms as described for other alternatives; however, the effects would generally be reversed.
22 For example, it is reasonable to expect that reduced or less reliable water deliveries would result in
23 decreased agricultural production and, in turn, a reduction in both direct and indirect agricultural
24 employment. Economic and social patterns tied to predominant agricultural industrial activities and
25 land uses could erode, changing the character of agricultural communities in hydrologic regions.

26 **NEPA Effects:**

27 **Changes in CVP and SWP Deliveries Compared to No Action Alternative**

28 Compared to No Action Alternative (LLT 2060), Alternative 6A would decrease deliveries to all
29 hydrologic regions south of the Delta. The average annual decrease in CVP and SWP deliveries
30 would be 624 TAF, and the distribution of these decreased deliveries to each hydrologic region are
31 given in Table 30-21.

32 If operation of water conveyance facilities under Alternative 6A reduced M&I deliveries to the extent
33 that it would, in the long run, constrain population growth, its implementation could reinforce a
34 socioeconomic status quo or limit potential economic and employment growth in hydrologic
35 regions. A detailed discussion of these potential effects is found in Appendix 5B, *Responses to*
36 *Reduced South of Delta Water Supplies*. Such changes to agricultural production and population
37 growth with its associated economic activity could also lead to shifts in the character of
38 communities in the hydrologic regions with resultant beneficial or adverse effects. Likewise, limited
39 growth associated with reduced deliveries could require lower expenditures for local governments
40 while also leading to reduced revenue.

41 **CEQA Conclusion:** As described above, the operational components of BDCP CM1 could result in a
42 number of effects in areas receiving SWP and CVP water deliveries outside of the Delta.

1 **Changes in CVP and SWP Deliveries Compared to Existing Conditions**

2 Compared to Existing Conditions, Alternative 6A would decrease deliveries to all hydrologic regions
3 south of the Delta. The average annual decrease in CVP and SWP deliveries would be 1,274 TAF, and
4 the distribution of these increased deliveries to each hydrologic region are given in Table 30-20.

5 **Summary**

6 Operation of water conveyance facilities under Alternative 6A could affect socioeconomic conditions
7 in the hydrologic regions receiving water from the SWP and CVP. However, because these impacts
8 are social and economic in nature, rather than physical, they are not considered environmental
9 impacts under CEQA. To the extent that changes in socioeconomic conditions in the hydrologic
10 regions would lead to physical impacts, such impacts are described in Chapter 30, *Growth*
11 *Inducement and Other Indirect Effects*, Section 30.3.2.

12 **16.3.3.12 Alternative 6B—Isolated Conveyance with East Alignment and** 13 **Intakes 1–5 (15,000 cfs; Operational Scenario D)**

14 Facilities construction under Alternative 6B would be similar to those described for Alternative 1B.
15 However, Alternative 6B would be an isolated conveyance, no longer involving operation of the
16 existing SWP and CVP south Delta diversion facilities for Clifton Court Forebay and Jones Pumping
17 Plant. Operations would be different under Alternative 6B than under Alternative 1B.

18 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 19 **Region during Construction of the Proposed Water Conveyance Facilities**

20 Temporary effects on regional economics during construction of the proposed water conveyance
21 facilities would be similar to those described under Alternative 1B, Impact ECON-1. As shown in
22 Table 16-25, direct construction employment is anticipated to vary over the 8-year construction
23 period, with an estimated 2,599 FTE jobs in the first year and 245 FTE jobs in the final year of the
24 construction period. Construction employment is estimated to peak at 6,279 FTE jobs in year 4.
25 Total employment (direct, indirect, and induced) would also peak in year 4, at 12,985 FTE jobs.
26 Increases in labor income associated with this employment would also be expected. Declines in
27 agricultural production would be expected to lead to a decrease in employment of 90 FTE, with total
28 effects leading to a decline of 340 FTE. Similarly, labor income related to these positions would
29 decline, as shown in Table 16-26.

30 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
31 construction-related employment and labor income, this would be considered a beneficial effect.
32 However, these activities would also be anticipated to result in a decrease in agricultural-related
33 employment and labor income, which would be considered an adverse effect. Mitigation Measure
34 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
35 available to reduce these effects by preserving agricultural productivity and compensating off-site.

36 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
37 employment and income in the Delta region, temporarily. The increase in employment and income
38 that would result from expenditures on construction would be greater than the reduction in
39 employment and income attributable to losses in agricultural production. Changes in recreational
40 expenditures and natural gas well operations could also affect regional employment and income, but
41 these have not been quantified. The total change in employment and income is not, in itself,

1 considered an environmental impact. Significant environmental impacts would only result if the
 2 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 3 throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation Costs and*
 4 *Funding Sources*; removal of agricultural land from production is addressed in Chapter 14,
 5 *Agricultural Resources*, Section 14.3.3.12, Impacts AG-1 and AG-2; changes in recreation related
 6 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.12, REC-1 through REC-4;
 7 abandonment of natural gas wells is addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.12,
 8 Impact MIN-1. When required, DWR would provide compensation to property owners for economic
 9 losses due to implementation of the alternative. While the compensation to property owners would
 10 reduce the severity of economic effects related to the loss of agricultural land, it would not
 11 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 12 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 13 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 14 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 15 Zones.

16 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 17 **the Proposed Water Conveyance Facilities**

18 Effects on population and housing during construction of the proposed water conveyance facilities
 19 would be similar to those described under Alternative 1B, Impact ECON-2. It is anticipated that non-
 20 local workers would temporarily relocate to the Delta region, thus adding to the local population.
 21 However, this additional population would constitute a minor increase in the total 2020 projected
 22 regional population of 4.6 million and be distributed throughout the region. Within specific local
 23 communities, there could be localized effects on housing. However, given the availability of housing
 24 within the five-county region, predicting where this impact might fall would be speculative. In
 25 addition, new residents would likely be dispersed across the region, thereby not creating a
 26 substantial burden on any one community.

27 **NEPA Effects:** Because these activities would not result in permanent concentrated, substantial
 28 increases in population or new housing, they would not be considered to have an adverse effect.

29 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
 30 temporary population increases in the Delta region, which has an adequate housing supply to
 31 accommodate the change in population. Therefore, adverse physical changes resulting from the
 32 minor increase in population are not anticipated.

33 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 34 **Water Conveyance Facilities**

35 **NEPA Effects:** Under Alternative 6B, effects on community character would be similar to those
 36 described under Alternative 1B, Impact ECON-3. While water conveyance construction could result
 37 in beneficial effects relating to the economic welfare of a community, adverse social effects could
 38 also arise as a result of declining economic stability or changes in community cohesion in
 39 communities closest to construction effects and in those most heavily influenced by agricultural and
 40 recreational activities. Implementation of mitigation measures and environmental commitments
 41 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
 42 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 43 summarized under Alternative 1A, Impact ECON-3.

1 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 6B could affect
 2 community character in the Delta region. However, because these impacts are social in nature,
 3 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
 4 community character would lead to physical impacts involving population growth, such impacts are
 5 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
 6 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
 7 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
 8 character stemming from a lack of maintenance, upkeep, and general investment. However,
 9 implementation of mitigation measures and environmental commitments related to noise, visual
 10 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
 11 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
 12 erosion and sediment control plans, hazardous materials management plans, notification of
 13 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
 14 mosquito management plans.

15 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 16 **the Proposed Water Conveyance Facilities**

17 **NEPA Effects:** Effects on tax revenue as a result of water conveyance construction under Alternative
 18 6B would be identical to those described under Alternative 1B, Impact ECON-4. While this economic
 19 effect would be considered adverse, BDCP proponents would compensate local governments for the
 20 loss of property tax or assessment revenue associated with construction of water conveyance
 21 facilities. Additionally, local entities could benefit from an increase in sales tax revenue.

22 **CEQA Conclusion:** Construction of water conveyance facilities for Alternative 6B would result in the
 23 removal of a portion of the property tax base for various local government entities in the Delta
 24 region. However, entities receiving water from the State Water Project and federal Central Valley
 25 Project would mitigate for lost property tax and assessment revenue associated with land needed
 26 for the construction of new conveyance facilities (Water Code Section 85089). Additionally, any
 27 losses could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
 28 require a discussion of socioeconomic effects except where they would result in reasonably
 29 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
 30 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
 31 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
 32 speculative to ascertain.

33 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 34 **Water Conveyance Facilities**

35 **NEPA Effects:** Under Alternative 6B, disruption of recreational activities during the construction
 36 period would be similar to that described under Alternative 1B, Impact ECON-5. Access to
 37 recreational facilities may be restricted throughout the construction period. Additionally, the quality
 38 of recreational activities including boating, fishing, waterfowl hunting, and hiking in the Delta could
 39 be indirectly affected by noise, lighting, traffic, and visual degradation in proximity to water
 40 conveyance construction.

41 Construction of water conveyance structures under this alternative would be anticipated to result in
 42 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite
 43 the implementation of mitigation measures, including enhancement of fishing access sites and

1 incorporation of recreational access into project design, and environmental and other commitments,
2 including providing funding to implement recreational improvements and control aquatic weeds,
3 providing notification of maintenance activities in waterways, and developing and implementing a
4 noise abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*.
5 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
6 in areas closest to construction activities. The multi-year schedule and geographic scale of
7 construction activities and the anticipated decline in recreational spending would be considered an
8 adverse effect. The commitments and mitigation measure cited above would contribute to the
9 reduction of this effect.

10 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 6B
11 could impact recreational revenue in the Delta region if construction activities result in fewer visits
12 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
13 recreational activities. This section considers only the economic effects of recreational changes
14 brought about by construction of the proposed water conveyance facilities. Potential physical
15 changes to the environment relating to recreational resources are described and evaluated in
16 Chapter 15, *Recreation*, Section 15.3.3.12, Impacts REC-1 through REC-4.

17 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 18 **the Proposed Water Conveyance Facilities**

19 Effects on agricultural economics during construction of the proposed water conveyance facilities
20 would be similar to those described under Alternative 1B, Impact ECON-6. Total value of irrigated
21 crop production in the Delta would decline on average by \$32.8 million per year during the
22 construction period, with total irrigated crop acreage declining by about 19,460 acres. Alternative
23 6B may also affect production costs on lands even if gross revenues are largely unaffected. Costs
24 could be increased by operational constraints and longer travel times due to facilities construction.
25 Additionally, loss of investments in production facilities and standing orchards and vineyards would
26 occur as a result of facilities construction.

27 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
28 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
29 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
30 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
31 agricultural productivity and compensating off-site.

32 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
33 value of agricultural production in the Delta region. The removal of agricultural land from
34 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.12, Impacts AG-1 and
35 AG-2. The reduction in the value of agricultural production is not considered an environmental
36 impact. Significant environmental impacts would only result if the changes in regional economics
37 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
38 required, DWR would provide compensation to property owners for economic losses due to
39 implementation of the alternative. While the compensation to property owners would reduce the
40 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
41 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
42 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
43 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
44 and land subject to Williamson Act contracts or in Farmland Security Zones.

1 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region**
 2 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

3 Permanent effects on regional economics during operation and maintenance of the proposed water
 4 conveyance facilities would be similar to those described under Alternative 1B, Impact ECON-7.
 5 Increased expenditures related to operation and maintenance of water conveyance facilities would
 6 be expected to result in a permanent increase in regional employment and income, as presented in
 7 Table 16-28. The permanent removal of agricultural land following construction would have lasting
 8 negative effects on agricultural employment and income, as shown in Table 16-29.

9 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 10 result in an increase in operations-related employment and labor income, this would be considered
 11 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 12 agricultural-related employment and labor income, which would be considered an adverse effect.
 13 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 14 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 15 compensating off-site.

16 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 17 decrease total employment and income in the Delta region. The change would result from
 18 expenditures on operation and maintenance, increasing employment, and from changes in
 19 agricultural production, decreasing employment. The total change in income and employment is not,
 20 in itself, considered an environmental impact. Significant environmental impacts would only result if
 21 the changes in regional economics cause physical impacts. Such effects are discussed in other
 22 chapters throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation*
 23 *Costs and Funding Sources*; removal of agricultural land from production is addressed in Chapter 14,
 24 *Agricultural Resources*, Section 14.3.3.12, Impacts AG-3 and AG-4; changes in recreation related
 25 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.12, Impacts REC-5 through REC-8.
 26 When required, DWR would provide compensation to landowners as a result of acquiring lands for
 27 the proposed conveyance facilities. While the compensation to property owners would reduce the
 28 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 29 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 30 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 31 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 32 and land subject to Williamson Act contracts or in Farmland Security Zones.

33 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during**
 34 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

35 Permanent effects on population and housing during operation and maintenance of the proposed
 36 water conveyance facilities would be similar to those described under Alternative 1B, Impact ECON-
 37 8. It is anticipated that non-local workers would relocate to the five-county region, thus adding to
 38 the local population. However, this additional population would constitute a minor increase in the
 39 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It
 40 is anticipated that most of the operational workforce would be drawn from within the five-county
 41 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

42 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 43 population or new housing, they would not be considered to have an adverse effect.

1 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
2 result in minor population increases in the Delta region with adequate housing supply to
3 accommodate the change in population and therefore adverse changes in the physical environment
4 are not anticipated.

5 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 6 **Proposed Water Conveyance Facilities**

7 **NEPA Effects:** Under Alternative 6B, effects on community character would be similar in nature,
8 location, and magnitude to those described under Alternative 1B, Impact ECON-9. While water
9 conveyance operation and maintenance could result in beneficial effects relating to the economic
10 welfare of a community, lasting adverse social effects, including effects on community cohesion,
11 could also result in communities closest to physical features and in those most heavily influenced by
12 agricultural and recreational activities. Implementation of mitigation measures and environmental
13 commitments related to noise, visual effects, transportation, agriculture, and recreation would
14 reduce adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These
15 actions are summarized under Alternative 1A, Impact ECON-9.

16 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 6B
17 could affect community character in the Delta region. However, because these impacts are social in
18 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
19 changes to community character would lead to physical impacts involving population growth, such
20 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
21 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
22 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
23 community character stemming from a lack of maintenance, upkeep, and general investment.

24 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 25 **Maintenance of the Proposed Water Conveyance Facilities**

26 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operation and
27 maintenance under Alternative 6B would be similar to those described under Alternative 1B, Impact
28 ECON-10. While this economic effect would be considered adverse, BDCP proponents would
29 compensate local governments for the loss of property tax or assessment revenue associated with
30 construction of water conveyance facilities.

31 **CEQA Conclusion:** Continued operation and maintenance of water conveyance facilities for
32 Alternative 6B would result in the removal of a portion of the property tax base for various local
33 government entities in the Delta region. However, entities receiving water from the State Water
34 Project and federal Central Valley Project would mitigate for lost property tax and assessment
35 revenue associated with land needed for the siting of conveyance facilities (Water Code Section
36 85089). CEQA does not require a discussion of socioeconomic effects except where they would
37 result in reasonably foreseeable physical changes. If an alternative is not anticipated to result in a
38 physical change to the environment, it would not be considered to have a significant impact under
39 CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any physical consequences resulting
40 from fiscal impacts are too speculative to ascertain.

1 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the**
 2 **Proposed Water Conveyance Facilities**

3 Effects on recreation economics during operation and maintenance of the proposed water
 4 conveyance facilities under Alternative 6B would be similar to those described under Alternative 1A,
 5 Impact ECON-11.

6 **NEPA Effects:** Maintenance of conveyance facilities, including intakes, would result in periodic
 7 temporary but not substantial adverse effects on boat passage and water-based recreational
 8 activities. Because effects of facility maintenance would be short-term and intermittent, substantial
 9 economic effects are not anticipated to result from operation and maintenance of the facilities.

10 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 11 conveyance facilities under Alternative 6B are anticipated to create minor effects on recreational
 12 resources and therefore, are not expected to substantially reduce economic activity related to
 13 recreational activities. This section considers only the economic effects of recreational changes.
 14 Potential physical changes to the environment relating to recreational resources are described and
 15 evaluated in Chapter 15, *Recreation*, Section 15.3.3.12, Impacts REC-5 through REC-8.

16 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during**
 17 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

18 Permanent effects on agricultural economics during operation and maintenance of the proposed
 19 water conveyance facilities would be similar to those described under Alternative 1B, Impact ECON-
 20 12. Total value of irrigated crop production in the Delta would decline on average by \$29.2 million
 21 per year during operation and maintenance, with total irrigated crop acreage declining by about
 22 17,700 acres. Alternative 6B may also affect production costs on lands even if gross revenues are
 23 largely unaffected. Costs could be increased by operational constraints, changes in water quality,
 24 and longer travel times due to the permanent footprint of facilities. Additionally, loss of investments
 25 in production facilities and standing orchards and vineyards would occur as a result of facilities
 26 construction.

27 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 28 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 29 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 30 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 31 productivity and compensating off-site.

32 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities,
 33 the value of agricultural production in the Delta region would be reduced. The permanent removal
 34 of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 35 14.3.3.12, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 36 considered an environmental impact. Significant environmental impacts would only result if the
 37 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 38 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 39 economic losses due to implementation of the alternative. While the compensation to property
 40 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 41 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
 42 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 43 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for

1 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
2 Zones.

3 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 4 **Implementation of CM2–CM21**

5 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
6 to those described under Alternative 1A, Impact ECON-13 because the measures are similar. In the
7 Delta region, spending on CM2–CM21 would include construction, operation and maintenance
8 activities that would convert or disturb existing land use. Because implementation of CM2–CM21
9 would be anticipated to result in an increase in construction and operation and maintenance-related
10 employment and labor income, this would be considered a beneficial effect. However,
11 implementation of these components would also be anticipated to result in a decrease in
12 agricultural-related employment and labor income, which would be considered an adverse effect.
13 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
14 AG-1, would be available to reduce these effects by preserving agricultural productivity and
15 compensating off-site. Additionally, implementation of these components are anticipated to result in
16 the abandonment of natural gas wells, causing a decrease in employment and labor income
17 associated with monitoring and maintaining wells, which would be considered an adverse effect.
18 Mitigation Measure MIN-5, described in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-
19 5, would be available to reduce these effects by minimizing, to the extent feasible, the need for well
20 abandonment or relocation.

21 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
22 income in the Delta region. The change in total employment and income in the Delta region is based
23 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
24 changes in agricultural production, recreation, and natural gas production activities. The total
25 change in employment and income is not, in itself, considered an environmental impact. Significant
26 environmental impacts would only result if the changes in regional economics cause physical
27 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
28 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
29 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
30 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
31 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

32 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 33 **Implementing CM2–CM21**

34 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
35 described under Alternative 1A, Impact ECON-14 because the measures are similar. In general, the
36 changes in population and housing would include increases in population from the construction and
37 operation and maintenance-related activity and declines in residential housing and business
38 establishments as a result of lands converted or impaired.

39 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
40 population or new housing, they would not be considered to have an adverse effect.

41 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
42 housing in the Delta region. The change in total population and housing in the Delta region is based
43 on employment resulting from implementation of the proposed CM2–CM21. The change in

1 population and housing is expected to be minor relative to the five-county Delta region, and
 2 dispersed throughout the region. Therefore, significant changes to the physical environment are not
 3 anticipated to result.

4 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

5 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
 6 similar to those described under Alternative 1A, Impact ECON-15 because the measures are similar.
 7 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
 8 welfare of a community, adverse social effects, including effects on community cohesion, could also
 9 occur to those communities closest to character-changing effects and those most heavily influenced
 10 by agricultural activities. Implementation of mitigation measures and environmental commitments
 11 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
 12 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 13 summarized under Alternative 1A, Impact ECON-15.

14 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 6B could affect community
 15 character within the Delta region. However, because these impacts are social in nature, rather than
 16 physical, they are not considered impacts under CEQA. To the extent that changes to community
 17 character are related to physical impacts involving population growth, these impacts are described
 18 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
 19 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
 20 individual buildings, could result in alteration of community character stemming from a lack of
 21 maintenance, upkeep, and general investment.

22 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 23 **CM2–CM21**

24 **NEPA Effects:** Under Alternative 6B, effects on local government fiscal conditions as a result of
 25 conservation measure implementation would be similar to those described under Alternative 1A,
 26 Impact ECON-16. CM2–CM21 would remove some private land from local property tax and
 27 assessment rolls. This economic effect would be considered adverse; however, the BDCP proponents
 28 would offset forgone property tax and assessments levied by local governments and special districts
 29 on private lands converted to habitat.

30 **CEQA Conclusion:** Under Alternative 6B, implementation of CM2–CM21 would result in the removal
 31 of a portion of the property tax base for various local government entities in the Delta region. Over
 32 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
 33 \$176.7 million. However, the BDCP proponents would compensate local governments and special
 34 districts for forgone revenue. CEQA does not require a discussion of socioeconomic effects except
 35 where they would result in physical changes. If an alternative is not anticipated to result in a
 36 physical change to the environment, it would not be considered to have a significant impact under
 37 CEQA (CEQA Guidelines Sections 15064(f) and 15131).

38 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

39 **NEPA Effects:** Effects related to implementation of the CM2–CM21 under this alternative would be
 40 similar to those described under Alternative 1A, Impact ECON-17. These measures may result in
 41 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
 42 for decreased or increased economic activities related to recreation.

1 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
 2 recreation and compromise the quality of activities, leading to potential economic impacts.
 3 However, over time, implementation could also improve the quality of existing recreational
 4 opportunities, creating increased economic value with respect to recreation. This section considers
 5 only the economic effects of recreational changes brought about by conservation measure
 6 implementation. Potential physical changes to the environment relating to recreational resources
 7 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.12, Impacts REC-9 through
 8 REC-11.

9 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of**
 10 **Implementing CM2–CM21**

11 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
 12 described under Alternative 1A, Impact ECON-18 because the measures are similar. CM2–CM21
 13 would convert land from existing agricultural uses. These direct effects on agricultural land are
 14 described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.12, Impacts AG-3 and
 15 AG-4. Effects on agricultural economics would include effects on crop production and agricultural
 16 investments resulting from restoration actions on agricultural lands. The effects would be similar in
 17 kind to those described for lands converted due to construction and operation of the conveyance
 18 features and facilities. The total acreage and crop mix of agricultural land potentially affected is not
 19 specified at this time, but when required, the BDCP proponents would provide compensation to
 20 property owners for losses due to implementation of the alternative.

21 **NEPA Effects:** Because implementation of the CM2–CM21 would be anticipated to lead to reductions
 22 in crop acreage and in the value of agricultural production in the Delta region, this is considered an
 23 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 24 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 25 productivity and compensating off-site.

26 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
 27 production in the Delta region. The permanent removal of agricultural land from production is
 28 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.12, Impacts AG-3 and AG-4. The
 29 reduction in the value of agricultural production is not considered an environmental impact.
 30 Significant environmental impacts would only result if the changes in regional economics cause
 31 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 32 required, the BDCP proponents would provide compensation to property owners for economic
 33 losses due to implementation of the alternative. While the compensation to property owners would
 34 reduce the severity of economic effects related to the loss of agricultural land, it would not
 35 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 36 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

37 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

38 **NEPA Effects:** The socioeconomic effects associated with operation of Alternative 6B would be the
 39 same as those described under Alternative 6A, Impact ECON-19, because deliveries would be based
 40 on the same operational guidelines. Changes in deliveries to hydrologic regions could result in
 41 adverse or beneficial socioeconomic effects in these areas. Reduced or less reliable water deliveries
 42 would result in decreased agricultural production and, in turn, a reduction in both direct and
 43 indirect agricultural employment. Economic and social patterns tied to predominant agricultural

1 industrial activities and land uses could erode, changing the character of agricultural communities in
 2 hydrologic regions. If M&I deliveries were reduced to the extent that it would, in the long run,
 3 constrain population growth, implementation of Alternative 6B could reinforce a socioeconomic
 4 status quo or limit potential economic and employment growth in hydrologic regions. Changes to
 5 agricultural production and population growth with its associated economic activity could also lead
 6 to shifts in the character of communities in the hydrologic regions with resultant beneficial or
 7 adverse effects. Likewise, limited growth associated with reduced deliveries could require lower
 8 expenditures for local governments while also leading to reduced revenue.

9 **CEQA Conclusion:** Operation of water conveyance facilities under Alternative 6B could affect
 10 socioeconomic conditions in the hydrologic regions receiving water from the SWP and CVP.
 11 However, because these impacts are social and economic in nature, rather than physical, they are
 12 not considered environmental impacts under CEQA. To the extent that changes in socioeconomic
 13 conditions in the hydrologic regions would lead to physical impacts, such impacts are described in
 14 Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.

15 **16.3.3.13 Alternative 6C—Isolated Conveyance with West Alignment and** 16 **Intakes W1–W5 (15,000 cfs; Operational Scenario D)**

17 Facilities construction under Alternative 6C would be similar to those described for Alternative 1C.
 18 However, Alternative 6C would be an isolated conveyance, no longer involving operation of the
 19 existing SWP and CVP south Delta diversion facilities for Clifton Court Forebay and Jones Pumping
 20 Plant. Operations would be different under Alternative 6C than under Alternative 1C.

21 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 22 **Region during Construction of the Proposed Water Conveyance Facilities**

23 Temporary effects on regional economics during construction of the proposed water conveyance
 24 facilities would be similar to those described under Alternative 1C, Impact ECON-1. As shown in
 25 Table 16-31, direct construction employment is anticipated to vary over the 8-year construction
 26 period, with an estimated 2,747 FTE jobs in the first year and 236 FTE jobs in the final year of the
 27 construction period. Construction employment is estimated to peak at 5,300 FTE jobs in year 4.
 28 Total employment (direct, indirect, and induced) would peak in year 3 at 11,698 FTE jobs. Increases
 29 in labor income associated with this employment would also be expected. Declines in agricultural
 30 production would be expected to lead to a decrease in employment of 64 FTE, with total effects
 31 leading to a decline of 240 FTE. Similarly, labor income related to these positions would decline, as
 32 shown in Table 16-32.

33 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 34 construction-related employment and labor income, this would be considered a beneficial effect.
 35 However, these activities would also be anticipated to result in a decrease in agricultural-related
 36 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 37 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 38 available to reduce these effects by preserving agricultural productivity and compensating off-site.

39 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
 40 employment and income in the Delta region, temporarily. The increase in employment and income
 41 that would result from expenditures on construction would be greater than the reduction in
 42 employment and income attributable to losses in agricultural production. Changes in recreational

1 expenditures and natural gas well operations could also affect regional employment and income, but
 2 these have not been quantified. The total change in employment and income is not, in itself,
 3 considered an environmental impact. Significant environmental impacts would only result if the
 4 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 5 throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation Costs and*
 6 *Funding Sources*; removal of agricultural land from production is addressed in Chapter 14,
 7 *Agricultural Resources*, Section 14.3.3.13, Impacts AG-1 and AG-2; changes in recreation related
 8 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.13, REC-1 through REC-4;
 9 abandonment of natural gas wells is addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.13,
 10 Impact MIN-1. When required, DWR would provide compensation to property owners for economic
 11 losses due to implementation of the alternative. While the compensation to property owners would
 12 reduce the severity of economic effects related to the loss of agricultural land, it would not
 13 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 14 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 15 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 16 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 17 Zones.

18 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 19 **the Proposed Water Conveyance Facilities**

20 Effects on population and housing during construction of the proposed water conveyance facilities
 21 would be similar to those described under Alternative 1C, Impact ECON-2. It is anticipated that non-
 22 local workers would temporarily relocate to the Delta region, thus adding to the local population.
 23 However, this additional population would constitute a minor increase in the total 2020 projected
 24 regional population of 4.6 million and be distributed throughout the region. Within specific local
 25 communities, there could be localized effects on housing. However, given the availability of housing
 26 within the five-county region, predicting where this impact might fall would be speculative. In
 27 addition, new residents would likely be dispersed across the region, thereby not creating a
 28 substantial burden on any one community.

29 **NEPA Effects:** Because these activities would not result in permanent concentrated, substantial
 30 increases in population or new housing, they would not be considered to have an adverse effect.

31 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
 32 temporary population increases in the Delta region, which has an adequate housing supply to
 33 accommodate the change in population. Therefore, adverse physical changes resulting from the
 34 minor increase in population are not anticipated.

35 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 36 **Water Conveyance Facilities**

37 **NEPA Effects:** Under Alternative 6C, effects on community character would be similar to those
 38 described under Alternative 1C, Impact ECON-3. While water conveyance construction could result
 39 in beneficial effects relating to the economic welfare of a community, adverse social effects could
 40 also arise as a result of declining economic stability or changes in community cohesion in
 41 communities closest to construction effects and in those most heavily influenced by agricultural and
 42 recreational activities. Implementation of mitigation measures and environmental commitments
 43 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse

1 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
2 summarized under Alternative 1A, Impact ECON-3.

3 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 6C could affect
4 community character in the Delta region. However, because these impacts are social in nature,
5 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
6 community character would lead to physical impacts involving population growth, such impacts are
7 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
8 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
9 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
10 character stemming from a lack of maintenance, upkeep, and general investment. However,
11 implementation of mitigation measures and environmental commitments related to noise, visual
12 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
13 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
14 erosion and sediment control plans, hazardous materials management plans, notification of
15 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
16 mosquito management plans.

17 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 18 **the Proposed Water Conveyance Facilities**

19 **NEPA Effects:** Effects on tax revenue as a result of water conveyance construction under Alternative
20 6C would be identical to those described under Alternative 1C, Impact ECON-4. While this economic
21 effect would be considered adverse, BDCP proponents would compensate local governments for the
22 loss of property tax or assessment revenue associated with construction of water conveyance
23 facilities. Additionally, local entities could benefit from an increase in sales tax revenue.

24 **CEQA Conclusion:** Construction of water conveyance facilities for Alternative 6C would result in the
25 removal of a portion of the property tax base for various local government entities in the Delta
26 region. However, entities receiving water from the State Water Project and federal Central Valley
27 Project would mitigate for lost property tax and assessment revenue associated with land needed
28 for the construction of new conveyance facilities (Water Code Section 85089). Additionally, any
29 losses could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
30 require a discussion of socioeconomic effects except where they would result in reasonably
31 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
32 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
33 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
34 speculative to ascertain.

35 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 36 **Water Conveyance Facilities**

37 **NEPA Effects:** Under Alternative 6C, disruption of recreational activities during the construction
38 period would be identical to that described under Alternative 1C, Impact ECON-5. Access to
39 recreational facilities may be restricted throughout the construction period. Additionally, the quality
40 of recreational activities including boating, fishing, waterfowl hunting, and hiking in the Delta could
41 be indirectly affected by noise, lighting, traffic, and visual degradation in proximity to water
42 conveyance construction.

1 Construction of water conveyance structures under this alternative would be anticipated to result in
 2 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite
 3 the implementation of mitigation measures, including enhancement of fishing access sites and
 4 incorporation of recreational access into project design, and environmental and other commitments,
 5 including providing funding to implement recreational improvements and control aquatic weeds,
 6 providing notification of maintenance activities in waterways, and developing and implementing a
 7 noise abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*.
 8 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
 9 in areas closest to construction activities. The multi-year schedule and geographic scale of
 10 construction activities and the anticipated decline in recreational spending would be considered an
 11 adverse effect. The commitments and mitigation measure cited above would contribute to the
 12 reduction of this effect.

13 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 6C
 14 could impact recreational revenue in the Delta region if construction activities result in fewer visits
 15 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
 16 recreational activities. This section considers only the economic effects of recreational changes
 17 brought about by construction of the proposed water conveyance facilities. Potential physical
 18 changes to the environment relating to recreational resources are described and evaluated in
 19 Chapter 15, *Recreation*, Section 15.3.3.13, Impacts REC-1 through REC-4.

20 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 21 **the Proposed Water Conveyance Facilities**

22 Effects on agricultural economics during construction of the proposed water conveyance facilities
 23 would be similar to those described under Alternative 1C, Impact ECON-6. Total value of irrigated
 24 crop production in the Delta would decline on average by \$22.2 million per year during the
 25 construction period, with total irrigated crop acreage declining by about 14,300 acres. Alternative
 26 6C may also affect production costs on lands even if gross revenues are largely unaffected. Costs
 27 could be increased by operational constraints and longer travel times due to facilities construction.
 28 Additionally, loss of investments in production facilities and standing orchards and vineyards would
 29 occur as a result of facilities construction.

30 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 31 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 32 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 33 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 34 agricultural productivity and compensating off-site.

35 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 36 value of agricultural production in the Delta region. The removal of agricultural land from
 37 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.13, Impacts AG-1 and
 38 AG-2. The reduction in the value of agricultural production is not considered an environmental
 39 impact. Significant environmental impacts would only result if the changes in regional economics
 40 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 41 required, DWR would provide compensation to property owners for economic losses due to
 42 implementation of the alternative. While the compensation to property owners would reduce the
 43 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 44 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,

1 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 2 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 3 and land subject to Williamson Act contracts or in Farmland Security Zones.

4 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region**
 5 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

6 Permanent effects on regional economics during operation and maintenance of the proposed water
 7 conveyance facilities would be similar to those described under Alternative 1C, Impact ECON-7.
 8 Increased expenditures related to operation and maintenance of water conveyance facilities would
 9 be expected to result in a permanent increase in regional employment and income, as presented in
 10 Table 16-34. The permanent removal of agricultural land following construction would have lasting
 11 negative effects on agricultural employment and income, as shown in Table 16-35.

12 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 13 result in an increase in operations-related employment and labor income, this would be considered
 14 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 15 agricultural-related employment and labor income, which would be considered an adverse effect.
 16 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 17 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 18 compensating off-site.

19 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 20 increase total employment and income in the Delta region. The net change would result from
 21 expenditures on operation and maintenance and from changes in agricultural production. The total
 22 change in income and employment is not, in itself, considered an environmental impact. Significant
 23 environmental impacts would only result if the changes in regional economics cause physical
 24 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 25 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 26 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.13, Impacts AG-3
 27 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 28 15.3.3.13, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
 29 landowners as a result of acquiring lands for the proposed conveyance facilities. While the
 30 compensation to property owners would reduce the severity of economic effects related to the loss
 31 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 32 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 33 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
 34 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
 35 contracts or in Farmland Security Zones.

36 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during**
 37 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

38 Permanent effects on population and housing during of operation and maintenance of the proposed
 39 water conveyance facilities would be similar to those described under Alternative 1C, Impact ECON-
 40 8. It is anticipated that non-local workers would relocate to the five-county region, thus adding to
 41 the local population. However, this additional population would constitute a minor increase in the
 42 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It

1 is anticipated that most of the operational workforce would be drawn from within the five-county
2 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

3 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
4 population or new housing, they would not be considered to have an adverse effect.

5 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
6 result in minor population increases in the Delta region with adequate housing supply to
7 accommodate the change in population and therefore adverse changes in the physical environment
8 are not anticipated.

9 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 10 **Proposed Water Conveyance Facilities**

11 **NEPA Effects:** Under Alternative 6C, effects on community character would be similar in nature,
12 location, and magnitude to those described under Alternative 1C, Impact ECON-9. While water
13 conveyance operation and maintenance could result in beneficial effects relating to the economic
14 welfare of a community, lasting adverse social effects, including effects on community cohesion,
15 could also arise in communities closest to physical features and in those most heavily influenced by
16 agricultural and recreational activities. Implementation of mitigation measures and environmental
17 commitments related to noise, visual effects, transportation, agriculture, and recreation would
18 reduce the intensity of adverse effects on the character of Delta communities (see Appendix 3B,
19 *Environmental Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A,
20 Impact ECON-9.

21 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 6C
22 could affect community character in the Delta region. However, because these impacts are social in
23 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
24 changes to community character would lead to physical impacts involving population growth, such
25 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
26 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
27 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
28 community character stemming from a lack of maintenance, upkeep, and general investment.

29 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 30 **Maintenance of the Proposed Water Conveyance Facilities**

31 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operation and
32 maintenance under Alternative 6C would be similar to those described under Alternative 1C, Impact
33 ECON-10. While this economic effect would be considered adverse, BDCP proponents would
34 compensate local governments for the loss of property tax or assessment revenue associated with
35 construction of water conveyance facilities. Additionally, local entities may benefit from an increase
36 in sales tax revenue.

37 **CEQA Conclusion:** Continued operation and maintenance of water conveyance facilities for
38 Alternative 6C would result in the removal of a portion of the property tax base for various local
39 government entities in the Delta region. However, entities receiving water from the State Water
40 Project and federal Central Valley Project would mitigate for lost property tax and assessment
41 revenue associated with land needed for the siting of conveyance facilities (Water Code Section
42 85089). Additionally, any losses may be offset, at least in part, by an anticipated increase in sales tax

1 revenue. CEQA does not require a discussion of socioeconomic effects except where they would
 2 result in reasonably foreseeable physical changes. If an alternative is not anticipated to result in a
 3 physical change to the environment, it would not be considered to have a significant impact under
 4 CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any physical consequences resulting
 5 from fiscal impacts are too speculative to ascertain.

6 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 7 **Proposed Water Conveyance Facilities**

8 Effects on recreation economics during operation and maintenance of the proposed water
 9 conveyance facilities under Alternative 6C would be similar to those described under Alternative 1A,
 10 Impact ECON-11.

11 **NEPA Effects:** Maintenance of conveyance facilities, including intakes, would result in periodic
 12 temporary but not substantial adverse effects on boat passage and water-based recreational
 13 activities. Because effects of facility maintenance would be short-term and intermittent, substantial
 14 economic effects are not anticipated to result from operation and maintenance of the facilities.

15 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 16 conveyance facilities under Alternative 6C are anticipated to create minor effects on recreational
 17 resources and therefore, are not expected to substantially reduce economic activity related to
 18 recreational activities. This section considers only the economic effects of recreational changes.
 19 Potential physical changes to the environment relating to recreational resources are described and
 20 evaluated in Chapter 15, *Recreation*, Section 15.3.3.13, Impacts REC-5 through REC-8.

21 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 22 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

23 Permanent effects on agricultural economics during operation and maintenance of the proposed
 24 water conveyance facilities would be similar to those described under Alternative 1C, Impact ECON-
 25 12. Total value of irrigated crop production in the Delta would decline on average by \$17.7 million
 26 per year during operation and maintenance, with total irrigated crop acreage declining by about
 27 11,700 acres. Alternative 6C may also affect production costs on lands even if gross revenues are
 28 largely unaffected. Costs could be increased by operational constraints, changes in water quality,
 29 and longer travel times due to the permanent footprint of facilities. Additionally, loss of investments
 30 in production facilities and standing orchards and vineyards would occur as a result of facilities
 31 construction.

32 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 33 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 34 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 35 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 36 productivity and compensating off-site.

37 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities,
 38 the value of agricultural production in the Delta region would be reduced. The permanent removal
 39 of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 40 14.3.3.13, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 41 considered an environmental impact. Significant environmental impacts would only result if the
 42 changes in regional economics cause physical impacts. Such effects are discussed in other chapters

1 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 2 economic losses due to implementation of the alternative. While the compensation to property
 3 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 4 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
 5 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 6 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 7 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 8 Zones.

9 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 10 **Implementation of CM2–CM21**

11 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
 12 to those described under Alternative 1A, Impact ECON-13 because the measures are similar. In the
 13 Delta region, spending on CM2–CM21 would include construction, operation and maintenance
 14 activities that would convert or disturb existing land use. Because implementation of CM2–CM21
 15 would be anticipated to result in an increase in construction and operation and maintenance-related
 16 employment and labor income, this would be considered a beneficial effect. However,
 17 implementation of these components would also be anticipated to result in a decrease in
 18 agricultural-related employment and labor income, which would be considered an adverse effect.
 19 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 20 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 21 compensating off-site. Additionally, implementation of these components are anticipated to result in
 22 the abandonment of natural gas wells, causing a decrease in employment and labor income
 23 associated with monitoring and maintaining wells, which would be considered an adverse effect.
 24 Mitigation Measure MIN-5, described in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-
 25 5, would be available to reduce these effects by minimizing, to the extent feasible, the need for well
 26 abandonment or relocation.

27 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
 28 income in the Delta region. The change in total employment and income in the Delta region is based
 29 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
 30 changes in agricultural production, recreation, and natural gas production activities. The total
 31 change in employment and income is not, in itself, considered an environmental impact. Significant
 32 environmental impacts would only result if the changes in regional economics cause physical
 33 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 34 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 35 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
 36 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
 37 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

38 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 39 **Implementing CM2–CM21**

40 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
 41 described under Alternative 1A, Impact ECON-14 because the measures are similar. In general, the
 42 changes in population and housing would include increases in population from the construction and
 43 operation and maintenance-related activity and declines in residential housing and business
 44 establishments as a result of lands converted or impaired.

1 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
2 population or new housing, they would not be considered to have an adverse effect.

3 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
4 housing in the Delta region. The change in total population and housing in the Delta region is based
5 on employment resulting from implementation of the proposed CM2–CM21. The change in
6 population and housing is expected to be minor relative to the five-county Delta region, and
7 dispersed throughout the region. Therefore, significant changes to the physical environment are not
8 anticipated to result.

9 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

10 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
11 similar to those described under Alternative 1A, Impact ECON-15 because the measures are similar.
12 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
13 welfare of a community, adverse social effects, including effects on community cohesion, could also
14 arise in those communities closest to character-changing effects and those most heavily influenced
15 by agricultural activities. Implementation of mitigation measures and environmental commitments
16 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
17 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
18 summarized under Alternative 1A, Impact ECON-15.

19 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 6C could affect community
20 character within the Delta region. However, because these impacts are social in nature, rather than
21 physical, they are not considered impacts under CEQA. To the extent that changes to community
22 character are related to physical impacts involving population growth, these impacts are described
23 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
24 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
25 individual buildings, could result in alteration of community character stemming from a lack of
26 maintenance, upkeep, and general investment.

27 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 28 **CM2–CM21**

29 **NEPA Effects:** Under Alternative 6C, effects on local government fiscal conditions as a result of
30 conservation measure implementation would be similar to those described under Alternative 1A,
31 Impact ECON-16. CM2–CM21 would remove some private land from local property tax and
32 assessment rolls. This economic effect would be considered adverse; however, the BDCP proponents
33 would offset forgone property tax and assessments levied by local governments and special districts
34 on private lands converted to habitat.

35 **CEQA Conclusion:** Under Alternative 6C, implementation of CM2–CM21 would result in the removal
36 of a portion of the property tax base for various local government entities in the Delta region. Over
37 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
38 \$176.7 million. However, the BDCP proponents would compensate local governments and special
39 districts for forgone revenue. CEQA does not require a discussion of socioeconomic effects except
40 where they would result in physical changes. If an alternative is not anticipated to result in a
41 physical change to the environment, it would not be considered to have a significant impact under
42 CEQA (CEQA Guidelines Sections 15064(f) and 15131).

1 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

2 **NEPA Effects:** Effects related to implementation of CM2–CM21 under this alternative would be
3 similar to those described under Alternative 1A, Impact ECON-17. These measures may result in
4 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
5 for decreased or increased economic activities related to recreation.

6 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
7 recreation and compromise the quality of activities, leading to potential economic impacts.
8 However, over time, implementation could also improve the quality of existing recreational
9 opportunities, creating increased economic value with respect to recreation. This section considers
10 only the economic effects of recreational changes brought about by conservation measure
11 implementation. Potential physical changes to the environment relating to recreational resources
12 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.13, Impacts REC-9 through
13 REC-11.

14 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of** 15 **Implementing CM2–CM21**

16 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
17 described under Alternative 1A, Impact ECON-18 because the measures are similar. CM2–CM21
18 would convert land from existing agricultural uses. These direct effects on agricultural land are
19 described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.13, Impacts AG-3 and
20 AG-4. Effects on agricultural economics would include effects on crop production and agricultural
21 investments resulting from restoration actions on agricultural lands. The effects would be similar in
22 kind to those described for lands converted due to construction and operation of the conveyance
23 features and facilities. The total acreage and crop mix of agricultural land potentially affected is not
24 specified at this time, but when required, the BDCP proponents would provide compensation to
25 property owners for losses due to implementation of the alternative.

26 **NEPA Effects:** Because implementation of CM2–CM21 would be anticipated to lead to reductions in
27 crop acreage and in the value of agricultural production in the Delta region, this is considered an
28 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
29 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
30 productivity and compensating off-site.

31 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
32 production in the Delta region. The permanent removal of agricultural land from production is
33 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.13, Impacts AG-3 and AG-4. The
34 reduction in the value of agricultural production is not considered an environmental impact.
35 Significant environmental impacts would only result if the changes in regional economics cause
36 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
37 required, the BDCP proponents would provide compensation to property owners for economic
38 losses due to implementation of the alternative. While the compensation to property owners would
39 reduce the severity of economic effects related to the loss of agricultural land, it would not
40 constitute mitigation for any related physical impact. Measures to reduce these impacts are
41 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

1 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

2 **NEPA Effects:** The socioeconomic effects associated with operation of Alternative 6C would be the
 3 same as those described under Alternative 6A, Impact ECON-19, because deliveries would be based
 4 on the same operational guidelines. Changes in deliveries to hydrologic regions could result in
 5 adverse or beneficial socioeconomic effects in these areas. Reduced or less reliable water deliveries
 6 would result in decreased agricultural production and, in turn, a reduction in both direct and
 7 indirect agricultural employment. Economic and social patterns tied to predominant agricultural
 8 industrial activities and land uses could erode, changing the character of agricultural communities in
 9 hydrologic regions. If M&I deliveries were reduced to the extent that it would, in the long run,
 10 constrain population growth, implementation of Alternative 6C could reinforce a socioeconomic
 11 status quo or limit potential economic and employment growth in hydrologic regions. Changes to
 12 agricultural production and population growth with its associated economic activity could also lead
 13 to shifts in the character of communities in the hydrologic regions with resultant beneficial or
 14 adverse effects. Likewise, limited growth associated with reduced deliveries could require lower
 15 expenditures for local governments while also leading to reduced revenue.

16 **CEQA Conclusion:** Operation of water conveyance facilities under Alternative 6C could affect
 17 socioeconomic conditions in the hydrologic regions receiving water from the SWP and CVP.
 18 However, because these impacts are social and economic in nature, rather than physical, they are
 19 not considered environmental impacts under CEQA. To the extent that changes in socioeconomic
 20 conditions in the hydrologic regions would lead to physical impacts, such impacts are described in
 21 Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.

22 **16.3.3.14 Alternative 7—Dual Conveyance with Pipeline/Tunnel, Intakes 2,** 23 **3, and 5, and Enhanced Aquatic Conservation (9,000 cfs;** 24 **Operational Scenario E)**

25 Facilities constructed under Alternative 7 would be similar to those described for Alternative 1A but
 26 with only three intakes as opposed to five. Operations would be different under Alternative 7 than
 27 under Alternative 1A.

28 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 29 **Region during Construction of the Proposed Water Conveyance Facilities**

30 The regional economic effects on employment and income in the Delta region during construction
 31 were evaluated. Changes are shown relative to the Existing Conditions and the No Action Alternative
 32 (regional economic conditions do not differ between Existing Conditions and No Action Alternative).
 33 The effects on employment and income are displayed in Table 16-51. The table shows the direct and
 34 total changes that would result from conveyance-related spending. As evident in Table 16-51,
 35 spending on conveyance construction would result in substantial economic activity in the region. As
 36 shown, direct construction employment is anticipated to vary over the 8-year construction period,
 37 with an estimated 2,018 FTE jobs in the first year and 129 FTE jobs in the final year of the
 38 construction period. Construction employment is estimated to peak at 3,360 FTE jobs in year 4.
 39 Total employment (direct, indirect, and induced) would peak in year 1, at 11,018 FTE jobs.

1 **Table 16-51. Regional Economic Effects on Employment and Labor Income during Construction**
 2 **(Alternative 7)**

Regional Economic Impact ^a	Year							
	1	2	3	4	5	6	7	8
Employment (FTE)								
Direct	2,018	2,256	3,141	3,360	2,937	2,763	547	129
Total ^b	11,018	9,174	10,635	9,729	7,264	5,811	923	183
Labor Income (million \$)								
Direct	298.7	220.6	229.9	186.1	125.9	74.0	6.4	0.3
Total ^b	537.9	409.8	440.1	369.9	251.1	170.6	19.9	2.6

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

3
 4 The footprint of conveyance and related facilities such as roads and utilities would remove some
 5 existing agricultural land from production, so the effects on employment and income would be
 6 negative. The regional economic effects on employment and income in the Delta region from the
 7 change in agricultural production are reported in Table 16-52. As shown, direct agricultural
 8 employment would be reduced by an estimated 25 FTE jobs, while total employment (direct,
 9 indirect, and induced) associated with agricultural employment would fall by 94 FTE jobs. Based on
 10 the crop production values changes described in Impact ECON-6 for construction effects, the direct
 11 agricultural job losses would more likely be concentrated in the vegetable, truck, orchard, and
 12 vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage crop
 13 sectors, where more jobs are mechanized. Note that direct agricultural job losses could be higher
 14 than the 25 FTE jobs shown in Table 16-52 because many agricultural jobs are seasonal rather than
 15 year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every FTE job
 16 lost as a result of construction of conveyance facilities construction. Mapbook Figures M14-1 and
 17 M14-2 display areas of Important Farmland and lands under Williamson Act contracts that could be
 18 converted to other uses due to the construction of water conveyance facilities for the
 19 Pipeline/Tunnel alignment. Note that not all of these structures would be constructed under this
 20 alternative.

21 **Table 16-52. Regional Economic Effects on Agricultural Employment and Labor Income during**
 22 **Construction (Alternative 7)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-25
Total ^b	-94
Labor Income (million \$)	
Direct	-3.1
Total ^b	-6.1

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects.

1 Additionally, the Alternative 7 construction footprint would result in the abandonment of an
 2 estimated six producing natural gas wells in the study area, as described in Chapter 26, *Mineral*
 3 *Resources*, Section 26.3.3.14, Impact MIN-1. This could result in the loss of employment and labor
 4 income associated with monitoring and maintaining these wells. Generally, small crews perform
 5 ongoing monitoring and maintenance of several wells at a time. As shown in Chapter 26, *Mineral*
 6 *Resources*, Table 26-2, 516 active producer wells are located in the study area. Even if all six
 7 producing wells in the Alternative 7 construction footprint were abandoned and not replaced with
 8 new wells installed outside the construction footprint, the percentage reduction in the number of
 9 natural gas wells would be very small. As a result, the employment and labor income effects
 10 associated with well abandonment, while negative, would be minimal.

11 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 12 construction-related employment and labor income, this would be considered a beneficial effect.
 13 However, these activities would also be anticipated to result in a decrease in agricultural-related
 14 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 15 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 16 available to reduce these effects by preserving agricultural productivity and compensating off-site.

17 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would temporarily
 18 increase total employment and income in the Delta region. The change would result from
 19 expenditures on construction, increasing employment, and from changes in agricultural production,
 20 decreasing employment. Changes in recreational expenditures and natural gas well operations could
 21 also affect regional employment and income, but these have not been quantified. The total change in
 22 employment and income is not, in itself, considered an environmental impact. Significant
 23 environmental impacts would only result if the changes in regional economics cause physical
 24 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 25 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 26 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.14, Impacts AG-1
 27 and AG-2; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 28 15.3.3.14, REC-1 through REC-4; abandonment of natural gas wells is addressed in Chapter 26,
 29 *Mineral Resources*, Section 26.3.3.14, Impact MIN-1. When required, DWR would provide
 30 compensation to property owners for economic losses due to implementation of the alternative.
 31 While the compensation to property owners would reduce the severity of economic effects related
 32 to the loss of agricultural land, it would not constitute mitigation for any related physical impact.
 33 Measures to reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section
 34 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve
 35 agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson
 36 Act contracts or in Farmland Security Zones.

37 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 38 **the Proposed Water Conveyance Facilities**

39 **Population**

40 Construction of conveyance facilities would require an estimated peak of 3,360 workers in year 4 of
 41 the assumed 8-year construction period. It is anticipated that many of these new jobs would be filled
 42 from within the existing five-county labor force. However, construction of the tunnels may require
 43 specialized worker skills not readily available in the local labor pool. As a result, it is anticipated that
 44 some specialized workers may be recruited from outside the five-county region.

1 Considering the multi-year duration of conveyance facility construction, it is anticipated that non-
 2 local workers would temporarily relocate to the five-county region, thus adding to the local
 3 population. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section
 4 30.3.2.1, Direct Growth Inducement, an estimated 30 percent of workers could come from out of the
 5 Delta region, suggesting that approximately 1,010 workers could relocate to the Delta region at the
 6 peak of the construction period. However, this additional population would constitute a minor
 7 increase in the total 2020 projected regional population of 4.6 million and be distributed throughout
 8 the region. Changes in demand for public services resulting from any increase in population are
 9 addressed in Chapter 20, *Public Services and Utilities*, Section 20.3.3.14, Impact UT-1 through UT-6.

10 **Housing**

11 Changes in housing demand are based on changes in supply resulting from displacement during
 12 facilities construction and changes in housing demand resulting from employment associated with
 13 construction of conveyance facilities. As described in Chapter 13, *Land Use*, Section 13.3.3.14, Impact
 14 LU-2, construction of water conveyance facilities under Alternative 7 would conflict with
 15 approximately 38 residential structures.

16 The construction workforce would most likely commute daily to the work sites from within the five-
 17 county region; however, if needed, there are about 53,000 housing units available to accommodate
 18 workers who may choose to commute to on a workweek basis or who may choose to temporarily
 19 relocate to the region for the duration of the construction period, including the estimated 1,010
 20 workers who may temporarily relocate to the Delta region from out of the region. In addition to the
 21 available housing units, there are recreational vehicle parks and hotels and motels within the five-
 22 county region to accommodate any construction workers. As a result, and as discussed in more
 23 detail in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, Direct Growth
 24 Inducement, construction of the proposed conveyance facilities is not expected to substantially
 25 increase the demand for housing within the five-county region.

26 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
 27 However, given the availability of housing within the five-county region, predicting where this
 28 impact might fall would be speculative. In addition, new residents would likely be dispersed across
 29 the region, thereby not creating a burden on any one community.

30 Because these activities would not result in permanent concentrated, substantial increases in
 31 population or new housing, they would not be considered to have an adverse effect.

32 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
 33 population increases in the Delta region with adequate housing supply to accommodate the change
 34 in population. Therefore, the minor increase in housing is not anticipated to lead to adverse physical
 35 changes to the environment.

36 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 37 **Water Conveyance Facilities**

38 **NEPA Effects:** Under Alternative 7, effects on community character would be similar in nature to
 39 those described under Alternative 1A, Impact ECON-3. However, the intensity of these effects would
 40 be reduced due to the construction of three intake facilities. As such, regional population and
 41 employment would increase to levels described above under Impact ECON-1 and ECON-2. While
 42 water conveyance construction could result in beneficial effects relating to the economic welfare of a

1 community, adverse social effects could also arise as a result of declining economic stability or
 2 changes in community cohesion in communities closest to construction effects and in those most
 3 heavily influenced by agricultural and recreational activities. Implementation of mitigation
 4 measures and environmental commitments related to noise, visual effects, transportation,
 5 agriculture, and recreation would reduce adverse effects (see Appendix 3B, *Environmental*
 6 *Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A, Impact ECON-
 7 3.

8 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 7 could affect
 9 community character in the Delta region. However, because these impacts are social in nature,
 10 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
 11 community character would lead to physical impacts involving population growth, such impacts are
 12 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
 13 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
 14 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
 15 character stemming from a lack of maintenance, upkeep, and general investment. However,
 16 implementation of mitigation measures and environmental commitments related to noise, visual
 17 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
 18 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
 19 erosion and sediment control plans, hazardous materials management plans, notification of
 20 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
 21 mosquito management plans.

22 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 23 **the Proposed Water Conveyance Facilities**

24 **NEPA Effects:** Under Alternative 7, publicly owned water conveyance facilities would be constructed
 25 on land of which some is currently held by private owners. Property tax and assessment revenue
 26 forgone as a result of water conveyance facilities is estimated at \$7.9 million over the construction
 27 period. These decreases in revenue could potentially result in the loss of a substantial share of some
 28 agencies' tax bases, particularly for smaller districts affected by the BDCP, such as reclamation
 29 districts where conveyance facilities and associated work areas are proposed. This economic effect
 30 would be considered adverse; however, the BDCP proponents would make arrangements to
 31 compensate local governments for the loss of property tax or assessment revenue for land used for
 32 constructing, locating, operating, or mitigating for new Delta water conveyance facilities.
 33 Additionally, as discussed under Impact ECON-1, construction of the water conveyance facilities
 34 would be anticipated to result in a net temporary increase of income and employment in the Delta
 35 region. This would also create an indirect beneficial effect through increased sales tax revenue for
 36 local government entities that rely on sales taxes.

37 **CEQA Conclusion:** Under Alternative 7, construction of water conveyance facilities would result in
 38 the removal of a portion of the property tax base for various local government entities in the Delta
 39 region. Over the construction period, property tax and assessment revenue forgone is estimated at
 40 \$7.9 million. However, the Sacramento-San Joaquin Delta Reform Act commits the entities receiving
 41 water from the State Water Project and federal Central Valley Project to mitigate for lost property
 42 tax and assessment revenue associated with land needed for the construction of new conveyance
 43 facilities (Water Code Section 85089). Additionally, any losses could be offset, at least in part, by an
 44 anticipated increase in sales tax revenue. CEQA does not require a discussion of socioeconomic
 45 effects except where they would result in reasonably foreseeable physical changes. If an alternative

1 is not anticipated to result in a physical change to the environment, it would not be considered to
 2 have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any
 3 physical consequences resulting from fiscal impacts are too speculative to ascertain.

4 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 5 **Water Conveyance Facilities**

6 **NEPA Effects:** Under Alternative 7, disruption of recreational activities during the construction
 7 period would be similar in character to that described under Alternative 1A, Impact ECON-5.
 8 However, fewer intake facilities would be constructed under this alternative, resulting in less severe
 9 effects relative to Alternative 1A. While access to recreational facilities would be maintained
 10 throughout construction, the quality of recreational activities including boating, fishing, waterfowl
 11 hunting, and hiking in the Delta could be indirectly affected by noise, lighting, traffic, and visual
 12 degradation in proximity to water conveyance construction.

13 Construction of water conveyance structures under this alternative would be anticipated to result in
 14 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite
 15 the implementation of mitigation measures, including enhancement of fishing access sites and
 16 incorporation of recreational access into project design, and environmental and other commitments,
 17 including providing funding to implement recreational improvements and control aquatic weeds,
 18 providing notification of maintenance activities in waterways, and developing and implementing a
 19 noise abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*.
 20 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
 21 in areas closest to construction activities. The multi-year schedule and geographic scale of
 22 construction activities and the anticipated decline in recreational spending would be considered an
 23 adverse effect. The commitments and mitigation measure cited above would contribute to the
 24 reduction of this effect.

25 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 7
 26 could impact recreational revenue in the Delta region if construction activities result in fewer visits
 27 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
 28 recreational activities. This section considers only the economic effects of recreational changes
 29 brought about by construction of the proposed water conveyance facilities. Potential physical
 30 changes to the environment relating to recreational resources are described and evaluated in
 31 Chapter 15, *Recreation*, Section 15.3.3.14, Impacts REC-1 through REC-4.

32 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 33 **the Proposed Water Conveyance Facilities**

34 Construction of conveyance facilities would convert land from existing agricultural uses to uses that
 35 include direct facility footprints, construction staging areas, borrow/spoils areas, RTM storage,
 36 temporary and permanent roads, and utilities. Agricultural land could also be affected by changes in
 37 water quality and other conditions that would affect crop productivity. These direct effects on
 38 agricultural land are described in Chapter 14, *Agricultural Resources*, Section 14.3.3.14, Impacts AG-
 39 1 and AG-2.

40 Changes in crop acreage were used to describe the associated changes in economic values. Unit
 41 prices, yields, and crop production and investment costs were presented in Section 16.1,
 42 *Environmental Setting/Affected Environment*. Table 16-53 summarizes the changes in acreage and
 43 value of agricultural production that would result in the Delta region as a result of Alternative 7

1 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative
 2 by aggregate crop category (agricultural resources under Existing Conditions and in the No Action
 3 Alternative were assumed to be the same). The table also includes a summary of changes in crop
 4 acreages that are reported in greater detail in Appendix 14A, *Individual Crop Effects as a Result of*
 5 *BDCP Water Conveyance Facility Construction*.

6 Total value of irrigated crop production in the Delta would decline on average by \$8.7 million per
 7 year during the construction period, with total irrigated crop acreage declining by about 5,300 acres,
 8 These estimates are not dependent on water year type.

9 **Table 16-53. Crop Acres and Value of Agricultural Production in the Delta during Construction**
 10 **(Alternative 7)**

Analysis Metric	Alternative 7	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	478.3	-5.3
Grains	58.1	-0.6
Field crops	189.5	-1.6
Forage crops	111.5	-1.2
Vegetable, truck, and specialty crops	76.6	-0.5
Orchards and vineyards	42.7	-1.4
Total Value of Production (million \$)	641.4	-8.7
Grains	24.0	-0.2
Field crops	112.8	-1.0
Forage crops	72.1	-1.0
Vegetable, truck, and specialty crops	266.5	-1.8
Orchards and vineyards	165.9	-4.7

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

11
 12 Alternative 7 may also affect production costs on lands even if gross revenues are largely unaffected.
 13 Costs could be increased by operational constraints and longer travel times due to facilities
 14 construction. Construction designs and costs have provided for such costs in two ways. In most
 15 cases, affected lands fall within the facilities footprint, and are included in the agricultural acreage
 16 and value of production described elsewhere in this chapter and in Chapter 14, *Agricultural*
 17 *Resources*, Section 14.3.3.14, Impacts AG-1 and AG-2. For potentially affected lands not included in
 18 the facilities footprint, conveyance construction costs include temporary and permanent roads,
 19 bridges, and other facilities as needed to service agricultural lands (California Department of Water
 20 Resources 2010a, 2010b). There could be some additional travel time and other costs associated
 21 with using these facilities, but such costs are not environmental impacts requiring mitigation.

22 Loss of investments in production facilities and standing orchards and vineyards would occur as a
 23 result of facilities construction. The value of structures and equipment potentially affected would
 24 vary widely across parcels. Much of the equipment is portable (e.g., machinery, tools, portable
 25 sprinkler pipe), and could be sold or used on other lands. Shop and storage buildings and permanent
 26 irrigation and drainage equipment plus orchards and vineyards may have little or no salvage value.
 27 The negotiated purchase of lands for the conveyance and associated facilities would compensate for

1 some, but perhaps not all of that value. According to Cooperative Extension cost of production
 2 studies (University of California Cooperative Extension 2003a, 2003b, 2004, 2005, 2006a, 2006b,
 3 2007a, 2007b, 2008a, 2008b, 2008c, 2008d), permanent structures, irrigation systems, and drainage
 4 systems can represent a wide range of investment, from less than \$100 per acre for field and
 5 vegetable crops up to over \$3,000 per acre for some orchards. Most such investments would not be
 6 new, so their depreciated values would be substantially lower.

7 Investment in standing orchards and vineyards would also be considered during negotiations for
 8 land purchases. Typical investments required to bring permanent crops into production are shown
 9 in Section 16.1, *Environmental Setting/Affected Environment*. For example, the establishment of wine
 10 grapes requires an investment of over \$15,000 per acre and Bartlett pears require over \$20,000 per
 11 acre. Forage crops such as irrigated pasture and alfalfa may require an establishment cost of about
 12 \$400 per acre. The depreciated values of the growing stock could be substantially below these
 13 establishment costs, depending on the ages of the stands that would be affected.

14 Only minor changes in salinity of agricultural water supply are expected during construction.
 15 Consequently, costs related to salinity changes would also be minor. Further discussion of effects
 16 from changes in salinity is presented in Chapter 14, *Agricultural Resources*, Section 14.3.3.14,
 17 Impacts AG-1 and AG-2.

18 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 19 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 20 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 21 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 22 agricultural productivity and compensating off-site.

23 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 24 value of agricultural production in the Delta region. The removal of agricultural land from
 25 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.14, Impacts AG-1 and
 26 AG-2. The reduction in the value of agricultural production is not considered an environmental
 27 impact. Significant environmental impacts would only result if the changes in regional economics
 28 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 29 required, DWR would provide compensation to property owners for economic losses due to
 30 implementation of the alternative. While the compensation to property owners would reduce the
 31 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 32 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 33 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 34 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 35 and land subject to Williamson Act contracts or in Farmland Security Zones.

36 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 37 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

38 Permanent effects on regional economics during operation and maintenance of the proposed water
 39 conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-7.
 40 Increased expenditures related to operation and maintenance of water conveyance facilities would
 41 be expected to result in a permanent increase in regional employment and income, as presented in
 42 Table 16-22. The permanent removal of agricultural land following construction would have lasting
 43 negative effects on agricultural employment and income, as shown in Table 16-23.

1 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 2 result in an increase in operations-related employment and labor income, this would be considered
 3 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 4 agricultural-related employment and labor income, which would be considered an adverse effect.
 5 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 6 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 7 compensating off-site.

8 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 9 increase total employment and income in the Delta region. The net change would result from
 10 expenditures on operation and maintenance and from changes in agricultural production. The total
 11 change in income and employment is not, in itself, considered an environmental impact. Significant
 12 environmental impacts would only result if the changes in regional economics cause physical
 13 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 14 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 15 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.14, Impacts AG-3
 16 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 17 15.3.3.14, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
 18 landowners as a result of acquiring lands for the proposed conveyance facilities. While the
 19 compensation to property owners would reduce the severity of economic effects related to the loss
 20 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 21 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 22 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
 23 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
 24 contracts or in Farmland Security Zones.

25 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 26 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

27 Permanent effects on population and housing during operation and maintenance of the proposed
 28 water conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-
 29 8. It is anticipated that non-local workers would relocate to the five-county region, thus adding to
 30 the local population. However, this additional population would constitute a minor increase in the
 31 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It
 32 is anticipated that most of the operational workforce would be drawn from within the five-county
 33 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

34 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 35 population or new housing, they would not be considered to have an adverse effect.

36 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 37 result in minor population increases in the Delta region with adequate housing supply to
 38 accommodate the change in population and therefore adverse changes in the physical environment
 39 are not anticipated.

40 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 41 **Proposed Water Conveyance Facilities**

42 **NEPA Effects:** Under Alternative 7, effects on community character would be similar in nature,
 43 location, and magnitude to those described under Alternative 1A, Impact ECON-9. However, the

1 intensity of these effects would be reduced based on the operation and maintenance of three intake
 2 facilities. While water conveyance operation and maintenance could result in beneficial effects
 3 relating to the economic welfare of a community, lasting adverse social effects, including effects on
 4 community cohesion, could also arise in communities closest to physical features and in those most
 5 heavily influenced by agricultural and recreational activities. Implementation of mitigation
 6 measures and environmental commitments related to noise, visual effects, transportation,
 7 agriculture, and recreation would reduce adverse effects (see Appendix 3B, *Environmental*
 8 *Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A, Impact ECON-
 9 9.

10 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 7
 11 could affect community character in the Delta region. However, because these impacts are social in
 12 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 13 changes to community character would lead to physical impacts involving population growth, such
 14 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
 15 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
 16 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
 17 community character stemming from a lack of maintenance, upkeep, and general investment.

18 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 19 **Maintenance of the Proposed Water Conveyance Facilities**

20 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operations under
 21 Alternative 4 would be similar to those described under Alternative 1A, Impact ECON-10. However,
 22 with the construction of fewer intake facilities, forgone revenue is estimated at \$47.3 million over
 23 the 50-year permit period. These decreases in revenue could potentially result in the loss of a
 24 substantial share of some agencies' tax bases, particularly for smaller districts affected by the BDCP.
 25 This economic effect would be adverse; however, the BDCP proponents would make arrangements
 26 to compensate local governments for the loss of property tax or assessment revenue for land used
 27 for constructing, locating, operating, or mitigating for new Delta water conveyance facilities.
 28 Additionally, as discussed under Impact ECON-7, continued operation and maintenance of the water
 29 conveyance facilities would be anticipated to result in a net increase of income and employment in
 30 the Delta region. This could also create an indirect beneficial effect through increased sales tax
 31 revenue for local government entities that rely on sales taxes.

32 **CEQA Conclusion:** Under Alternative 7, the ongoing operation and maintenance of water
 33 conveyance facilities would restrict property tax revenue levels for various local government
 34 entities in the Delta region. Over the 50-year permit period, property tax and assessment revenue
 35 forgone is estimated at \$47.3 million. However, the Sacramento-San Joaquin Delta Reform Act
 36 commits the entities receiving water from the State Water Project and federal Central Valley Project
 37 to mitigate for lost property tax and assessment revenue associated with land needed for the
 38 construction of new conveyance facilities (Water Code Section 85089). Additionally, any losses
 39 could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
 40 require a discussion of socioeconomic effects except where they would result in reasonably
 41 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
 42 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
 43 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
 44 speculative to ascertain.

1 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the**
2 **Proposed Water Conveyance Facilities**

3 Effects on recreation economics during operation and maintenance of the proposed water
4 conveyance facilities under Alternative 7 would be similar to those described under Alternative 1A,
5 Impact ECON-11.

6 **NEPA Effects:** Maintenance of conveyance facilities, including intakes, would result in periodic
7 temporary but not substantial adverse effects on boat passage and water-based recreational
8 activities. Because effects of facility maintenance would be short-term and intermittent, substantial
9 economic effects are not anticipated to result from operation and maintenance of the facilities.

10 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
11 conveyance facilities under Alternative 7 are anticipated to create minor effects on recreational
12 resources and therefore, are not expected to substantially reduce economic activity related to
13 recreational activities. This section considers only the economic effects of recreational changes.
14 Potential physical changes to the environment relating to recreational resources are described and
15 evaluated in Chapter 15, *Recreation*, Section 15.3.3.14, Impacts REC-5 through REC-8.

16 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during**
17 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

18 During operation and maintenance of conveyance facilities existing agricultural land would be in
19 uses that include direct facility footprints and associated permanent roads and utilities. Agricultural
20 land could also be affected by changes in water quality and other conditions that would affect crop
21 productivity. These direct effects on agricultural land are described in Chapter 14, *Agricultural*
22 *Resources*, Section 14.3.3.14, Impacts AG-1 and AG-2.

23 Changes in crop acreage were used to estimate the associated changes in economic values. Unit
24 prices, yields, and crop production and investment costs were presented in Section 16.1,
25 *Environmental Setting/Affected Environment*. Table 16-54 summarizes the changes in acreage and
26 value of agricultural production that would result in the Delta region during operation of Alternative
27 7. Changes are shown relative to the Existing Conditions and the No Action Alternative by aggregate
28 crop category (agricultural resources under Existing Conditions and in the No Action Alternative
29 were assumed to be the same). The changes in crop acreages are reported in greater detail in
30 Appendix 14A, *Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction*.

31 Total value of irrigated crop production in the Delta region would decline on average by \$7.2 million
32 per year during operation and maintenance, with total irrigated crop acreage declining by about
33 4,400 acres. These estimates are not dependent on water year type.

1 **Table 16-54. Crop Acres and Value of Agricultural Production in the Delta during Operations and**
 2 **Maintenance (Alternative 7)**

Analysis Metric	Alternative 7	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	479.3	-4.4
Grains	58.3	-0.4
Field crops	189.8	-1.3
Forage crops	111.6	-1.1
Vegetable, truck, and specialty crops	76.7	-0.4
Orchards and vineyards	42.8	-1.2
Total Value of Production (million \$)	642.8	-7.2
Grains	24.1	-0.1
Field crops	113.1	-0.8
Forage crops	72.2	-0.9
Vegetable, truck, and specialty crops	266.9	-1.5
Orchards and vineyards	166.7	-3.9

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

3
 4 Alternative 7 may also affect production costs on lands even if gross revenues are largely unaffected.
 5 Costs could be associated with operational constraints and longer travel times due to permanent
 6 facilities. In most cases, affected lands fall within the facilities footprint, and are included in the
 7 agricultural acreage and value of production described elsewhere in this Chapter and in Chapter 14,
 8 *Agricultural Resources*, Section 14.3.3.14.

9 Crop yields and crop selection on lands in the Delta could be affected by changes in salinity of
 10 agricultural water supply during operation and maintenance activities. If operation of the proposed
 11 conveyance facilities increases salinity in part of the Delta, crops that are more sensitive to salinity
 12 could shift to other lands in the five-county Delta region. See Chapter 14, *Agricultural Resources*,
 13 Section 14.3.3.14, Impact AG-2, for further discussion of effects from changes in salinity.

14 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 15 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 16 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 17 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 18 productivity and compensating off-site.

19 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities
 20 the value of agricultural production in the Delta region would be reduced. The permanent removal
 21 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 22 14.3.3.14, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 23 considered an environmental impact. Significant environmental impacts would only result if the
 24 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 25 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 26 economic losses due to implementation of the alternative). While the compensation to property
 27 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 28 would not constitute mitigation for any related physical effect. Measures to reduce these impacts are

1 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 2 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 3 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 4 Zones.

5 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 6 **Implementation of CM2–CM21**

7 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
 8 to those described under Alternative 1A, Impact ECON-13. However, the magnitude of effects related
 9 specifically to CM6, Channel Margin Habitat Enhancement, would be larger, as this alternative would
 10 enhance 40 linear miles rather than 20 linear miles. Additionally, this alternative would restore
 11 20,000 acres of seasonally inundated floodplain under CM5, rather than 10,000 acres. In the Delta
 12 region, spending on CM2–CM21 would include construction, operation and maintenance activities
 13 that would convert or disturb existing land use. Because implementation of CM2–CM21 would be
 14 anticipated to result in an increase in construction and operation and maintenance-related
 15 employment and labor income, this would be considered a beneficial effect. However,
 16 implementation of these components would also be anticipated to result in a decrease in
 17 agricultural-related employment and labor income, which would be considered an adverse effect.
 18 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 19 AG-1, would be available to reduce these effects by preserving agricultural productivity and
 20 compensating off-site. Additionally, implementation of these components are anticipated to result in
 21 the abandonment of natural gas wells, causing a decrease in employment and labor income
 22 associated with monitoring and maintaining wells, which would be considered an adverse effect.
 23 Mitigation Measure MIN-5, described in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-
 24 5, would be available to reduce these effects by minimizing, to the extent feasible, the need for well
 25 abandonment or relocation.

26 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
 27 income in the Delta region. The change in total employment and income in the Delta region is based
 28 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
 29 changes in agricultural production, recreation, and natural gas production activities. The total
 30 change in employment and income is not, in itself, considered an environmental impact. Significant
 31 environmental impacts would only result if the changes in regional economics cause physical
 32 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 33 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 34 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
 35 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
 36 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

37 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 38 **Implementing CM2–CM21**

39 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
 40 described under Alternative 1A, Impact ECON-14. However, the magnitude of effects related
 41 specifically to CM6, Channel Margin Habitat Enhancement, would be larger, as this alternative would
 42 enhance 40 linear miles rather than 20 linear miles. Additionally, this alternative would restore
 43 20,000 acres of seasonally inundated floodplain under CM5, rather than 10,000 acres. In general, the
 44 changes in population and housing would include increases in population from the construction and

1 operation and maintenance-related activity and declines in residential housing and business
2 establishments as a result of lands converted or impaired.

3 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
4 population or new housing, they would not be considered to have an adverse effect.

5 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
6 housing in the Delta region. The change in total population and housing in the Delta region is based
7 on employment resulting from implementation of the proposed CM2–CM21. The change in
8 population and housing is expected to be minor relative to the five-county Delta region, and
9 dispersed throughout the region. Therefore, significant changes to the physical environment are not
10 anticipated to result.

11 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

12 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
13 similar to those described under Alternative 1A, Impact ECON-15. However, the magnitude of effects
14 related specifically to CM6, Channel Margin Habitat Enhancement, would be larger, as this
15 alternative would enhance 40 linear miles rather than 20 linear miles. Additionally, this alternative
16 would restore 20,000 acres of seasonally inundated floodplain under CM5, rather than 10,000 acres.
17 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
18 welfare of a community, adverse social effects, including effects on community cohesion, could also
19 arise in those communities closest to character-changing effects and those most heavily influenced
20 by agricultural activities. Implementation of mitigation measures and environmental commitments
21 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
22 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
23 summarized under Alternative 1A, Impact ECON-15.

24 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 7 could affect community
25 character within the Delta region. However, because these impacts are social in nature, rather than
26 physical, they are not considered impacts under CEQA. To the extent that changes to community
27 character are related to physical impacts involving population growth, these impacts are described
28 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
29 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
30 individual buildings, could result in alteration of community character stemming from a lack of
31 maintenance, upkeep, and general investment.

32 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 33 **CM2–CM21**

34 **NEPA Effects:** Under Alternative 7, effects on local government fiscal conditions as a result of
35 conservation measure implementation would be anticipated to be greater than those described
36 under Alternative 1A, Impact ECON-16. Under this alternative, 20,000 acres would be restored
37 under CM5, rather than 10,000 acres. Forgone revenue would be estimated to reach \$186.6 million.
38 CM2–CM21 would remove some private land from local property tax and assessment rolls. This
39 economic effect would be considered adverse; however, the BDCP proponents would offset forgone
40 property tax and assessments levied by local governments and special districts on private lands
41 converted to habitat.

1 **CEQA Conclusion:** Under Alternative 7, implementation of CM2–CM21 would result in the removal
 2 of a portion of the property tax base for various local government entities in the Delta region. Over
 3 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
 4 \$186.6 million. However, the BDCP proponents would compensate local governments and special
 5 districts for forgone revenue. CEQA does not require a discussion of socioeconomic effects except
 6 where they would result in physical changes. If an alternative is not anticipated to result in a
 7 physical change to the environment, it would not be considered to have a significant impact under
 8 CEQA (CEQA Guidelines Sections 15064(f) and 15131).

9 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

10 **NEPA Effects:** Effects related to implementation of CM2–CM21 under this alternative would be
 11 similar to those described under Alternative 1A, Impact ECON-17. However, the magnitude of effects
 12 related specifically to CM6, Channel Margin Habitat Enhancement, would be larger, as this
 13 alternative would enhance 40 linear miles rather than 20 linear miles. Additionally, this alternative
 14 would restore 20,000 acres of seasonally inundated floodplain under CM5, rather than 10,000 acres.
 15 CM2–CM21 may result in adverse and beneficial effects on recreational resources in the Delta
 16 region, resulting in the potential for decreased or increased economic activities related to
 17 recreation.

18 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
 19 recreation and compromise the quality of activities, leading to potential economic impacts.
 20 However, over time, implementation could also improve the quality of existing recreational
 21 opportunities, creating increased economic value with respect to recreation. This section considers
 22 only the economic effects of recreational changes brought about by conservation measure
 23 implementation. Potential physical changes to the environment relating to recreational resources
 24 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.14, Impacts REC-9 through
 25 REC-11.

26 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of** 27 **Implementing CM2–CM21**

28 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
 29 described under Alternative 1A, Impact ECON-18, but would extend to 10,000 additional acres of
 30 seasonally inundated floodplain under CM5 and 20 additional linear miles of channel margin habitat
 31 under CM6. CM2–CM21 would convert land from existing agricultural uses. These direct effects on
 32 agricultural land are described qualitatively in Chapter 14, *Agricultural Resources*, Section 14.3.3.14,
 33 Impacts AG-3 and AG-4. Effects on agricultural economics would include effects on crop production
 34 and agricultural investments resulting from restoration actions on agricultural lands. The effects
 35 would be similar in kind to those described for lands converted due to construction and operation of
 36 the conveyance features and facilities. The total acreage and crop mix of agricultural land potentially
 37 affected is not specified at this time, but when required, the BDCP proponents would provide
 38 compensation to property owners for losses due to implementation of the alternative.

39 **NEPA Effects:** Because implementation of the CM2–CM21 would be anticipated to lead to reductions
 40 in crop acreage and in the value of agricultural production in the Delta region, this is considered an
 41 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 42 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 43 productivity and compensating off-site.

1 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
 2 production in the Delta region. The permanent removal of agricultural land from production is
 3 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.14, Impacts AG-3 and AG-4. The
 4 reduction in the value of agricultural production is not considered an environmental impact.
 5 Significant environmental impacts would only result if the changes in regional economics cause
 6 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 7 required, the BDCP proponents would provide compensation to property owners for economic
 8 losses due to implementation of the alternative. While the compensation to property owners would
 9 reduce the severity of economic effects related to the loss of agricultural land, it would not
 10 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 11 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

12 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

13 The socioeconomic effects associated with operation of Alternative 7 would be similar to those
 14 described under Alternative 6A, Impact ECON-19, because deliveries would be also be reduced
 15 based on operational guidelines. In this case, however, the construction of three intakes and
 16 diversion restrictions associated with operational Scenario E would lead to reduced deliveries.

17 **NEPA Effects:**

18 **Changes in CVP and SWP Deliveries Compared to No Action Alternative**

19 Compared to No Action Alternative (2060), Alternative 7 would decrease deliveries to the
 20 hydrologic regions south of the Delta. The average annual decrease in CVP and SWP deliveries
 21 would be 606 TAF, and the distribution of these increased deliveries to each hydrologic region are
 22 given in Table 30-21.

23 Changes in deliveries to hydrologic regions could result in adverse or beneficial socioeconomic
 24 effects in these areas. Reduced or less reliable water deliveries would result in decreased
 25 agricultural production and, in turn, a reduction in both direct and indirect agricultural employment.
 26 Economic and social patterns tied to predominant agricultural industrial activities and land uses
 27 could erode, changing the character of agricultural communities in hydrologic regions. If M&I
 28 deliveries were reduced to the extent that it would, in the long run, constrain population growth,
 29 implementation of Alternative 7 could reinforce a socioeconomic status quo or limit potential
 30 economic and employment growth in hydrologic regions. Changes to agricultural production and
 31 population growth with its associated economic activity could also lead to shifts in the character of
 32 communities in the hydrologic regions with resultant beneficial or adverse effects. Likewise, limited
 33 growth associated with reduced deliveries could require lower expenditures for local governments
 34 while also leading to reduced revenue.

35 **CEQA Conclusion:** As described above, the operational components of BDCP CM1 could result in a
 36 number of effects in areas receiving SWP and CVP water deliveries outside of the Delta.

37 **Changes in CVP and SWP Deliveries Compared to Existing Conditions**

38 Compared to Existing Conditions, Alternative 7 would decrease deliveries to all hydrologic regions
 39 south of the Delta. The average annual decrease in CVP and SWP deliveries would be 1,256 TAF, and
 40 the distribution of these increased deliveries to each hydrologic region are given in Table 30-20.

1 Summary

2 Operation of water conveyance facilities under Alternative 7 could affect socioeconomic conditions
 3 in the hydrologic regions receiving water from the SWP and CVP. However, because these impacts
 4 are social and economic in nature, rather than physical, they are not considered environmental
 5 impacts under CEQA. To the extent that changes in socioeconomic conditions in the hydrologic
 6 regions would lead to physical impacts, such impacts are described in Chapter 30, *Growth*
 7 *Inducement and Other Indirect Effects*, Section 30.3.2.

8 **16.3.3.15 Alternative 8—Dual Conveyance with Pipeline/Tunnel, Intakes 2,** 9 **3, and 5, and Increased Delta Outflow (9,000 cfs; Operational** 10 **Scenario F)**

11 Facilities constructed under Alternative 8 would be similar to those described for Alternative 1A but
 12 with only three intakes as opposed to five. Operations would be different under Alternative 8 than
 13 under Alternative 1A.

14 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 15 **Region during Construction of the Proposed Water Conveyance Facilities**

16 Temporary effects on regional economics during construction of the proposed water conveyance
 17 facilities would be identical to those described under Alternative 7, Impact ECON-1. As shown in
 18 Table 16-51, spending on conveyance construction would result in substantial economic activity in
 19 the region. As shown, direct construction employment is anticipated to vary over the 8-year
 20 construction period, with an estimated 2,018 FTE jobs in the first year and 129 FTE jobs in the final
 21 year of the construction period. Construction employment is estimated to peak at 3,360 FTE jobs in
 22 year 4. Total employment (direct, indirect, and induced) would peak in year 1, at 11,018 FTE jobs.
 23 Increases in labor income associated with this employment would also be expected. Declines in
 24 agricultural production would be expected to lead to a decrease in employment of 25 FTE, with total
 25 effects leading to a decline of 94 FTE. Similarly, labor income related to these positions would
 26 decline, as shown in Table 16-52.

27 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 28 construction-related employment and labor income, this would be considered a beneficial effect.
 29 However, these activities would also be anticipated to result in a decrease in agricultural-related
 30 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 31 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 32 available to reduce these effects by preserving agricultural productivity and compensating off-site.

33 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
 34 employment and income in the Delta region, temporarily. The increase in employment and income
 35 that would result from expenditures on construction would be greater than the reduction in
 36 employment and income attributable to losses in agricultural production. Changes in recreational
 37 expenditures and natural gas well operations could also affect regional employment and income, but
 38 these have not been quantified. The total change in employment and income is not, in itself,
 39 considered an environmental impact. Significant environmental impacts would only result if the
 40 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 41 throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation Costs and*
 42 *Funding Sources*; removal of agricultural land from production is addressed in Chapter 14,

1 *Agricultural Resources*, Section 14.3.3.15, Impacts AG-1 and AG-2; changes in recreation related
 2 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.15, REC-1 through REC-4;
 3 abandonment of natural gas wells is addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.15,
 4 Impact MIN-1. When required, DWR would provide compensation to property owners for economic
 5 losses due to implementation of the alternative. While the compensation to property owners would
 6 reduce the severity of economic effects related to the loss of agricultural land, it would not
 7 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 8 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 9 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 10 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 11 Zones.

12 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 13 **the Proposed Water Conveyance Facilities**

14 Effects on population and housing during construction of the proposed water conveyance facilities
 15 would be identical to those described under Alternative 7, Impact ECON-2. It is anticipated that non-
 16 local workers would temporarily relocate to the Delta region, thus adding to the local population.
 17 However, this additional population would constitute a minor increase in the total 2020 projected
 18 regional population of 4.6 million and be distributed throughout the region. Within specific local
 19 communities, there could be localized effects on housing. However, given the availability of housing
 20 within the five-county region, predicting where this impact might fall would be speculative. In
 21 addition, new residents would likely be dispersed across the region, thereby not creating a
 22 substantial burden on any one community.

23 **NEPA Effects:** Because these activities would not result in permanent concentrated, substantial
 24 increases in population or new housing, they would not be considered to have an adverse effect.

25 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
 26 temporary population increases in the Delta region, which has an adequate housing supply to
 27 accommodate the change in population. Therefore, adverse physical changes resulting from the
 28 minor increase in population are not anticipated.

29 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 30 **Water Conveyance Facilities**

31 **NEPA Effects:** Under Alternative 8, effects on community character would be identical to those
 32 described under Alternative 7, Impact ECON-3. However, the intensity of these effects would be
 33 reduced due to the construction of three intake facilities. As such, regional population and
 34 employment would increase to levels described above under Impact ECON-1 and ECON-2. While
 35 water conveyance construction could result in beneficial effects relating to the economic welfare of a
 36 community, adverse social effects could also arise as a result of declining economic stability or
 37 changes in community cohesion in communities closest to construction effects and in those most
 38 heavily influenced by agricultural and recreational activities. Implementation of mitigation
 39 measures and environmental commitments related to noise, visual effects, transportation,
 40 agriculture, and recreation would reduce the intensity of adverse effects on the character of Delta
 41 communities (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 42 summarized under Alternative 1A, Impact ECON-3.

1 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 8 could affect
 2 community character in the Delta region. However, because these impacts are social in nature,
 3 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
 4 community character would lead to physical impacts involving population growth, such impacts are
 5 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
 6 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
 7 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
 8 character stemming from a lack of maintenance, upkeep, and general investment. However,
 9 implementation of mitigation measures and environmental commitments related to noise, visual
 10 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
 11 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
 12 erosion and sediment control plans, hazardous materials management plans, notification of
 13 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
 14 mosquito management plans.

15 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 16 **the Proposed Water Conveyance Facilities**

17 **NEPA Effects:** Effects on tax revenue as a result of water conveyance construction under Alternative
 18 8 would be identical to those described under Alternative 7, Impact ECON-4. While this economic
 19 effect would be considered adverse, BDCP proponents would compensate local governments for the
 20 loss of property tax or assessment revenue associated with construction of water conveyance
 21 facilities. Additionally, local entities could benefit from an increase in sales tax revenue.

22 **CEQA Conclusion:** Construction of water conveyance facilities for Alternative 8 would result in the
 23 removal of a portion of the property tax base for various local government entities in the Delta
 24 region. However, entities receiving water from the State Water Project and federal Central Valley
 25 Project would mitigate for lost property tax and assessment revenue associated with land needed
 26 for the construction of new conveyance facilities (Water Code Section 85089). Additionally, any
 27 losses could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
 28 require a discussion of socioeconomic effects except where they would result in reasonably
 29 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
 30 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
 31 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
 32 speculative to ascertain.

33 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 34 **Water Conveyance Facilities**

35 **NEPA Effects:** Under Alternative 8, disruption of recreational activities during the construction
 36 period would be similar to that described under Alternative 1A, Impact ECON-5. However, fewer
 37 intake facilities would be constructed under this alternative, resulting in less severe effects relative
 38 to Alternative 1A. While access to recreational facilities would be maintained throughout
 39 construction, the quality of recreational activities including boating, fishing, waterfowl hunting, and
 40 hiking in the Delta could be indirectly affected by noise, lighting, traffic, and visual degradation in
 41 proximity to water conveyance construction.

42 Construction of water conveyance structures under this alternative would be anticipated to result in
 43 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite

1 the implementation of mitigation measures, including enhancement of fishing access sites and
 2 incorporation of recreational access into project design, and environmental and other commitments,
 3 including providing funding to implement recreational improvements and control aquatic weeds,
 4 providing notification of maintenance activities in waterways, and developing and implementing a
 5 noise abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*.
 6 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
 7 in areas closest to construction activities. The multi-year schedule and geographic scale of
 8 construction activities and the anticipated decline in recreational spending would be considered an
 9 adverse effect. The commitments and mitigation measure cited above would contribute to the
 10 reduction of this effect.

11 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 8
 12 could impact recreational revenue in the Delta region if construction activities result in fewer visits
 13 to the area. Fewer visits would be anticipated to result in decreased economic activity related to
 14 recreational activities. This section considers only the economic effects of recreational changes
 15 brought about by construction of the proposed water conveyance facilities. Potential physical
 16 changes to the environment relating to recreational resources are described and evaluated in
 17 Chapter 15, *Recreation*, Section 15.3.3.15, Impacts REC-1 through REC-4.

18 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of**
 19 **the Proposed Water Conveyance Facilities**

20 Effects on agricultural economics during construction of the proposed water conveyance facilities
 21 would be identical to those described under Alternative 7, Impact ECON-6. Total value of irrigated
 22 crop production in the Delta would decline on average by \$8.7 million per year during the
 23 construction period, with total irrigated crop acreage declining by about 5,300 acres. Alternative 8
 24 may also affect production costs on lands even if gross revenues are largely unaffected. Costs could
 25 be increased by operational constraints and longer travel times due to facilities construction.
 26 Additionally, loss of investments in production facilities and standing orchards and vineyards would
 27 occur as a result of facilities construction.

28 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 29 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 30 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 31 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 32 agricultural productivity and compensating off-site.

33 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 34 value of agricultural production in the Delta region. The removal of agricultural land from
 35 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.15, Impacts AG-1 and
 36 AG-2. The reduction in the value of agricultural production is not considered an environmental
 37 impact. Significant environmental impacts would only result if the changes in regional economics
 38 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 39 required, DWR would provide compensation to property owners for economic losses due to
 40 implementation of the alternative. While the compensation to property owners would reduce the
 41 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 42 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 43 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,

1 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
2 and land subject to Williamson Act contracts or in Farmland Security Zones.

3 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region**
4 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

5 Permanent effects on regional economics during operation and maintenance of the proposed water
6 conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-7.
7 Increased expenditures related to operation and maintenance of water conveyance facilities would
8 be expected to result in a permanent increase in regional employment and income, as presented in
9 Table 16-22. The permanent removal of agricultural land following construction would have lasting
10 negative effects on agricultural employment and income, as shown in Table 16-23.

11 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
12 result in an increase in operations-related employment and labor income, this would be considered
13 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
14 agricultural-related employment and labor income, which would be considered an adverse effect.
15 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
16 AG-1, would be available to reduce these effects by preserving agricultural productivity and
17 compensating off-site.

18 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
19 increase total employment and income in the Delta region. The net change would result from
20 expenditures on operation and maintenance and from changes in agricultural production. The total
21 change in income and employment is not, in itself, considered an environmental impact. Significant
22 environmental impacts would only result if the changes in regional economics cause physical
23 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
24 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
25 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.15, Impacts AG-3
26 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
27 15.3.3.15, Impacts REC-5 through REC-8. When required, DWR would provide compensation to
28 landowners as a result of acquiring lands for the proposed conveyance facilities. While the
29 compensation to property owners would reduce the severity of economic effects related to the loss
30 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
31 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
32 AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural
33 productivity and mitigate for loss of Important Farmland and land subject to Williamson Act
34 contracts or in Farmland Security Zones.

35 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during**
36 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

37 Permanent effects on population and housing during operation and maintenance of the proposed
38 water conveyance facilities would be similar to those described under Alternative 1A, Impact ECON-
39 8. It is anticipated that non-local workers would relocate to the five-county region, thus adding to
40 the local population. However, this additional population would constitute a minor increase in the
41 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It
42 is anticipated that most of the operational workforce would be drawn from within the five-county
43 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

1 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
2 population or new housing, they would not be considered to have an adverse effect.

3 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
4 result in minor population increases in the Delta region with adequate housing supply to
5 accommodate the change in population and therefore adverse changes in the physical environment
6 are not anticipated.

7 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 8 **Proposed Water Conveyance Facilities**

9 **NEPA Effects:** Under Alternative 8, effects on community character would be similar in nature,
10 location, and magnitude to those described under Alternative 1A, Impact ECON-9. However, the
11 intensity of these effects would be reduced based on the operation and maintenance of three intake
12 facilities. While water conveyance operation and maintenance could result in beneficial effects
13 relating to the economic welfare of a community, lasting adverse social effects, including effects on
14 community cohesion, could also arise in communities closest to physical features and in those most
15 heavily influenced by agricultural and recreational activities. Implementation of mitigation
16 measures and environmental commitments related to noise, visual effects, transportation,
17 agriculture, and recreation would reduce adverse effects (see Appendix 3B, *Environmental*
18 *Commitments, AMMs, and CMs*). These actions are summarized under Alternative 1A, Impact ECON-
19 9.

20 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 8
21 could affect community character in the Delta region. However, because these impacts are social in
22 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
23 changes to community character would lead to physical impacts involving population growth, such
24 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
25 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
26 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
27 community character stemming from a lack of maintenance, upkeep, and general investment.

28 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 29 **Maintenance of the Proposed Water Conveyance Facilities**

30 **NEPA Effects:** Effects on tax revenue as a result of ongoing water conveyance operation and
31 maintenance under Alternative 8 would be similar to those described under Alternative 7, Impact
32 ECON-10. While this economic effect would be considered adverse, BDCP proponents would
33 compensate local governments for the loss of property tax or assessment revenue associated with
34 construction of water conveyance facilities. Additionally, local entities could benefit from an
35 increase in sales tax revenue.

36 **CEQA Conclusion:** Continued operation and maintenance of water conveyance facilities for
37 Alternative 8 would result in the removal of a portion of the property tax base for various local
38 government entities in the Delta region. However, entities receiving water from the State Water
39 Project and federal Central Valley Project would mitigate for lost property tax and assessment
40 revenue associated with land needed for the siting of conveyance facilities (Water Code Section
41 85089). Additionally, any losses could be offset, at least in part, by an anticipated increase in sales
42 tax revenue. CEQA does not require a discussion of socioeconomic effects except where they would
43 result in reasonably foreseeable physical changes. If an alternative is not anticipated to result in a

1 physical change to the environment, it would not be considered to have a significant impact under
 2 CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any physical consequences resulting
 3 from fiscal impacts are too speculative to ascertain.

4 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 5 **Proposed Water Conveyance Facilities**

6 Effects on recreation economics during operation and maintenance of the proposed water
 7 conveyance facilities under Alternative 8 would be similar to those described under Alternative 1A,
 8 Impact ECON-11.

9 **NEPA Effects:** Maintenance of conveyance facilities, including intakes, would result in periodic
 10 temporary but not substantial adverse effects on boat passage and water-based recreational
 11 activities. Because effects of facility maintenance would be short-term and intermittent, substantial
 12 economic effects are not anticipated to result from operation and maintenance of the facilities.

13 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 14 conveyance facilities under Alternative 8 are anticipated to create minor effects on recreational
 15 resources and therefore, are not expected to substantially reduce economic activity related to
 16 recreational activities. This section considers only the economic effects of recreational changes.
 17 Potential physical changes to the environment relating to recreational resources are described and
 18 evaluated in Chapter 15, *Recreation*, Section 15.3.3.15, Impacts REC-5 through REC-8.

19 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 20 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

21 Permanent effects on agricultural economics during operation and maintenance of the proposed
 22 water conveyance facilities would be similar to those described under Alternative 7, Impact ECON-
 23 12. Total value of irrigated crop production in the Delta would decline on average by \$7.2 million
 24 per year during operation and maintenance, with total irrigated crop acreage declining by about
 25 4,400 acres. Alternative 8 may also affect production costs on lands even if gross revenues are
 26 largely unaffected. Costs could be increased by operational constraints, changes in water quality,
 27 and longer travel times due to the permanent footprint of facilities. Additionally, loss of investments
 28 in production facilities and standing orchards and vineyards would occur as a result of facilities
 29 construction.

30 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 31 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 32 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 33 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 34 productivity and compensating off-site.

35 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities,
 36 the value of agricultural production in the Delta region would be reduced. The permanent removal
 37 of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 38 14.3.3.15, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 39 considered an environmental impact. Significant environmental impacts would only result if the
 40 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 41 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 42 economic losses due to implementation of the alternative. While the compensation to property

1 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 2 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
 3 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 4 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 5 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 6 Zones.

7 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the**
 8 **Implementation of CM2–CM21**

9 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
 10 to those described under Alternative 1A, Impact ECON-13. In the Delta region, spending on CM2–
 11 CM21 would include construction, operation and maintenance activities that would convert or
 12 disturb existing land use. Because implementation of CM2–CM21 would be anticipated to result in
 13 an increase in construction and operation and maintenance-related employment and labor income,
 14 this would be considered a beneficial effect. However, implementation of these components would
 15 also be anticipated to result in a decrease in agricultural-related employment and labor income,
 16 which would be considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14,
 17 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by
 18 preserving agricultural productivity and compensating off-site. Additionally, implementation of
 19 these components are anticipated to result in the abandonment of natural gas wells, causing a
 20 decrease in employment and labor income associated with monitoring and maintaining wells, which
 21 would be considered an adverse effect. Mitigation Measure MIN-5, described in Chapter 26, *Mineral*
 22 *Resources*, Section 26.3.3.2, Impact MIN-5, would be available to reduce these effects by minimizing,
 23 to the extent feasible, the need for well abandonment or relocation.

24 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
 25 income in the Delta region. The change in total employment and income in the Delta region is based
 26 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
 27 changes in agricultural production, recreation, and natural gas production activities. The total
 28 change in employment and income is not, in itself, considered an environmental impact. Significant
 29 environmental impacts would only result if the changes in regional economics cause physical
 30 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 31 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 32 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
 33 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
 34 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

35 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of**
 36 **Implementing CM2–CM21**

37 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
 38 described under Alternative 1A, Impact ECON-14. In general, the changes in population and housing
 39 would include increases in population from the construction and operation and maintenance-
 40 related activity and declines in residential housing and business establishments as a result of lands
 41 converted or impaired.

42 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 43 population or new housing, they would not be considered to have an adverse effect.

1 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
 2 housing in the Delta region. The change in total population and housing in the Delta region is based
 3 on employment resulting from implementation of the proposed CM2–CM21. The change in
 4 population and housing is expected to be minor relative to the five-county Delta region, and
 5 dispersed throughout the region. Therefore, significant changes to the physical environment are not
 6 anticipated to result.

7 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

8 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
 9 similar to those described under Alternative 1A, Impact ECON-15 because the measures are similar.
 10 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
 11 welfare of a community, adverse social effects, including effects on community cohesion, could also
 12 arise in those communities closest to character-changing effects and those most heavily influenced
 13 by agricultural activities. Implementation of mitigation measures and environmental commitments
 14 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
 15 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 16 summarized under Alternative 1A, Impact ECON-15.

17 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 8 could affect community
 18 character within the Delta region. However, because these impacts are social in nature, rather than
 19 physical, they are not considered impacts under CEQA. To the extent that changes to community
 20 character are related to physical impacts involving population growth, these impacts are described
 21 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
 22 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
 23 individual buildings, could result in alteration of community character stemming from a lack of
 24 maintenance, upkeep, and general investment.

25 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 26 **CM2–CM21**

27 **NEPA Effects:** Under Alternative 8, effects on local government fiscal conditions as a result of
 28 conservation measure implementation would be similar to those described under Alternative 1A,
 29 Impact ECON-16. CM2–CM21 would remove some private land from local property tax and
 30 assessment rolls. This economic effect would be considered adverse; however, the BDCP proponents
 31 would offset forgone property tax and assessments levied by local governments and special districts
 32 on private lands converted to habitat.

33 **CEQA Conclusion:** Under Alternative 8, implementation of CM2–CM21 would result in the removal
 34 of a portion of the property tax base for various local government entities in the Delta region. Over
 35 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
 36 \$176.7 million. However, the BDCP proponents would compensate local governments and special
 37 districts for forgone revenue. CEQA does not require a discussion of socioeconomic effects except
 38 where they would result in physical changes. If an alternative is not anticipated to result in a
 39 physical change to the environment, it would not be considered to have a significant impact under
 40 CEQA (CEQA Guidelines Sections 15064(f) and 15131).

1 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

2 **NEPA Effects:** Effects related to implementation of CM2–CM21 under this alternative would be
3 similar to those described under Alternative 1A, Impact ECON-17. These measures may result in
4 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
5 for decreased or increased economic activities related to recreation.

6 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
7 recreation and compromise the quality of activities, leading to potential economic impacts.
8 However, over time, implementation could also improve the quality of existing recreational
9 opportunities, creating increased economic value with respect to recreation. This section considers
10 only the economic effects of recreational changes brought about by conservation measure
11 implementation. Potential physical changes to the environment relating to recreational resources
12 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.15, Impacts REC-9 through
13 REC-11.

14 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of** 15 **Implementing CM2–CM21**

16 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
17 described under Alternative 1A, Impact ECON-18. CM2–CM21 would convert land from existing
18 agricultural uses. These direct effects on agricultural land are described qualitatively in Chapter 14,
19 *Agricultural Resources*, Section 14.3.3.15, Impacts AG-3 and AG-4. Effects on agricultural economics
20 would include effects on crop production and agricultural investments resulting from restoration
21 actions on agricultural lands. The effects would be similar in kind to those described for lands
22 converted due to construction and operation of the conveyance features and facilities. The total
23 acreage and crop mix of agricultural land potentially affected is not specified at this time, but when
24 required, the BDCP proponents would provide compensation to property owners for losses due to
25 implementation of the alternative.

26 **NEPA Effects:** Because implementation of the CM2–CM21 would be anticipated to lead to reductions
27 in crop acreage and in the value of agricultural production in the Delta region, this is considered an
28 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
29 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
30 productivity and compensating off-site.

31 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
32 production in the Delta region. The permanent removal of agricultural land from production is
33 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.15, Impacts AG-3 and AG-4. The
34 reduction in the value of agricultural production is not considered an environmental impact.
35 Significant environmental impacts would only result if the changes in regional economics cause
36 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
37 required, the BDCP proponents would provide compensation to property owners for economic
38 losses due to implementation of the alternative. While the compensation to property owners would
39 reduce the severity of economic effects related to the loss of agricultural land, it would not
40 constitute mitigation for any related physical impact. Measures to reduce these impacts are
41 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

1 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

2 The socioeconomic effects associated with operation of Alternative 8 would be similar to those
3 described under Alternative 6A, Impact ECON-19, because deliveries would also be reduced based
4 on operational guidelines. In this case, however, the construction of three intakes and diversion
5 restrictions associated with operational Scenario F would lead to reduced deliveries.

6 ***NEPA Effects:***

7 **Changes in CVP and SWP Deliveries Compared to No Action Alternative**

8 Compared to No Action Alternative (LLT 2060), Alternative 8 would decrease deliveries to the
9 hydrologic regions south of the Delta. The average annual decrease in CVP and SWP deliveries
10 would be 1,229 TAF, and the distribution of these increased deliveries to each hydrologic region are
11 given in Table 30-21. Changes in deliveries to hydrologic regions could result in adverse or
12 beneficial socioeconomic effects in these areas. Reduced or less reliable water deliveries would
13 result in decreased agricultural production and, in turn, a reduction in both direct and indirect
14 agricultural employment. Economic and social patterns tied to predominant agricultural industrial
15 activities and land uses could erode, changing the character of agricultural communities in
16 hydrologic regions. If M&I deliveries were reduced to the extent that it would, in the long run,
17 constrain population growth, implementation of Alternative 8 could reinforce a socioeconomic
18 status quo or limit potential economic and employment growth in hydrologic regions. Changes to
19 agricultural production and population growth with its associated economic activity could also lead
20 to shifts in the character of communities in the hydrologic regions with resultant beneficial or
21 adverse effects. Likewise, limited growth associated with reduced deliveries could require lower
22 expenditures for local governments while also leading to reduced revenue.

23 ***CEQA Conclusion:*** As described above, the operational components of BDCP CM1 could result in a
24 number of effects in areas receiving SWP and CVP water deliveries outside of the Delta.

25 **Changes in CVP and SWP Deliveries Compared to Existing Conditions**

26 Compared to Existing Conditions, Alternative 8 would decrease deliveries to all hydrologic regions
27 south of the Delta. The average annual decrease in CVP and SWP deliveries would be 1,879 TAF, and
28 the distribution of these increased deliveries to each hydrologic region are given in Table 30-20.

29 **Summary**

30 Operation of water conveyance facilities under Alternative 8 could affect socioeconomic conditions
31 in the hydrologic regions receiving water from the SWP and CVP. However, because these impacts
32 are social and economic in nature, rather than physical, they are not considered environmental
33 impacts under CEQA. To the extent that changes in socioeconomic conditions in the hydrologic
34 regions would lead to physical impacts, such impacts are described in Chapter 30, *Growth*
35 *Inducement and Other Indirect Effects*, Section 30.3.2.

36 **16.3.3.16 Alternative 9—Through Delta/Separate Corridors (15,000 cfs; 37 Operational Scenario G)**

38 Facilities constructed under Alternative 9 would include two fish-screened intakes along the
39 Sacramento River near Walnut Grove, fourteen operable barriers, two pumping plants and other
40 associated facilities, two culvert siphons, three canal segments, new levees, and new channel

connections. Some existing channels would also be enlarged under this alternative. Nearby areas would be altered as work or staging areas or used for the deposition of spoils.

Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta Region during Construction of the Proposed Water Conveyance Facilities

The regional economic effects on employment and income in the Delta region during construction were evaluated. Changes are shown relative to the Existing Conditions and the No Action Alternative (regional economic conditions do not differ between Existing Conditions and No Action Alternative). The effects on employment and income are displayed in Table 16-55. The direct and total change is shown that would result from conveyance-related spending. As evident in Table 16-55, spending on conveyance construction would result in substantial economic activity in the region. As shown, direct construction employment is anticipated to vary over the 8-year construction period, with an estimated 1,922 FTE jobs in the first year and 85 FTE jobs in the final year of the construction period. Construction employment is estimated to peak at 3,209 FTE jobs in year 4. Total employment (direct, indirect, and induced) would peak in year 3, at 6,371 FTE jobs.

Table 16-55. Regional Economic Effects on Employment and Labor Income during Construction (Alternative 9)

Regional Economic Impact ^a	Year							
	1	2	3	4	5	6	7	8
Employment (FTE)								
Direct	1,922	2,146	3,087	3,209	2,277	2,798	318	85
Total ^b	4,227	4,446	6,209	6,371	4,190	5,073	598	117
Labor Income (million \$)								
Direct	58.1	55.1	72.5	72.3	39.4	45.7	6.0	0.0
Total ^b	129.9	128.5	173.4	175.1	104.1	123.3	15.3	1.4

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

The footprint of conveyance and related facilities such as roads and utilities would remove some existing agricultural land from production, so the effects on employment and income would be negative. The regional economic effects on employment and income in the Delta region from the change in agricultural production are reported in Table 16-56. As shown, direct agricultural employment would be reduced by an estimated 10 FTE jobs, while total employment (direct, indirect, and induced) associated with agricultural employment would fall by 38 FTE jobs. Based on the crop production values changes described in Impact ECON-6 for construction effects, the direct agricultural job losses would more likely be concentrated in the vegetable, truck, orchard, and vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage crop sectors, where more jobs are mechanized. Note that direct agricultural job losses could be higher than the 10 FTE jobs shown in Table 16-56 because many agricultural jobs are seasonal rather than year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every FTE job lost as a result of construction of conveyance facilities construction. Mapbook Figures M14-9 and M14-10 display areas of Important Farmland and lands under Williamson Act contracts that could

1 be converted to other uses due to the construction of water conveyance facilities for the Through
2 Delta/Separate Corridors alignment.

3 **Table 16-56. Regional Economic Effects on Agricultural Employment and Labor Income during**
4 **Construction (Alternative 9)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-10
Total ^b	-38
Labor Income (million \$)	
Direct	-1.2
Total ^b	-2.4

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.
^b Includes direct, indirect, and induced effects.

5
6 Additionally, the Alternative 9 construction footprint would result in the abandonment of an
7 estimated two producing natural gas wells in the study area, as described in Chapter 26, *Mineral*
8 *Resources*, Section 26.3.3.16, Impact MIN-1. This could result in the loss of employment and labor
9 income associated with monitoring and maintaining these wells. Generally, small crews perform
10 ongoing monitoring and maintenance of several wells at a time. As shown in Chapter 26, *Mineral*
11 *Resources*, Table 26-2, 516 active producer wells are located in the study area. Even if both
12 producing wells in the Alternative 9 construction footprint were abandoned and not replaced with
13 new wells installed outside the construction footprint, the percentage reduction in the number of
14 natural gas wells would be very small. As a result, the employment and labor income effects
15 associated with well abandonment, while negative, would be minimal.

16 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
17 construction-related employment and labor income, this would be considered a beneficial effect.
18 However, these activities would also be anticipated to result in a decrease in agricultural-related
19 employment and labor income, which would be considered an adverse effect. Mitigation Measure
20 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
21 available to reduce these effects by preserving agricultural productivity and compensating off-site.

22 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would increase total
23 employment and income in the Delta region. The change would result from expenditures on
24 construction, increasing employment, and from changes in agricultural production, decreasing
25 employment. Changes in recreational expenditures and natural gas well operations could also affect
26 regional employment and income, but these have not been quantified. The total change in
27 employment and income is not, in itself, considered an environmental impact. Significant
28 environmental impacts would only result if the changes in regional economics cause physical
29 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
30 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
31 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.16, Impacts AG-1
32 and AG-2; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
33 15.3.3.16, REC-1 through REC-4; abandonment of natural gas wells is addressed in Chapter 26,
34 *Mineral Resources*, Section 26.3.3.16, Impact MIN-1. When required, DWR would provide

1 compensation to property owners for economic losses due to implementation of the alternative.
 2 While the compensation to property owners would reduce the severity of economic effects related
 3 to the loss of agricultural land, it would not constitute mitigation for any related physical impact.
 4 Measures to reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section
 5 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve
 6 agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson
 7 Act contracts or in Farmland Security Zones.

8 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 9 **the Proposed Water Conveyance Facilities**

10 **Population**

11 Construction of conveyance facilities would require an estimated peak of 3,210 workers in year 4 of
 12 the assumed 8-year construction period. It is anticipated that many of these new jobs would be filled
 13 from within the existing five-county labor force.

14 Considering the multi-year duration of conveyance facility construction, it is anticipated that non-
 15 local workers would temporarily relocate to the five-county region, thus adding to the local
 16 population. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section
 17 30.3.2.1, Direct Growth Inducement, an estimated 30 percent of workers could come from out of the
 18 Delta region, suggesting that approximately 1,000 workers could relocate to the Delta region at the
 19 peak of the construction period. However, this additional population would constitute a minor
 20 increase in the total 2020 projected regional population of 4.6 million and be distributed throughout
 21 the region. Changes in demand for public services resulting from any increase in population are
 22 addressed in Chapter 20, *Public Services and Utilities*, Section 20.3.3.16, Impact UT-1 through UT-6.

23 **Housing**

24 Changes in housing demand are based on changes in supply resulting from displacement during
 25 facilities construction and changes in housing demand resulting from employment associated with
 26 construction of conveyance facilities. As described in Chapter 13, *Land Use*, Section 13.3.3.16, Impact
 27 LU-2, construction of water conveyance facilities under Alternative 9 would conflict with
 28 approximately 74 residential structures.

29 The construction workforce would most likely commute daily to the work site from within the five-
 30 county region; however, if needed, there are about 53,000 housing units available to accommodate
 31 workers who may choose to commute on a workweek basis or who may choose to temporarily
 32 relocate to the region for the duration of the construction period, including the estimated 1,000
 33 workers who may temporarily relocate to the Delta region from out of the region. In addition to the
 34 available housing units, there are recreational vehicle parks and hotels and motels within the five-
 35 county region to accommodate any construction workers. As a result, and as discussed in more
 36 detail in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, Direct Growth
 37 Inducement, construction of the proposed conveyance facilities is not expected to substantially
 38 increase the demand for housing within the five-county region.

39 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
 40 However, given the availability of housing within the five-county region, predicting where this
 41 impact might fall would be speculative. In addition, new residents would likely be dispersed across
 42 the region, thereby not creating a burden on any one community.

1 Because these activities would not result in permanent concentrated, substantial increases in
2 population or new housing, they would not be considered to have an adverse effect.

3 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
4 population increases in the Delta region with adequate housing supply to accommodate the change
5 in population. Therefore, the minor increase in population is not anticipated to lead to adverse
6 physical changes in the environment.

7 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 8 **Water Conveyance Facilities**

9 **NEPA Effects:** Under Alternative 9, effects on community character would be similar in nature, but
10 not location or magnitude, to those described under Alternative 1A, Impact ECON-3. Under this
11 alternative, regional population and employment would increase to levels described above under
12 Impact ECON-1 and ECON-2. The geographic extent of these effects would also vary from that
13 described for Alternative 1A, as the intensity of effects would be somewhat greater or lesser based
14 on communities' ability to accommodate growth and proximity to features constructed for the water
15 conveyance alignment under this alternative. Under this alternative, areas adjacent to the proposed
16 fish screens in Walnut Grove and Locke could experience the greatest changes in character. Effects
17 associated with construction activities could also result in changes to community cohesion if they
18 were to restrict mobility, reduce opportunities for maintaining face-to-face relationships, or disrupt
19 the functions of community organizations or community gathering places (such as schools, libraries,
20 places of worship, and recreational facilities). Under Alternative 9, several gathering places that lie
21 in the vicinity of construction areas could be indirectly affected by noise and traffic associated with
22 construction activities, including the Walnut Grove Branch Library, Walnut Grove Elementary,
23 Walnut Grove Buddhist Church, Walnut Grove Community Church, Delta Food Bank, South County
24 Services (formerly Galt Community Concilio), Walnut Grove Fire Department, and several marinas
25 or other recreational facilities (see Chapter 15, *Recreation*, Table 15-16).

26 Like Alternative 1A, the anticipated economic shift away from agricultural and recreational activities
27 and towards construction could result in demographic changes. In comparing the existing
28 demographic composition of agricultural workers and construction laborers within the five-county
29 Delta Region, men make up a large proportion of both occupations: 84 percent of agricultural
30 workers were male, compared with 98 percent of construction laborers. Approximately 92 percent
31 of agricultural workers made less than \$35,000, while 60 percent of construction laborers made less
32 than \$35,000. Additionally, 87 percent of agricultural workers within the study area report Hispanic
33 origin, while 54 percent of construction laborers claim Hispanic origin within the five-county area
34 (U.S. Census Bureau 2012b).

35 Construction activities could be expected to bring about a decline in the rural qualities currently
36 exhibited by Delta communities, while expansion of employment and population in the region could
37 provide economic opportunities supportive of community stability. While water conveyance
38 construction could result in beneficial effects relating to the economic welfare of a community,
39 adverse social effects could also arise as a result of declining economic stability in communities
40 closest to construction effects and in those most heavily influenced by agricultural and recreational
41 activities. Implementation of mitigation measures and environmental commitments related to noise,
42 visual effects, transportation, agriculture, and recreation would reduce adverse effects (see
43 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are summarized under
44 Alternative 1A, Impact ECON-3.

1 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 9 could affect
 2 community character in the Delta region. However, because these impacts are social in nature,
 3 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
 4 community character would lead to physical impacts involving population growth, such impacts are
 5 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*,
 6 Section 30.3.2. Furthermore, notable decreases in population or employment, even if limited to
 7 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
 8 character stemming from a lack of maintenance, upkeep, and general investment. However,
 9 implementation of mitigation measures and environmental commitments related to noise, visual
 10 effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see
 11 Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these commitments include
 12 erosion and sediment control plans, hazardous materials management plans, notification of
 13 maintenance activities in waterways, noise abatement plan, fire prevention and control plan, and
 14 mosquito management plans.

15 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing**
 16 **the Proposed Water Conveyance Facilities**

17 **NEPA Effects:** Under Alternative 9, publicly owned water conveyance facilities would be constructed
 18 on land of which some is currently held by private owners. Property tax and assessment revenue
 19 forgone as a result of water conveyance facilities is estimated at \$5.6 million over the construction
 20 period. These decreases in revenue could potentially result in the loss of a substantial share of some
 21 agencies' tax bases, particularly for smaller districts affected by the BDCP such as reclamation
 22 districts where conveyance facilities and associated work areas are proposed. This economic effect
 23 would be considered adverse; however, the BDCP proponents would make arrangements to
 24 compensate local governments for the loss of property tax or assessment revenue for land used for
 25 constructing, locating, operating, or mitigating for new Delta water conveyance facilities.
 26 Additionally, as discussed under Impact ECON-1, construction of the water conveyance facilities
 27 would be anticipated to result in a net increase of income and employment in the Delta region. This
 28 would also create an indirect beneficial effect through increased sales tax revenue for local
 29 government entities that rely on sales taxes.

30 **CEQA Conclusion:** Under Alternative 9, construction of water conveyance facilities would result in
 31 the removal of a portion of the property tax base for various local government entities in the Delta
 32 region. Over the construction period, property tax and assessment revenue forgone is estimated at
 33 \$5.6 million. However, the Sacramento-San Joaquin Delta Reform Act commits the entities receiving
 34 water from the State Water Project and federal Central Valley Project to mitigate for lost property
 35 tax and assessment revenue associated with land needed for the construction of new conveyance
 36 facilities (Water Code Section 85089). Additionally, any losses could be offset, at least in part, by an
 37 anticipated increase in sales tax revenue. CEQA does not require a discussion of socioeconomic
 38 effects except where they would result in reasonably foreseeable physical changes. If an alternative
 39 is not anticipated to result in a physical change to the environment, it would not be considered to
 40 have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any
 41 physical consequences resulting from fiscal impacts are too speculative to ascertain.

1 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 2 **Water Conveyance Facilities**

3 **NEPA Effects:** Under Alternative 9, three recreational facilities would be permanently displaced and
4 three others would be temporarily but directly or indirectly disturbed during construction, as
5 described in Chapter 15, *Recreation*, Section 15.3.3.16, Impacts REC-1 through REC-4. Construction
6 of Alternative 9 facilities would result in displacement and permanent loss of recreation facilities
7 including the Walnut Grove public guest dock, Boathouse Marina, and the Boon Dox guest dock in
8 Walnut Grove. Additionally, the quality of recreational activities including boating, fishing,
9 waterfowl hunting, and hiking in the Delta could be indirectly affected by noise, lighting, traffic, and
10 visual degradation in proximity to water conveyance construction. Recreation areas anticipated to
11 experience temporary or indirect effects include Delta Meadows State Park, Brannan Island State
12 Recreation Area, Sherman Island, Delta Meadows River Park, Stone Lakes National Wildlife Refuge,
13 Cosumnes River Preserve, Dagmar's Landing, Deckhands Marine Supply, Landing 63, Walnut Grove
14 Marina, Bullfrog Landing & Marina, Union Point Marina Bar & Grill, and Clifton Court Forebay.

15 Construction of water conveyance structures under this alternative would be anticipated to result in
16 a lower-quality recreational experience in a number of localized areas throughout the Delta, despite
17 the implementation of mitigation measures, including enhancement of fishing access sites and
18 incorporation of recreational access into project design, and environmental commitments, including
19 providing funding to implement recreational improvements and control aquatic weeds, providing
20 notification of maintenance activities in waterways and developing and implementing a noise
21 abatement plan, as described in Appendix 3B, *Environmental Commitments, AMMs, and CMs*. With a
22 loss of recreational facilities and a decrease in recreational quality, the number of visits would be
23 anticipated to decline, at least in areas closest to construction activities. The multi-year schedule and
24 geographic scale of construction activities and the anticipated decline in recreational spending
25 would be considered an adverse effect. The commitments and mitigation measure cited above
26 would contribute to the reduction of this effect.

27 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 9
28 would be anticipated to impact recreational revenue through the loss of recreational facilities and a
29 decrease in recreational quality. Fewer visits would be anticipated to result in decreased economic
30 activity related to recreational activities. This section considers only the economic effects of
31 recreational changes brought about by construction of the proposed water conveyance facilities.
32 Potential physical changes to the environment relating to recreational resources are described and
33 evaluated in Chapter 15, *Recreation*, Section 15.3.3.16, Impacts REC-1 through REC-4.

34 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 35 **the Proposed Water Conveyance Facilities**

36 Construction of conveyance facilities would convert land from existing agricultural uses to uses that
37 include direct facility footprints, construction staging areas, borrow/spoils areas, RTM storage,
38 temporary and permanent roads, and utilities. Agricultural land could also be affected by changes in
39 water quality and other conditions that would affect crop productivity. These direct effects on
40 agricultural land are described in Chapter 14, *Agricultural Resources*, Section 14.3.3.16, Impacts AG-
41 1 and AG-2.

42 Changes in crop acreage were used to describe the associated changes in economic values. Unit
43 prices, yields, and crop production and investment costs were presented in Section 16.1,
44 *Environmental Setting/Affected Environment*. Table 16-57 summarizes the changes in acreage and

1 value of agricultural production that would result in the Delta region as a result of Alternative 9
 2 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative
 3 by aggregate crop category (agricultural resources under Existing Conditions and in the No Action
 4 Alternative were assumed to be the same). The table also includes a summary of changes in crop
 5 acreages that are reported in greater detail in Appendix 14A, *Individual Crop Effects as a Result of*
 6 *BDCP Water Conveyance Facility Construction*.

7 Total value of irrigated crop production in the Delta would decline on average by \$3.8 million per
 8 year during the construction period, with total irrigated crop acreage declining by about 2,600 acres.
 9 These estimates are not dependent on water year type.

10 **Table 16-57. Crop Acres and Value of Agricultural Production in the Delta during Construction**
 11 **(Alternative 9)**

Analysis Metric	Alternative 9	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	481.0	-2.6
Grains	58.3	-0.3
Field crops	190.4	-0.7
Forage crops	111.8	-1.0
Vegetable, truck, and specialty crops	76.6	-0.6
Orchards and vineyards	44.0	-0.1
Total Value of Production (million \$)	646.2	-3.8
Grains	24.1	-0.1
Field crops	113.4	-0.4
Forage crops	72.3	-0.8
Vegetable, truck, and specialty crops	266.2	-2.2
Orchards and vineyards	170.3	-0.3

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

12
 13 Alternative 9 may also affect production costs, investments in production facilities and standing
 14 orchards and vineyards, and salinity of agricultural water supply. Effects would be similar to those
 15 qualitatively described under Alternative 1A, Impact ECON-6. See Chapter 14, *Agricultural*
 16 *Resources*, Section 14.3.3.16, Impacts AG-1 and AG-2, for further discussion of indirect effects on
 17 agricultural resources.

18 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 19 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 20 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 21 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 22 agricultural productivity and compensating off-site.

23 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 24 value of agricultural production in the Delta region. The removal of agricultural land from
 25 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.16, Impacts AG-1 and
 26 AG-2. The reduction in the value of agricultural production is not considered an environmental
 27 impact. Significant environmental impacts would only result if the changes in regional economics

1 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 2 required, DWR would provide compensation to property owners for economic losses due to
 3 implementation of the alternative. While the compensation to property owners would reduce the
 4 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 5 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 6 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 7 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 8 and land subject to Williamson Act contracts or in Farmland Security Zones.

9 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region**
 10 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

11 In the Delta region, ongoing operation and maintenance of BDCP facilities would result in increased
 12 expenditures relative to the Existing Conditions and the No Action Alternative (regional economic
 13 conditions do not differ across Existing Conditions and No Action Alternative). The increased
 14 expenditures are expected to result in a permanent increase in regional employment and income,
 15 including an estimated 121 direct and 177 total (direct, indirect, and induced) FTE jobs (Table 16-
 16 58). Potential changes in the value of agricultural production result in changes to regional
 17 employment and income in the Delta region under the Alternative 9 relative to the Existing
 18 Conditions and the No Action Alternative.

19 **Table 16-58. Regional Economic Effects on Employment and Labor Income during Operations and**
 20 **Maintenance (Alternative 9)**

Regional Economic Impact ^a	Impacts from Operations and Maintenance
Employment (FTE)	
Direct	121
Total ^b	177
Labor Income (million \$)	
Direct	7.8
Total ^b	10.5

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.
^b Includes direct, indirect, and induced effects.

21
 22 The operation and maintenance of conveyance and related facilities such as roads and utilities
 23 would result in the permanent removal of agricultural land from production following construction,
 24 and the effects on employment and income would be negative, including the loss of an estimated 14
 25 agricultural and 36 total (direct, indirect, and induced) FTE jobs. The regional economic effects on
 26 employment and income in the Delta region from the change in agricultural production are reported
 27 in Table 16-59. Based on the permanent crop production value changes described in Impact ECON-
 28 12, the agricultural job losses would more likely be concentrated in the vegetable, truck, orchard,
 29 and vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage
 30 crop sectors, where more jobs are mechanized. Note that direct agricultural job losses could be
 31 higher than the 14 FTE jobs shown in Table 16-59 because many agricultural jobs are seasonal
 32 rather than year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every
 33 FTE job lost as a result of permanent agricultural production changes. Mapbook Figures M14-9 and

M14-10 display areas of Important Farmland and lands under Williamson Act contracts that could be converted to other uses due to the construction of water conveyance facilities for the Separate Corridors/Through Delta alignment.

Table 16-59. Regional Economic Effects on Agricultural Employment and Labor Income during Operations and Maintenance (Alternative 9)

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-14
Total ^b	-36
Labor Income (million \$)	
Direct	-1.0
Total ^b	-1.9

Note: Labor income is reported in 2011 dollars (U.S. Department of Commerce 2012).

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects.

NEPA Effects: Because continued operation and maintenance of water conveyance facilities would result in an increase in operations-related employment and labor income, this would be considered a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in agricultural-related employment and labor income, which would be considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural productivity and compensating off-site.

CEQA Conclusion: Operation and maintenance of the proposed water conveyance facilities would increase total employment and income in the Delta region. The change would result from expenditures on BDCP operation and maintenance, increasing employment, and from changes in agricultural production, decreasing employment. The total change in income and employment is not, in itself, considered an environmental impact. Significant environmental impacts would only result if the changes in regional economics cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.16, Impacts AG-3 and AG-4; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.16, Impacts REC-5 through REC-8. When required, DWR would provide compensation to property owners for economic losses due to implementation of the alternative. While the compensation to property owners would reduce the severity of economic effects related to the loss of agricultural land, it would not constitute mitigation for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones.

1 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 2 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

3 **Population**

4 Operations and maintenance of conveyance facilities would require approximately 120 permanent
5 new workers. Given the nature of those operation and maintenance jobs, the existing water
6 conveyance facilities already in the five-county region, the large workforce in the region, and the
7 large water agencies with headquarters in that region, it is anticipated that most of these new jobs
8 would be filled from within the existing five-county labor force. However, operation and
9 maintenance may require specialized worker skills not readily available in the local labor pool. As a
10 result, it is anticipated that some specialized workers may be recruited from outside the five-county
11 region.

12 It is anticipated that non-local workers would relocate to the five-county region, thus adding to the
13 local population. However, this additional population would constitute a minor increase in the total
14 2020 projected regional population of 4.6 million and be distributed throughout the region. Changes
15 in demand for public services resulting from any increase in population are addressed in Chapter 20,
16 *Public Services and Utilities*, Section 20.3.3.16, Impact UT-7.

17 **Housing**

18 It is anticipated that most of the operational workforce would be drawn from within the five-county
19 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.
20 There are about 53,000 housing units available to accommodate any nonlocal workers who relocate
21 to the five-county region. As a result, operation and maintenance of the proposed conveyance
22 facilities is not expected to increase the demand for housing.

23 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
24 population or new housing, they would not be considered to have an adverse effect.

25 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
26 result in minor population increases in the Delta region with adequate housing supply to
27 accommodate the change in population. Therefore, the minor increase in population is not
28 anticipated to lead to adverse physical changes in the environment.

29 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 30 **Proposed Water Conveyance Facilities**

31 **NEPA Effects:** Throughout the five-county Delta region, population and employment could slightly
32 expand due to continued operation and maintenance of the water conveyance facilities under
33 Alternative 9. Agricultural and recreational contributions to the character and culture of the Delta
34 would be likely to experience a decline commensurate with the projected effects discussed under
35 Impact ECON-7 and Impact ECON-11, below. This could result in the closure of businesses
36 dependent on these industries or their employees, particularly in areas where these activities would
37 be most affected. Those hired to operate, repair, and maintain water conveyance structures could
38 bring new influences to Delta communities. To the extent that this anticipated economic shift away
39 from agriculture and recreation results in demographic changes in population, employment level,
40 income, age, gender, or race, the study area would be expected to see changes to its character,

1 particularly in those Delta communities most substantially affected by demographic changes based
2 on their size or proximity to BDCP facilities.

3 While some of the rural qualities of Delta communities, including relatively low noise and traffic
4 levels, could return to near pre-construction conditions during the operational phase, other effects
5 would be lasting. For instance, the visual appearance of intakes and other permanent features would
6 compromise the predominantly undeveloped and agricultural nature of communities like Walnut
7 Grove and Locke, which would be closest to the permanent water conveyance features under this
8 alternative. Where operations make areas less desirable in which to live, work, shop, or participate
9 in recreational activities, localized abandonment of buildings could result. Such lasting effects could
10 also result in changes to community cohesion if they were to restrict mobility, reduce opportunities
11 for maintaining face-to-face relationships, or disrupt the functions of community organizations or
12 community gathering places (such as schools, libraries, places of worship, and recreational
13 facilities).

14 While ongoing operations could result in beneficial effects relating to the economic welfare of a
15 community under Alternative 9, adverse social effects could also arise, particularly in communities
16 closest to character-changing effects and in those most heavily influenced by agricultural and
17 recreational activities. Implementation of mitigation measures and environmental commitments
18 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
19 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
20 summarized under Alternative 1A, Impact ECON-9.

21 **CEQA Conclusion:** Operations and maintenance of water conveyance facilities under Alternative 9
22 could affect community character in the Delta region. However, because these impacts are social in
23 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
24 changes to community character would lead to physical impacts involving population growth, these
25 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
26 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment could
27 result in alteration of community character stemming from a lack of maintenance, upkeep, and
28 general investment.

29 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 30 **Maintenance of the Proposed Water Conveyance Facilities**

31 **NEPA Effects:** Under Alternative 9, publicly owned water conveyance facilities would be located,
32 operated, and maintained on land of which some is currently held by private owners. Property tax
33 and assessment revenue forgone as a result of water conveyance facilities is estimated at \$33.7
34 million over the BDCP's 50-year permit period. These decreases in revenue could potentially result
35 in the loss of a substantial share of some agencies' tax bases, particularly for smaller districts
36 affected by the BDCP. This economic effect would be considered adverse; the BDCP proponents
37 would make arrangements to compensate local governments for the loss of property tax or
38 assessment revenue for land used for constructing, locating, operating, or mitigating for new Delta
39 water conveyance facilities. Additionally, as discussed under Impact ECON-7, operation and
40 maintenance of the water conveyance facilities would be anticipated to result in a net increase of
41 income and employment in the Delta region. This could also create an indirect beneficial effect
42 through increased sales tax revenue for local government entities that rely on sales taxes.

1 **CEQA Conclusion:** Under Alternative 9, the ongoing operation and maintenance of water
 2 conveyance facilities would restrict potential property tax revenue for various local government
 3 entities in the Delta region. Over the 50-year permit period, property tax and assessment revenue
 4 forgone is estimated at \$33.7 million. However, the Sacramento-San Joaquin Delta Reform Act
 5 commits the entities receiving water from the State Water Project and Central Valley Project to
 6 mitigate for lost property tax and assessment revenue associated with land needed for the
 7 construction of new conveyance facilities (Water Code Section 85089). Additionally, any losses
 8 could be offset, at least in part, by an anticipated increase in sales tax revenue. CEQA does not
 9 require a discussion of socioeconomic effects except where they would result in reasonably
 10 foreseeable physical changes. If an alternative is not anticipated to result in a physical change to the
 11 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
 12 Sections 15064(f) and 15131). Here, any physical consequences resulting from fiscal impacts are too
 13 speculative to ascertain.

14 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 15 **Proposed Water Conveyance Facilities**

16 **NEPA Effects:** Under Alternative 9, recreational activities including boat passage and navigation
 17 would be adversely affected by water conveyance operations. An environmental commitment
 18 related to boat passage facilities would reduce this effect at a majority of operable gate locations,
 19 allowing continued waterway passage while gates are closed; however, passage would be
 20 unavailable at three locations. Furthermore, even at those locations that would allow passage,
 21 boaters would now be required to wait at gates, potentially for longer than 30 minutes during peak
 22 use times. Operable gate and boat passage facilities would also require speed limits in the vicinity,
 23 which could adversely affect some recreational opportunities, including waterskiing, wakeboarding,
 24 and tubing. In some areas, boat navigation could be enhanced due to dredging activities and a new
 25 channel connection. However, use of operable gates would result in an adverse effect on recreational
 26 activities and would be anticipated to result in an adverse economic effect, at least in localized areas,
 27 by reducing the quality of the boating experience, along with other water-based recreation. An
 28 environmental commitment to retain passage at some facilities, along with implementation of
 29 Mitigation Measures REC-13a and REC-13b would reduce the severity of this effect.

30 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 31 conveyance facilities under Alternative 9 are anticipated to result in substantial localized effects on
 32 recreational resources and therefore, are expected to reduce related economic activity such as
 33 lodging, food, fuel, and accessories in these areas. This section considers only the economic effects of
 34 recreational changes brought about by construction of the proposed water conveyance facilities.
 35 Potential physical changes to the environment relating to recreational resources are described and
 36 evaluated in Chapter 15, *Recreation*, Section 15.3.3.16, Impacts REC-5 through REC-8.

37 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 38 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

39 During operation and maintenance of conveyance facilities, existing agricultural land would be
 40 within uses that include direct facility footprints and associated permanent roads and utilities.
 41 Agricultural land could also be affected by changes in water quality and other conditions that would
 42 affect crop productivity. These direct effects on agricultural land are described in Chapter 14,
 43 *Agricultural Resources*, Section 14.3.3.16, Impacts AG-1 and AG-2.

1 Changes in crop acreage were used to estimate the associated changes in economic values. Unit
 2 prices, yields, and crop production and investment costs were presented in Section 16.1,
 3 *Environmental Setting/Affected Environment*. Table 16-60 summarizes the changes in acreage and
 4 value of agricultural production that would result in the Delta region during operation of Alternative
 5 9. Changes are shown relative to the Existing Conditions and the No Action Alternative by aggregate
 6 crop category (agricultural resources under Existing Conditions and in the No Action Alternative
 7 were assumed to be the same). The changes in crop acreages are reported in greater detail in
 8 Appendix 14A, *Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction*.

9 Total value of irrigated crop production in the Delta region would decline on average by \$3.4 million
 10 per year during operation and maintenance, with total irrigated crop acreage declining by about
 11 2,300 acres. These estimates are not dependent on water year type.

12 **Table 16-60. Crop Acres and Value of Agricultural Production in the Delta Region during**
 13 **Operations and Maintenance (Alternative 9)**

Analysis Metric	Alternative 9	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	481.4	-2.3
Grains	58.4	-0.2
Field crops	190.5	-0.6
Forage crops	111.8	-0.9
Vegetable, truck, and specialty crops	76.6	-0.6
Orchards and vineyards	44.0	0.0
Total Value of Production (million \$)	646.6	-3.4
Grains	24.2	-0.1
Field crops	113.5	-0.4
Forage crops	72.3	-0.8
Vegetable, truck, and specialty crops	266.3	-2.1
Orchards and vineyards	170.4	-0.1

Note: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).

14
 15 Alternative 9 may also affect production costs on lands even if gross revenues are largely unaffected.
 16 Costs could be associated with operational constraints and longer travel times due to permanent
 17 facilities. In most cases, affected lands fall within the facilities footprint, and are included in the
 18 agricultural acreage and value of production described elsewhere in this Chapter and in Chapter 14,
 19 *Agricultural Resources*, Section 14.3.3.16.

20 Crop yields and crop selection on lands in the Delta could be affected by changes in salinity of
 21 agricultural water supply during operation and maintenance activities. If operation of the proposed
 22 conveyance facilities increases salinity in part of the Delta, crops that are more sensitive to salinity
 23 could shift to other lands in the five-county Delta region. See Chapter 14, *Agricultural Resources*,
 24 Section 14.3.3.16, Impact AG-2, for further discussion of effects from changes in salinity.

25 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 26 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 27 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section

1 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
2 productivity and compensating off-site.

3 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities
4 the value of agricultural production in the Delta region would be reduced. The permanent removal
5 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
6 14.3.3.16, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
7 considered an environmental impact. Significant environmental impacts would only result if the
8 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
9 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
10 economic losses due to implementation of the alternative. While the compensation to property
11 owners would reduce the severity of economic effects related to the loss of agricultural land, it
12 would not constitute mitigation for any related physical effect. Measures to reduce these impacts are
13 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
14 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
15 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
16 Zones.

17 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 18 **Implementation of CM2–CM21**

19 **NEPA Effects:** Effects on regional economics as a result of the proposed CM2–CM21 would be similar
20 to those described under Alternative 1A, Impact ECON-13. In the Delta region, spending on CM2–
21 CM21 would include construction, operation and maintenance activities that would convert or
22 disturb existing land use. Because implementation of CM2–CM21 would be anticipated to result in
23 an increase in construction and operation and maintenance-related employment and labor income,
24 this would be considered a beneficial effect. However, implementation of these components would
25 also be anticipated to result in a decrease in agricultural-related employment and labor income,
26 which would be considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14,
27 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by
28 preserving agricultural productivity and compensating off-site. Additionally, implementation of
29 these components are anticipated to result in the abandonment of natural gas wells, causing a
30 decrease in employment and labor income associated with monitoring and maintaining wells, which
31 would be considered an adverse effect. Mitigation Measure MIN-5, described in Chapter 26, *Mineral*
32 *Resources*, Section 26.3.3.2, Impact MIN-5, would be available to reduce these effects by minimizing,
33 to the extent feasible, the need for well abandonment or relocation.

34 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would affect total employment and
35 income in the Delta region. The change in total employment and income in the Delta region is based
36 on expenditures resulting from implementation of the proposed CM2–CM21 and any resulting
37 changes in agricultural production, recreation, and natural gas production activities. The total
38 change in employment and income is not, in itself, considered an environmental impact. Significant
39 environmental impacts would only result if the changes in regional economics cause physical
40 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
41 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
42 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
43 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11; abandonment of natural gas wells is
44 addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

1 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of**
 2 **Implementing CM2–CM21**

3 Effects on population and housing as a result of the proposed CM2–CM21 would be similar to those
 4 described under Alternative 1A, Impact ECON-14. In general, the changes in population and housing
 5 would include increases in population from the construction and operation and maintenance-
 6 related activity and declines in residential housing and business establishments as a result of lands
 7 converted or impaired.

8 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 9 population or new housing, they would not be considered to have an adverse effect.

10 **CEQA Conclusion:** Implementation of the proposed CM2–CM21 would impact total population and
 11 housing in the Delta region. The change in total population and housing in the Delta region is based
 12 on employment resulting from implementation of the proposed CM2–CM21. The change in
 13 population and housing is expected to be minor relative to the five-county Delta region, and
 14 dispersed throughout the region. Therefore, significant changes to the physical environment are not
 15 anticipated to result.

16 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**

17 **NEPA Effects:** Effects on community character as a result of the proposed CM2–CM21 would be
 18 similar to those described under Alternative 1A, Impact ECON-15 because the measures are similar.
 19 While implementation of CM2–CM21 could result in beneficial effects relating to the economic
 20 welfare of a community, adverse social effects, including effects on community cohesion, could also
 21 arise in those communities closest to character-changing effects and those most heavily influenced
 22 by agricultural activities. Implementation of mitigation measures and environmental commitments
 23 related to noise, visual effects, transportation, agriculture, and recreation would reduce adverse
 24 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). These actions are
 25 summarized under Alternative 1A, Impact ECON-15.

26 **CEQA Conclusion:** Implementation of CM2–CM21 under Alternative 9 could affect community
 27 character within the Delta region. However, because these impacts are social in nature, rather than
 28 physical, they are not considered impacts under CEQA. To the extent that changes to community
 29 character are related to physical impacts involving population growth, these impacts are described
 30 in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable
 31 decreases in population or employment, even if limited to certain areas, sectors, or the vacancy of
 32 individual buildings, could result in alteration of community character stemming from a lack of
 33 maintenance, upkeep, and general investment.

34 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing**
 35 **CM2–CM21**

36 **NEPA Effects:** Under Alternative 9, effects on local government fiscal conditions as a result of
 37 conservation measure implementation would be similar to those described under Alternative 1A,
 38 Impact ECON-16. CM2–CM21 would remove some private land from local property tax and
 39 assessment rolls. This economic effect would be considered adverse; however, the BDCP proponents
 40 would offset forgone property tax and assessments levied by local governments and special districts
 41 on private lands converted to habitat.

1 **CEQA Conclusion:** Under Alternative 9, implementation of CM2–CM21 would result in the removal
 2 of a portion of the property tax base for various local government entities in the Delta region. Over
 3 the 50-year permit period, property tax and assessment revenue forgone is estimated to reach
 4 \$176.7 million. However, the BDCP proponents would compensate local governments and special
 5 districts for forgone revenue. CEQA does not require a discussion of socioeconomic effects except
 6 where they would result in physical changes. If an alternative is not anticipated to result in a
 7 physical change to the environment, it would not be considered to have a significant impact under
 8 CEQA (CEQA Guidelines Sections 15064(f) and 15131).

9 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**

10 **NEPA Effects:** Effects related to implementation of the CM2–CM21 under this alternative would be
 11 similar to those described under Alternative 1A, Impact ECON-17. These measures may result in
 12 adverse and beneficial effects on recreational resources in the Delta region, resulting in the potential
 13 for decreased or increased economic activities related to recreation.

14 **CEQA Conclusion:** Implementation of conservation measures would limit opportunities for
 15 recreation and compromise the quality of activities, leading to potential economic impacts.
 16 However, over time, implementation could also improve the quality of existing recreational
 17 opportunities, creating increased economic value with respect to recreation. This section considers
 18 only the economic effects of recreational changes brought about by conservation measure
 19 implementation. Potential physical changes to the environment relating to recreational resources
 20 are described and evaluated in Chapter 15, *Recreation*, Section 15.3.3.16, Impacts REC-9 through
 21 REC-11.

22 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of** 23 **Implementing CM2–CM21**

24 Effects on agricultural economics as a result of the proposed CM2–CM21 would be similar to those
 25 described under Alternative 1A, Impact ECON-18. CM2–CM21 would convert land from existing
 26 agricultural uses. These direct effects on agricultural land are described qualitatively in Chapter 14,
 27 *Agricultural Resources*, Section 14.3.3.16, Impacts AG-3 and AG-4. Effects on agricultural economics
 28 would include effects on crop production and agricultural investments resulting from restoration
 29 actions on agricultural lands. The effects would be similar in kind to those described for lands
 30 converted due to construction and operation of the conveyance features and facilities. The total
 31 acreage and crop mix of agricultural land potentially affected is not specified at this time, but when
 32 required, the BDCP proponents would provide compensation to property owners for losses due to
 33 implementation of the alternative.

34 **NEPA Effects:** Because implementation of the CM2–CM21 would be anticipated to lead to reductions
 35 in crop acreage and in the value of agricultural production in the Delta region, this is considered an
 36 adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 37 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 38 productivity and compensating off-site.

39 **CEQA Conclusion:** Implementation of CM2–CM21 would reduce the total value of agricultural
 40 production in the Delta region. The permanent removal of agricultural land from production is
 41 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.16, Impacts AG-3 and AG-4. The
 42 reduction in the value of agricultural production is not considered an environmental impact.
 43 Significant environmental impacts would only result if the changes in regional economics cause

1 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 2 required, the BDCP proponents would provide compensation to property owners for economic
 3 losses due to implementation of the alternative. While the compensation to property owners would
 4 reduce the severity of economic effects related to the loss of agricultural land, it would not
 5 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 6 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

7 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

8 The socioeconomic effects associated with operation of Alternative 9 would be similar to those
 9 described under Alternative 1A, Impact ECON-19; however, the magnitude of the effects would be
 10 different based on the use of separate corridors and operations under Scenario G would lead to
 11 slightly reduced overall deliveries compared to the No Action Alternative. Changes in deliveries to
 12 hydrologic regions could result in beneficial or adverse socioeconomic effects in these areas. In
 13 hydrologic regions where water deliveries are predicted to increase when compared with the No
 14 Action Alternative, more stable agricultural activities could support employment and economic
 15 production associated with agriculture.

16 ***NEPA Effects:***

17 **Changes in CVP and SWP Deliveries Compared to No Action Alternative**

18 Compared to No Action Alternative (LLT 2060), Alternative 9 would decrease deliveries to all
 19 regions south of the Delta. The average annual decrease in CVP and SWP deliveries would be 54 TAF,
 20 and the distribution of these increased deliveries to each hydrologic region are given in Table 30-21.

21 Changes in deliveries to hydrologic regions could result in adverse or beneficial socioeconomic
 22 effects in these areas. Reduced or less reliable water deliveries would result in decreased
 23 agricultural production and, in turn, a reduction in both direct and indirect agricultural employment.
 24 Economic and social patterns tied to predominant agricultural industrial activities and land uses
 25 could erode, changing the character of agricultural communities in hydrologic regions. If M&I
 26 deliveries were reduced to the extent that it would, in the long run, constrain population growth in
 27 certain hydrologic regions, implementation of Alternative 9 could reinforce a socioeconomic status
 28 quo or limit potential economic and employment growth in hydrologic regions. Changes to
 29 agricultural production and population growth with its associated economic activity could also lead
 30 to shifts in the character of communities in the hydrologic regions with resultant beneficial or
 31 adverse effects. Likewise, limited growth associated with reduced deliveries could require lower
 32 expenditures for local governments while also leading to reduced revenue.

33 ***CEQA Conclusion:*** As described above, the operational components of BDCP CM1 could result in a
 34 number of effects in areas receiving SWP and CVP water deliveries outside of the Delta.

35 **Changes in CVP and SWP Deliveries Compared to Existing Conditions**

36 Compared to Existing Conditions, Alternative 9 would decrease deliveries to all hydrologic regions
 37 south of the Delta. The average annual decrease in CVP and SWP deliveries would be 704 TAF, and
 38 the distribution of these increased deliveries to each hydrologic region are given in Table 30-20.

1 Summary

2 Operation of water conveyance facilities under Alternative 9 could affect socioeconomic conditions
 3 in the hydrologic regions receiving water from the SWP and CVP. However, because these impacts
 4 are social and economic in nature, rather than physical, they are not considered environmental
 5 impacts under CEQA. To the extent that changes in socioeconomic conditions in the hydrologic
 6 regions would lead to physical impacts, such impacts are described in Chapter 30, *Growth*
 7 *Inducement and Other Indirect Effects*, Section 30.3.2.

8 **16.3.4 Effects and Mitigation Approaches—Alternatives 4A,** 9 **2D, and 5A**

10 **16.3.4.1 No Action Alternative Early Long-Term**

11 Under the No Action Alternative (ELT) socioeconomic conditions would continue largely as under
 12 Existing Conditions. The No Action Alternative (ELT) includes continued SWP/CVP operations,
 13 maintenance, enforcement, and protection programs by federal, state, and local agencies, as well as
 14 projects that are permitted or under construction. When compared with conditions at the late long-
 15 term, Delta communities and socioeconomic conditions in the Delta would be subject to lower level
 16 of risks associated with climate change, seismic activity, and other phenomena, as discussed in
 17 Appendix 3E, *Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies*.

18 Population and housing effects in the Delta under the No Action Alternative (ELT) would be
 19 anticipated to follow the trends identified in Section 16.1 *Environmental Setting/Affected*
 20 *Environment*, but a smaller increment of growth would be anticipated when compared to conditions
 21 in the late long-term. Similarly, the regional economy of the Delta region is expected to be similar in
 22 structure to that described for Existing Conditions. Potential changes in expenditures related to
 23 recreation and municipal and industrial water uses as well as potential changes in the value of
 24 agricultural production could result in changes to regional employment and income in the Delta
 25 region under the No Action Alternative (ELT). The scale of the economy would change with
 26 population growth; however, the structure of the economy would not. It is possible that some of the
 27 projects, programs, and plans considered part of the No Action Alternative (ELT) would reduce the
 28 total acreage and value of agricultural production in the Delta region. For example, under the 2008
 29 and 2009 NMFS and USFWS BiOp, up to 8,000 acres of agricultural land could be converted to tidal
 30 habitat. Similarly, agricultural land uses in the Yolo Bypass or Suisun Marsh could be periodically or
 31 permanently disrupted by other habitat restoration efforts. While local government fiscal conditions
 32 in Delta region would be anticipated to be similar to existing conditions, programs resulting in
 33 public acquisition of privately held land, in addition to the population and economic changes
 34 described above, could affect property and sales tax revenue.

35 **CEQA Conclusion:** The ongoing programs and plans under the No Action Alternative (ELT), along
 36 with anticipated population growth, would not be anticipated to substantially alter the character of
 37 Delta communities, the structure of the regional economy, or local government fiscal conditions,
 38 when compared with Existing Conditions and therefore would not be anticipated to result in any
 39 physical change to the environment, significant or otherwise.

1 **Effects in South-of-Delta Hydrologic Regions**

2 Under the No Action Alternative (ELT), several assumptions would create a deviation from Existing
 3 Conditions. First, an increase in M&I water rights demands is assumed north of the Delta, increasing
 4 overall system demands and reducing the availability of CVP water for export south of the Delta.
 5 Secondly, the No Action Alternative (ELT) includes the effects of implementation of the Fall X2
 6 standard, which requires additional water releases through the Delta and would therefore reduce
 7 the availability of water for export to SWP and CVP facilities. The No Action Alternative (ELT) also
 8 includes effects of sea level rise and climate change, factors that would also reduce the amount of
 9 water available for SWP and CVP supplies (but not as much of a reduction as estimated for the No
 10 Action Alternative Late Long-Term (LLT). These factors result in a decrease in deliveries under the
 11 No Action Alternative (ELT), when compared to Existing Conditions. A detailed explanation of
 12 factors influencing deliveries under the No Action Alternative (LLT) and No Action Alternative (ELT)
 13 is provided in Section 5.3.3.1 and Section 5.3.4.1, respectively.

14 Changes in deliveries would result in similar effects to hydrologic regions as described for the No
 15 Action Alternative (LLT), but to a smaller magnitude. Where there are reduced deliveries to
 16 agricultural contractors, it is reasonable to expect that agricultural production in affected areas
 17 would also decline, with potential resultant changes in employment, labor income, community
 18 character, and local government fiscal conditions. Where M&I deliveries increase and accommodate
 19 population growth, such growth could stimulate economic activity resulting from increased demand
 20 for goods and services. As with estimating changes in agricultural production, the location and
 21 extent of population growth would depend largely on local factors. Where M&I deliveries under the
 22 No Action Alternative (ELT) would be reduced compared to Existing Conditions to the extent that
 23 they would, in the long run, constrain population growth, their implementation could reinforce a
 24 socioeconomic status quo or limit potential economic and employment growth in hydrologic
 25 regions. Further discussion of these potential effects is included in Chapter 28, *Environmental*
 26 *Justice*, and in Chapter 30, *Growth Inducement and Other Indirect Effects*.

27 **CEQA Conclusion:** Operation of water conveyance facilities under the No Action Alternative could
 28 affect socioeconomic conditions in the hydrologic regions receiving water from the SWP and CVP
 29 However, because these impacts are social and economic in nature, rather than physical, they are
 30 not considered environmental impacts under CEQA. To the extent that changes in socioeconomic
 31 conditions in the hydrologic regions would lead to physical impacts, such impacts are described in
 32 Chapter 30, *Growth Inducement and Other Indirect Effects*.

33 **16.3.4.2 Alternative 4A—Dual Conveyance with Modified** 34 **Pipeline/Tunnel and Intakes 2, 3, and 5 (9,000 cfs; Operational** 35 **Scenario H)**

36 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 37 **Region during Construction of the Proposed Water Conveyance Facilities**

38 The regional economic effects on employment and income in the Delta region during construction of
 39 Alternative 4A would be identical to those described for Alternative 4 in Section 16.3.3.9 because the
 40 water conveyance facilities proposed under these alternatives are identical. Under Alternative 4A,
 41 direct construction employment is anticipated to vary over the 14-year construction period with an
 42 estimated 66 full time equivalent (FTE) jobs in the first year and 486 FTE jobs in the final year of the

1 construction period. Construction employment is estimated to peak at 2,427 FTE jobs in year 3.
2 Total employment (direct, indirect, and induced) would peak in year 12, at 8,673 FTE jobs.

3 The footprint of conveyance and related facilities such as roads and utilities would remove some
4 existing agricultural land from production, so the effects on employment and income would be
5 negative. Direct agricultural employment would be reduced by an estimated 16 FTE jobs, while total
6 employment (direct, indirect, and induced) associated with agricultural employment would fall by
7 57 FTE jobs. Based on the crop production values changes described in Impact ECON-6 for
8 construction effects, the direct agricultural job losses would more likely be concentrated in the
9 vegetable, truck, orchard, and vineyard crop sectors, which are relatively labor intensive, than in the
10 grain, field, and forage crop sectors, where more jobs are mechanized. Mapbook Figures M14-7 and
11 M14-8 display areas of Important Farmland and lands under Williamson Act contracts that could be
12 converted to other uses due to the construction of water conveyance facilities for the Modified
13 Pipeline/Tunnel alignment.

14 The Alternative 4A construction footprint would not result in the abandonment of any active
15 producing natural gas wells in the study area, as described in Chapter 26, *Mineral Resources*, Impact
16 MIN-1. Therefore, this alternative would not be anticipated to result in the loss of employment or
17 labor income associated with monitoring and maintaining these wells.

18 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
19 construction-related employment and labor income, this would be considered a beneficial effect.
20 However, these activities would also be anticipated to result in a decrease in agricultural-related
21 employment and labor income, which would be considered an adverse effect. Mitigation Measure
22 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
23 available to reduce these effects by preserving agricultural productivity and compensating offsite.

24 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would temporarily
25 increase total employment and income in the Delta region. The change would result from
26 expenditures on construction, increasing employment, and from changes in agricultural production,
27 decreasing employment. Changes in recreational expenditures and natural gas well operations could
28 also affect regional employment and income, but these have not been quantified. The total change in
29 employment and income is not, in itself, considered an environmental impact. Significant
30 environmental impacts within the meaning of CEQA would only result if the changes in regional
31 economics cause reasonably foreseeable physical impacts. Such environmental effects are discussed
32 in other chapters throughout this EIR/EIS. Removal of agricultural land from production is
33 addressed under Impacts AG-1 and AG-2 in Chapter 14, *Agricultural Resources*; changes in
34 recreation related activities are addressed under Impacts REC-1 through REC-4 in Chapter 15,
35 *Recreation*; abandonment of natural gas wells is addressed under Impact MIN-1 in Chapter 26,
36 *Mineral Resources*. When required, DWR would provide compensation to property owners for
37 economic losses due to implementation of the alternative. While the compensation to property
38 owners would reduce the severity of economic effects related to the loss of agricultural land, it
39 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
40 are discussed under Impact AG-1 in Chapter 14, *Agricultural Resources*, Section 14.3.3.2.

1 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 2 **the Proposed Water Conveyance Facilities**

3 Effects on population and housing in the Delta region during construction of Alternative 4A would
4 be identical to those described for Alternative 4 in Section 16.3.3.9 because the water conveyance
5 facilities proposed under these alternatives are identical.

6 Construction of conveyance facilities would require an estimated peak of 2,427 workers in year 3 of
7 the assumed 14-year construction period. It is anticipated that many of these new jobs would be
8 filled from within the existing five-county labor force; however, it is anticipated that some
9 specialized workers may be recruited from outside the five-county region and would relocate to the
10 area. An estimated 30% of workers could come from out of the Delta region, suggesting that
11 approximately 730 workers could relocate to the Delta region at the peak of the construction period.
12 However, this additional population would constitute a minor increase in the total 2025 projected
13 regional population of 4.6 million and be distributed throughout the region. Changes in demand for
14 public services resulting from any increase in population are addressed under Impacts UT-1 through
15 UT-6 in Chapter 20, *Public Services and Utilities*.

16 Changes in housing demand are based on changes in supply resulting from displacement during
17 facilities construction and changes in housing demand resulting from employment associated with
18 construction of conveyance facilities. As described under Impact LU-2 in Chapter 13, *Land Use*,
19 construction of water conveyance facilities under Alternative 4 would conflict with approximately
20 17 residential structures. The physical footprints of the three intake facilities, along with associated
21 work areas, are anticipated to create the largest disruption to structures, conflicting with 11 of these
22 residences.

23 The construction workforce would most likely commute daily to the work sites from within the five-
24 county region; however, if needed, there are about 53,000 housing units available to accommodate
25 workers who may choose to commute on a workweek basis or who may choose to temporarily
26 relocate to the region for the duration of the construction period, including the estimated 730
27 workers who may temporarily relocate to the Delta region from out of the region. In addition to the
28 available housing units, there are recreational vehicle parks and hotels and motels within the five-
29 county region to accommodate any construction workers. As a result, and as discussed in more
30 detail in Chapter 30, *Growth Inducement and Other Indirect Effects*, construction of the proposed
31 conveyance facilities is not expected to substantially increase the demand for housing within the
32 five-county region.

33 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
34 However, given the availability of housing within the five-county region, predicting where this
35 impact might fall would be speculative. In addition, new residents would likely be dispersed across
36 the region, thereby not creating a burden on any one community. Because these activities would not
37 result in permanent concentrated, substantial increases in population or new housing, they would
38 not be considered to have an adverse effect.

39 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
40 population increases in the Delta region with adequate housing supply to accommodate the change
41 in population. Therefore, the minor increase in demand for housing is not anticipated to lead to
42 reasonably foreseeable adverse physical changes constituting a significant impact on the
43 environment.

1 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 2 **Water Conveyance Facilities**

3 **NEPA Effects:** Effects related to changes in community character in the Delta region during
4 construction of Alternative 4A would be identical to those described for Alternative 4 in Section
5 16.3.3.9 because the water conveyance facilities proposed under these alternatives are identical.

6 Throughout the five-county Delta region, population and employment would expand as a result of
7 the construction of water conveyance facilities, as discussed under Impacts ECON-1 and ECON-2.
8 Agricultural contributions to the character and culture of the Delta would be likely to decline
9 commensurate with the projected decline in agricultural-related acreage, employment, and
10 production. This could result in the closure of agriculture-dependent businesses or those catering to
11 agricultural workers, particularly in areas where conversion of agricultural land would be most
12 concentrated, including near the intakes in the vicinity of Clarksburg and Hood and the expanded
13 Clifton Court Forebay east of Byron. Similar effects on community character could result from
14 anticipated changes to recreation in the study area. However, social influences associated with the
15 construction industry would grow during the multi-year construction period for water conveyance
16 structures under Alternative 4A.

17 Legacy communities in the Delta, which are those identified as containing distinct historical and
18 cultural character, include Locke, Bethel Island, Clarksburg, Courtland, Freeport, Hood, Isleton,
19 Knightsen, Rio Vista, Ryde, and Walnut Grove. These communities provide support services and
20 limited workforce housing for the area's agricultural industry. Some housing is also provided to
21 retirees and workers commuting to nearby urban areas including Sacramento. Construction
22 activities associated with water conveyance facilities would be anticipated to result in changes to
23 the rural qualities of these communities during the construction period (characterized by
24 predominantly agricultural land uses, relatively low population densities, and low levels of
25 associated noise and vehicular traffic), particularly for those communities in proximity to water
26 conveyance structures, including Clarksburg, Hood, and Walnut Grove. Effects associated with
27 construction activities could also result in changes to community cohesion if they were to restrict
28 mobility, reduce opportunities for maintaining face-to-face relationships, or disrupt the functions of
29 community organizations or community gathering places (such as schools, libraries, places of
30 worship, and recreational facilities). Under Alternative 4A, several gathering places that lie in the
31 vicinity of construction areas could be indirectly affected by noise and traffic associated with
32 construction activities, including Delta High School, the Clarksburg Library, Clarksburg Community
33 Church, Resurrection Life Community Church, Citizen Land Alliance, Discovery Bay Chamber of
34 Commerce, Courtland Fire Department, and several marinas or other recreational facilities (see
35 Chapter 15, *Recreation*, Table 15-15).

36 Under Alternative 4A, additional regional employment and income could create net positive effects
37 on the character of Delta communities. In addition to potential demographic effects associated with
38 changes in employment, however, property values may decline in areas that become less desirable
39 in which to live, work, shop, or participate in recreational activities. For instance, negative visual- or
40 noise-related effects on residential property could lead to localized abandonment of buildings. While
41 water conveyance construction could result in beneficial effects relating to the economic welfare of a
42 community, adverse social effects could also arise as a result of declining economic stability in
43 communities closest to construction effects and in those most heavily influenced by agricultural and
44 recreational activities. Implementation of mitigation measures and environmental commitments

1 related to noise, visual effects, transportation, agriculture, and recreation, would reduce adverse
2 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*).

3 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 4A could affect
4 community character in the Delta region. However, because these impacts are social in nature,
5 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
6 community character would lead to reasonably foreseeable physical impacts involving population
7 growth, such impacts are described under Impact ECON-2 and in Chapter 30, *Growth Inducement*
8 *and Other Indirect Effects*. Furthermore, notable decreases in population or employment, even if
9 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
10 community character stemming from a lack of maintenance, upkeep, and general investment.
11 However, implementation of mitigation measures and environmental commitments related to noise,
12 visual effects, transportation, agriculture, and recreation, would reduce the extent of these effects
13 such that a significant impact would not occur (see Appendix 3B, *Environmental Commitments,*
14 *AMMs, and CMs*). Specifically, these include commitments to develop and implement erosion and
15 sediment control plans, develop and implement hazardous materials management plans, provide
16 notification of maintenance activities in waterways, develop and implement a noise abatement plan,
17 develop and implement a fire prevention and control plan, and prepare and implement mosquito
18 management plans.

19 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 20 **the Proposed Water Conveyance Facilities**

21 **NEPA Effects:** Effects related to changes in local government fiscal conditions during construction of
22 Alternative 4A would be identical to those described for Alternative 4 in Section 16.3.3.9 because the
23 water conveyance facilities proposed under these alternatives are identical. Under Alternative 4A,
24 publicly owned water conveyance facilities would be constructed on land of which some is currently
25 held by private owners. Property tax and assessment revenue generated by lands that would be
26 transferred from private to is estimated to total \$6.7 million over the construction period. Typically,
27 decreases in revenue could potentially result in the loss of a substantial share of some agencies' tax
28 bases and particularly for smaller districts affected by a project. However, California Water Code
29 (Section 85089 subdivision 9b) specifies that the entities constructing and operating a new Delta
30 conveyance facility will fully mitigate for the loss of property tax revenues or assessments levied by
31 local governments or special districts. This Water Code requirement will ensure that tax revenues
32 forgone as a result of transferring land from private to public ownership will be fully offset. In
33 addition, as discussed under Impact ECON-1, construction of the water conveyance facilities would
34 be anticipated to result in a net temporary increase of income and employment in the Delta region.
35 This would also create an indirect beneficial effect through increased sales tax revenue for local
36 government entities that rely on sales taxes.

37 **CEQA Conclusion:** Under Alternative 4A, construction of water conveyance facilities would result in
38 the removal of a portion of the property tax base for various local government entities in the Delta
39 region. Over the construction period, property tax and assessment revenue generated by these
40 properties is estimated at \$6.7 million. These potential losses would be offset by the provisions in
41 the California Water Code that require entities constructing and operating new Delta conveyance
42 facilities to fully mitigate for the loss of property tax or assessments levied by local governments or
43 special districts. It is anticipated that the Water Code requirement will ensure that forgone tax
44 revenues will be fully offset. In addition, CEQA does not require a discussion of socioeconomic
45 effects except where they would result in reasonably foreseeable physical changes. The potential for

1 a physical change to the environment as a result of changes in tax revenues would be avoided by
 2 offsetting the potential losses in tax revenues.

3 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 4 **Water Conveyance Facilities**

5 **NEPA Effects:** Effects on recreational economics under Alternative 4A would be identical to those
 6 described for Alternative 4, because the water conveyance facilities proposed under these
 7 alternatives are identical. As described and defined under Impacts REC-1 through REC-4 in Chapter
 8 15, *Recreation*, construction of water conveyance facilities under Alternative 4A would include
 9 elements that would be permanently located in two existing recreation areas. Additionally,
 10 substantial disruption of other recreational activities considered temporary and permanent would
 11 occur in certain areas during the construction period. Were it to occur, a decline in visits to Delta
 12 recreational sites as a result of facility construction would be expected to reduce recreation-related
 13 spending, creating an adverse effect throughout the Delta region. Additionally, if construction
 14 activities shift the relative popularity of different recreational sites, implementation of Alternative
 15 4A may carry localized beneficial or adverse effects.

16 Access would be maintained to all existing recreational facilities, including marinas, throughout
 17 construction. As part of Mitigation Measure REC-2, project proponents would enhance nearby
 18 fishing access sites and would incorporate public recreational access into design of the intakes along
 19 the Sacramento River. Implementation of this measure along with separate other commitments as
 20 set forth in Appendix 3B, *Environmental Commitments, AMMs, and CMs*, relating to the enhancement
 21 of recreational access and control of aquatic weeds in the Delta would reduce these effects.
 22 Environmental commitments would also be implemented to reduce some of the effects of
 23 construction activities on the recreational experience. Similarly, mitigation measures proposed
 24 throughout other sections of this document, and listed under Impact REC-2 in Chapter 15,
 25 *Recreation*, would also contribute to reducing construction effects on recreational experiences in the
 26 study area.

27 Construction of water conveyance structures would be anticipated to result in a lower-quality
 28 recreational experience in a number of localized areas throughout the Delta, despite the
 29 implementation of environmental commitments. With a decrease in recreational quality,
 30 particularly for boating and fishing (two of the most popular activities in the Delta), the number of
 31 visits would be anticipated to decline, at least in areas close to construction activities. Under this
 32 alternative, recreational uses at Clifton Court Forebay and in small areas of the Cosumnes River
 33 Preserve on Staten Island would be directly affected by construction activities. Six other recreational
 34 sites or areas would experience periods of construction-related effects, including noise, access,
 35 visual disturbances, or a combination of these effects. As described under Impact REC-2 in Chapter
 36 15, *Recreation*, these include Clarksburg Boat Launch (fishing access), Stone Lakes NWR, Wimpy's
 37 Marina, Delta Meadows River Park, Bullfrog Landing Marina, and Lazy M Marina. Overall, the multi-
 38 year schedule and geographic scale of construction activities and the anticipated decline in
 39 recreational spending would be considered an adverse effect. The commitments and mitigation
 40 measures cited above would contribute to the reduction of this effect.

41 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 4A
 42 could affect recreational revenue in the Delta region if construction activities result in fewer visits to
 43 the area. Fewer visits would be anticipated to result in decreased economic activity related to
 44 recreational activities. This section considers only the economic effects of recreational changes

1 brought about by construction of the proposed water conveyance facilities. Potential physical
 2 changes to the environment relating to recreational resources are described and evaluated under
 3 Impacts REC-1 through REC-4 in Chapter 15, *Recreation*.

4 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 5 **the Proposed Water Conveyance Facilities**

6 Effects on agricultural economics related to construction of Alternative 4A would be identical to
 7 those described for Alternative 4 in Section 16.3.3.9 because the water conveyance facilities
 8 proposed under these alternatives are identical.

9 Construction of conveyance facilities would convert land from existing agricultural uses to project-
 10 related construction uses, and agricultural land could also be affected by changes in water quality
 11 and other conditions that would affect crop productivity. These direct effects on agricultural land
 12 are described under Impacts AG-1 and AG-2 in Chapter 14, *Agricultural Resources*. Total value of
 13 irrigated crop production in the Delta would decline on average by \$5.3 million per year during the
 14 construction period, with total irrigated crop acreage declining by about 4,700 acres. Other effects
 15 related to production costs, travel time, and loss of investments in production facilities and standing
 16 orchards and vineyards would also occur as a result of facilities construction.

17 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 18 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 19 considered an adverse effect. Mitigation Measure AG-1, described under Impact AG-1 in Chapter 14,
 20 *Agricultural Resources*, Section 14.3.3.2, would be available to reduce these effects by preserving
 21 agricultural productivity and compensating offsite.

22 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 23 value of agricultural production in the Delta region. The removal of agricultural land from
 24 production is addressed under Impacts AG-1 and AG-2 in Chapter 14, *Agricultural Resources*. The
 25 reduction in the value of agricultural production is not considered an environmental impact.
 26 Significant environmental impacts would only result if the changes in regional economics cause
 27 reasonably foreseeable physical impacts. Such physical effects are discussed in other chapters
 28 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 29 economic losses due to implementation of the alternative. While the compensation to property
 30 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 31 would not constitute mitigation for any related physical impact. Measures to reduce these impacts
 32 are discussed under Impact AG-1 in Chapter 14, *Agricultural Resources*, Section 14.3.3.2.

33 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 34 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

35 While the specific criteria guiding operations of water conveyance facilities under Alternative 4A
 36 would differ somewhat from those under Alternative 4, for the purposes of socioeconomic analysis,
 37 it is assumed that operation and maintenance effects under Alternative 4A would be essentially
 38 identical to those described for Alternative 4 in Section 16.3.3.9 because the physical water
 39 conveyance facilities proposed under these alternatives are identical and, in the context of the
 40 regional economy, operational outcomes related to water supply, water quality, recreation, or
 41 fisheries would be similar between the two alternatives. Ongoing operation and maintenance of
 42 facilities would result in increased expenditures. The increased project operation and maintenance

1 expenditures are expected to result in a permanent increase in regional employment and income,
2 including an estimated 129 direct and 183 total (direct, indirect, and induced) FTE jobs.

3 The operation and maintenance of conveyance and related facilities such as roads and utilities
4 would result in the permanent removal of agricultural land from production following construction,
5 and the effects on employment and income would be negative, including the loss of an estimated 11
6 agricultural and 39 total (direct, indirect, and induced) FTE jobs. Based on the permanent crop
7 production value changes described in Impact ECON-12, the agricultural job losses would more
8 likely be concentrated in the vegetable, truck, orchard, and vineyard crop sectors, which are
9 relatively labor intensive, than in the grain, field, and forage crop sectors, where more jobs are
10 mechanized. Mapbook Figures M14-7 and M14-8 display areas of Important Farmland and lands
11 under Williamson Act contracts that could be converted to other uses due to the construction of
12 water conveyance facilities for the Modified Pipeline/Tunnel alignment.

13 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
14 result in an increase in operations-related employment and labor income, this would be considered
15 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
16 agricultural-related employment and labor income, which would be considered an adverse effect.
17 Mitigation Measure AG-1, described under Impact AG-1 in Chapter 14, *Agricultural Resources*,
18 Section 14.3.3.2, would be available to reduce these effects by preserving agricultural productivity
19 and compensating offsite.

20 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
21 increase total employment and income in the Delta region. The net change would result from
22 expenditures on operation and maintenance and from changes in agricultural production. The total
23 change in income and employment is not, in itself, considered an environmental impact. Significant
24 environmental impacts would only result if the changes in regional economics cause reasonably
25 foreseeable physical impacts. Such physical effects are discussed in other chapters throughout this
26 EIR/EIS. Removal of agricultural land from production is addressed under Impacts AG-1 and AG-2 in
27 Chapter 14, *Agricultural Resources*; and changes in recreation related activities are addressed under
28 Impacts REC-5 through REC-8 in Chapter 15, *Recreation*. When required, DWR would provide
29 compensation to landowners as a result of acquiring lands for the proposed conveyance facilities.
30 While the compensation to property owners would reduce the severity of economic effects related
31 to the loss of agricultural land, it would not constitute mitigation for any related physical impact.
32 Measures to reduce these impacts are discussed under Impact AG-1 in Chapter 14, *Agricultural*
33 *Resources*, Section 14.3.3.2.

34 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 35 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

36 While the specific criteria guiding operations of water conveyance facilities under Alternative 4A
37 would differ somewhat from those under Alternative 4, for the purposes of socioeconomic analysis,
38 it is assumed that operation and maintenance effects under Alternative 4A would be identical to
39 those described for Alternative 4 in Section 16.3.3.9 because the physical water conveyance facilities
40 proposed under these alternatives are identical. Operations and maintenance of conveyance
41 facilities would require approximately 130 permanent new workers. Given the nature of those
42 operation and maintenance jobs, the existing water conveyance facilities already in the five-county
43 region, the large workforce in the region, and the large water agencies with headquarters in that
44 region, it is anticipated that most of these new jobs would be filled from within the existing five-

1 county labor force; however, it is anticipated that some workers with specialized skills may be
2 recruited from outside the five-county region and would relocate to the area. This additional
3 population would constitute a minor increase in the total 2025 projected regional population of 4.6
4 million and be distributed throughout the region. Changes in demand for public services resulting
5 from any increase in population are addressed under Impact UT-7 in Chapter 20, *Public Services and*
6 *Utilities*. It is anticipated that most of the operational workforce would be drawn from within the
7 five-county region. Consequently, operation of the conveyance facilities would not result in impacts
8 on housing.

9 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
10 population or new housing, they would not be considered to have an adverse effect.

11 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
12 result in minor population increases in the Delta region with adequate housing supply to
13 accommodate the change in population and therefore significant impacts on the physical
14 environment are not anticipated.

15 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 16 **Proposed Water Conveyance Facilities**

17 **NEPA Effects:** While the specific criteria guiding operations of water conveyance facilities under
18 Alternative 4A would differ somewhat from those under Alternative 4, for the purposes of
19 socioeconomic effects, it is assumed that operation and maintenance effects under Alternative 4A
20 would be essentially identical to those described for Alternative 4 in Section 16.3.3.9 because the
21 physical water conveyance facilities proposed under these alternatives are identical and, in the
22 context of community character, operational outcomes related to water supply, water quality,
23 recreation, or fisheries would be similar between the two alternatives. Throughout the five-county
24 Delta region, population and employment could slightly expand as a result of continued operation
25 and maintenance of the water conveyance facilities. Agricultural contributions to the character and
26 culture of the Delta would be likely to decline commensurate with the projected decline in
27 agricultural-related employment and production. This could result in the closure of agriculture-
28 dependent businesses or those catering to agricultural employees, particularly in areas where
29 conversion of agricultural land would be most concentrated, including near the intakes in the
30 vicinity of Clarksburg and Hood and near the expanded Clifton Court Forebay. Similar effects could
31 accrue to areas disproportionately dependent on existing recreational activities. However,
32 influences associated with those hired to operate, repair, and maintain water conveyance facilities
33 would grow. To the extent that this anticipated economic shift away from agriculture results in
34 demographic changes in population, employment level, income, age, gender, or race, the study area
35 would be expected to see changes to its character, particularly in those Delta communities most
36 substantially affected by demographic changes based on their size or proximity to water conveyance
37 facilities.

38 While some of the rural qualities of Delta communities, including relatively low noise and traffic
39 levels, could return to near pre-construction conditions during the operational phase, other effects
40 would be lasting. For instance, the visual appearance of intakes and other permanent features would
41 compromise the predominantly undeveloped and agricultural nature of communities like
42 Clarksburg, Courtland, and Hood, which would be located closest to the permanent water
43 conveyance features. Lasting effects on areas made less desirable in which to live, work, shop, or
44 participate in recreational activities as a result of water conveyance facility operations could lead to

1 localized abandonment of buildings. Such lasting effects could also result in changes to community
 2 cohesion if they were to restrict mobility, reduce opportunities for maintaining face-to-face
 3 relationships, or disrupt the functions of community organizations or community gathering places
 4 (such as schools, libraries, places of worship, and recreational facilities). While ongoing operations
 5 could result in beneficial effects relating to the economic welfare of a community, adverse social
 6 effects could linger in communities closest to character-changing effects and in those most heavily
 7 influenced by agricultural and recreational activities. Implementation of mitigation measures and
 8 environmental commitments related to noise, visual effects, transportation, agriculture, and
 9 recreation would reduce adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and*
 10 *CMs*). Specifically, these commitments include notification of maintenance activities in waterways,
 11 development and implementation of a noise abatement plan, and preparation and implementation
 12 of mosquito management plans.

13 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 4A
 14 could affect community character in the Delta region. However, because these impacts are social in
 15 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 16 changes to community character would lead to reasonably foreseeable physical impacts involving
 17 population growth, such impacts are described under Impact ECON-8 and in Chapter 30, *Growth*
 18 *Inducement and Other Indirect Effects*. Furthermore, notable decreases in population or employment,
 19 even if limited to specific areas, sectors, or the vacancy of individual buildings, could result in
 20 alteration of community character stemming from a lack of maintenance, upkeep, and general
 21 investment. However, implementation of mitigation measures and environmental commitments
 22 related to noise, visual effects, transportation, agriculture, and recreation, would reduce the extent
 23 of these effects such that a significant impact would not occur (see Appendix 3B, *Environmental*
 24 *Commitments, AMMs, and CMs*). Specifically, these include commitments to develop and implement
 25 erosion and sediment control plans, develop and implement hazardous materials management
 26 plans, provide notification of maintenance activities in waterways, develop and implement a noise
 27 abatement plan, develop and implement a fire prevention and control plan, and prepare and
 28 implement mosquito management plans.

29 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 30 **Maintenance of the Proposed Water Conveyance Facilities**

31 **NEPA Effects:** Effects on local government fiscal conditions during operation and maintenance of
 32 Alternative 4A would be similar to those described for Alternative 4 in Section 16.3.3.9 because the
 33 physical water conveyance facilities proposed under these alternatives are identical. While
 34 Alternative 4A would not be associated with a 50-year permit term, forgone revenue is estimated to
 35 be the same as for Alternative 4 (\$40.3 million) over a 50-year period. These decreases in revenue
 36 could potentially result in the loss of a substantial share of some agencies' tax bases, particularly for
 37 smaller districts affected by Alternative 4A. However, as discussed under Impact ECON-4, California
 38 Water Code requires that entities constructing and operating a new Delta conveyance offset the loss
 39 of property tax or assessment revenues. The requirement will ensure that forgone tax revenues
 40 resulting from transferring lands for private to public ownership will be fully offset.

41 **CEQA Conclusion:** Under Alternative 4A, the ongoing operation and maintenance of water
 42 conveyance facilities would reduce t property tax revenue levels for various local government
 43 entities in the Delta region. Over a 50-year period, property tax and assessment revenue forgone is
 44 estimated at \$40.3 million. These potential losses would be offset by the provisions in the Water
 45 Code that require entities constructing and operating new Delta conveyance facilities to fully

1 mitigate for the loss of property tax assessments levied by local governments or special districts. It
 2 is anticipated that the Water Code requirement will ensure that forgone tax revenues will be fully
 3 offset. Furthermore, CEQA does not require a discussion of socioeconomic effects except where they
 4 would result in reasonably foreseeable physical changes. The potential for physical change to the
 5 environment as a result of changes would be avoided by offsetting the losses in tax revenues.

6 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 7 **Proposed Water Conveyance Facilities**

8 **NEPA Effects:** As discussed under Impacts REC-5 through REC-8 in Chapter 15, *Recreation*,
 9 operation and maintenance activities associated with the proposed water conveyance facilities
 10 under Alternative 4A are anticipated to create minor effects on recreational resources. Maintenance
 11 of conveyance facilities, including intakes, would result in periodic temporary but not substantial
 12 adverse effects on boat passage and water-based recreational activities. As discussed in Impact REC-
 13 7 in Chapter 15, *Recreation*, most intake maintenance, such as painting, cleaning, and repairs, would
 14 be done with barges and divers, and could cause a temporary impediment to boat movement in the
 15 Sacramento River in the immediate vicinity of the affected intake structure and reduce opportunities
 16 for waterskiing, wakeboarding, or tubing in the immediate vicinity of the intake structures.
 17 However, boat passage and navigation on the river would still be possible around any barges or
 18 other maintenance equipment and these effects would be expected to be short-term (2 years or
 19 less). Although water-based recreation (e.g., boating, waterskiing, wakeboarding) may be restricted
 20 at and in the vicinity of intakes, many miles of the Sacramento River would still be usable for these
 21 activities during periodic maintenance events. Additionally, implementation of the environmental
 22 commitment to provide notification of maintenance activities in waterways (Appendix 3B,
 23 *Environmental Commitments, AMMs, and CMs*) would reduce these effects. Because effects of facility
 24 maintenance would be short-term and intermittent, substantial economic effects are not anticipated
 25 to result from operation and maintenance of the facilities.

26 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 27 conveyance facilities under Alternative 4A are anticipated to create minor effects on recreational
 28 resources and therefore, are not expected to substantially reduce economic activity related to
 29 recreational activities. This section considers only the economic effects of recreational changes.
 30 Potential physical changes to the environment relating to recreational resources are described and
 31 evaluated in Impacts REC-5 through REC-8 in Chapter 15, *Recreation*.

32 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 33 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

34 Effects on agricultural economics during operation and maintenance of Alternative 4A would be
 35 similar to those described for Alternative 4 in Section 16.3.3.9 because the physical water
 36 conveyance facilities proposed under these alternatives are identical and, in the context of the
 37 regional agricultural economy, outcomes related to water quality would be similar between the two
 38 alternatives.

39 During operation and maintenance of conveyance facilities existing agricultural land would be in
 40 uses that include direct facility footprints and associated permanent roads and utilities. Agricultural
 41 land could also be affected by changes in water quality and other conditions that would affect crop
 42 productivity. These direct effects on agricultural land are described in Impacts AG-1 and AG-2 in
 43 Chapter 14, *Agricultural Resources*. Total value of irrigated crop production in the Delta region

1 would decline on average by \$3.6 million per year during operation and maintenance, with total
 2 irrigated crop acreage declining by about 3,400 acres. Other effects related to production costs,
 3 travel time, crop yields, and crop selection could also occur during operation and maintenance
 4 activities. If operation of the proposed conveyance facilities increases salinity in part of the Delta,
 5 crops that are more sensitive to salinity could shift to other lands in the five-county Delta region. See
 6 Chapter 14, *Agricultural Resources*, Impact AG-2, for further discussion of effects from changes in
 7 salinity.

8 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 9 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 10 an adverse effect. Mitigation Measure AG-1, described under Impact AG-1 in Chapter 14, *Agricultural*
 11 *Resources*, Section 14.3.3.2, would be available to reduce these effects by preserving agricultural
 12 productivity and compensating offsite.

13 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities
 14 the value of agricultural production in the Delta region would be reduced. The permanent removal
 15 of agricultural land from production is addressed under Impacts AG-1 and AG-2 in Chapter 14,
 16 *Agricultural Resources*. The reduction in the value of agricultural production is not considered an
 17 environmental impact. Significant environmental impacts would only result if the changes in
 18 regional economics cause reasonably foreseeable physical impacts. Such effects are discussed in
 19 other chapters throughout this EIR/EIS. When required, DWR would provide compensation to
 20 property owners for economic losses due to implementation of the alternative. While the
 21 compensation to property owners would reduce the severity of economic effects related to the loss
 22 of agricultural land, it would not constitute mitigation for any related physical effect. Measures to
 23 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 24 AG-1.

25 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 26 **Implementation of Environmental Commitments 3, 4, 6-12, 15, and 16**

27 In the Delta region, spending on conservation actions would include construction, operation, and
 28 maintenance activities that would convert or disturb existing land use. The effects on the economy
 29 of the Delta region would be similar in kind to those estimated for Alternative 4. However, as
 30 described under Chapter 3, *Description of Alternatives*, Alternative 4A would protect and restore up
 31 to 15,798 acres of habitat under Environmental Commitments 3, 4, and 6-10, as compared with
 32 83,800 acres under Alternative 4. Additionally, under Alternative 4A, Conservation Measures 2, 5,
 33 13, 20, and 21 would not be implemented. In general, changes in regional economic activity
 34 (employment and income) would include increases from the construction and operation and
 35 maintenance-related activity, declines resulting from agricultural or other land uses converted or
 36 impaired, changes in recreation spending that could be positive or negative depending on the
 37 specific restoration action, and declines from abandonment of natural gas wells. As discussed in
 38 Chapter 26, *Mineral Resources*, Impact MIN-5, operations of natural gas wells in the Delta region
 39 would be affected where wells are located in restoration areas to be inundated. In areas that would
 40 be permanently inundated at restoration sites, producing natural gas wells may be abandoned.

41 **NEPA Effects:** Because implementation of conservation actions would be anticipated to result in an
 42 increase in construction and operation and maintenance-related employment and labor income, this
 43 would be considered a beneficial effect. However, implementation of these components would also
 44 be anticipated to result in a decrease in agricultural-related and natural gas production-related

1 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 2 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 3 available to reduce these effects by preserving agricultural productivity and compensating offsite.
 4 Additionally, measures to reduce impacts on natural gas wells are discussed in Chapter 26, *Mineral*
 5 *Resources*, Section 26.3.3.2, Impact MIN-5.

6 **CEQA Conclusion:** Implementation of the proposed conservation actions would affect total
 7 employment and income in the Delta region. The change in total employment and income in the
 8 Delta region is based on expenditures resulting from implementation of the habitat enhancement
 9 and restoration activities and any resulting changes in agricultural production, recreation, and
 10 natural gas production. The total change in employment and income is not, in itself, considered an
 11 environmental impact. Significant environmental impacts within the meaning of CEQA would only
 12 result if the changes in regional economics cause reasonably foreseeable physical impacts. Such
 13 environmental effects are discussed in other chapters throughout this EIR/EIS. Removal of
 14 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Impacts AG-3
 15 and AG-4; changes in recreation-related activities are addressed in Chapter 15, *Recreation*, Impacts
 16 REC-9 through REC-11; and abandonment of natural gas wells is addressed in Chapter 26, *Mineral*
 17 *Resources*, Impact MIN-5. When required, the project proponents would provide compensation to
 18 property owners for economic losses due to implementation of the alternative. While the
 19 compensation to property owners would reduce the severity of economic effects related to the loss
 20 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 21 reduce these impacts and impacts on natural gas wells are discussed in Chapter 14, *Agricultural*
 22 *Resources*, Section 14.3.3.2, Impact AG-1, and Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact
 23 MIN-5.

24 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of**
 25 **Implementing Environmental Commitments 3, 4, 6–12, 15, and 16**

26 **NEPA Effects:** In the Delta region, implementation of habitat enhancement and restoration activities
 27 could increase employment and convert land from existing uses, including possible displacement of
 28 residential housing and business establishments. The effects on population and housing in the Delta
 29 region would be similar in kind to those described for Alternative 4. However, as described under
 30 Chapter 3, *Description of Alternatives*, Alternative 4A would protect and restore up to 15,798 acres of
 31 habitat under Environmental Commitments 3, 4, and 6–10, as compared with 83,800 acres under
 32 Alternative 4. In general, the changes in population and housing would include increases in
 33 population from the construction and operation and maintenance-related activity and declines in
 34 residential housing and business establishments as a result of lands converted or impaired. Because
 35 these activities would not result in concentrated, substantial increases in population or new
 36 housing, they would not be considered to have an adverse effect.

37 **CEQA Conclusion:** Implementation of the proposed habitat enhancement and restoration activities
 38 could affect total population and housing in the Delta region. The change in total population and
 39 housing in the Delta region is based on employment resulting from implementation of the proposed
 40 conservation activities. The change in population and housing is expected to be minor relative to the
 41 five-county Delta region, and dispersed throughout the region. Therefore, significant impacts on the
 42 physical environment are not anticipated to result.

1 **Impact ECON-15: Changes in Community Character as a Result of Implementing**
2 **Environmental Commitments 3, 4, 6–12, 15, and 16**

3 **NEPA Effects:** As noted under Impacts ECON-13 and ECON-14, conservation activities designed to
4 restore, conserve, or enhance natural habitat would be anticipated to create economic effects similar
5 in kind, if not in magnitude, to those described for Alternative 4. As described under Chapter 3,
6 *Description of Alternatives*, Alternative 4A would protect and restore up to 15,798 acres of habitat
7 under Environmental Commitments 3, 4, and 6–10, as compared with 83,800 acres under
8 Alternative 4. Effects could include increases to employment and changes in land use that could
9 trigger the disruption of agricultural and recreational economies. They could also affect the possible
10 displacement of residences and businesses. The effects these activities would create with regard to
11 community character would depend on the nature of each measure along with its specific location,
12 size, and other factors that are not yet defined.

13 Under Alternative 4A, temporary construction associated with implementation of these measures
14 could lead to demographic changes and resulting effects on the composition and size of Delta
15 communities. Earthwork and site preparation associated with environmental commitments could
16 also detract from the rural qualities of the Delta region; however, their implementation would take
17 place in phases over time, which would limit the extent of effects taking place at any one point in
18 time.

19 Implementation of these measures could also alter community character over the long term.
20 Conversion of agricultural land to restored habitat would result in the erosion of some economic and
21 social contributions stemming from agriculture in Delta communities. However, in the context of the
22 Delta region, a substantial proportion of land would not be converted. Additionally, restored habitat
23 could support some rural qualities, particularly in terms of visual resources and recreational
24 opportunities. These effects could attract more residents to some areas of the Delta, and could
25 replace some agricultural economic activities with those related to recreation and tourism. To the
26 extent that agricultural facilities and supportive businesses were affected and led to vacancy,
27 alteration of community character could result from these activities. However, protection of
28 cultivated lands would ensure the continuation of agricultural production on up to 10,100 of acres
29 in the Delta. If necessary, implementation of mitigation measures and environmental commitments
30 related to transportation, agriculture, and recreation would be anticipated to reduce these adverse
31 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these include
32 commitments to develop and implement erosion and sediment control plans, develop and
33 implement hazardous materials management plans, provide notification of maintenance activities in
34 waterways, develop and implement a noise abatement plan, develop and implement a fire
35 prevention and control plan, and prepare and implement mosquito management plans.

36 **CEQA Conclusion:** Implementation of habitat enhancement and restoration activities under
37 Alternative 4A could affect community character within the Delta region. However, because these
38 impacts are social in nature, rather than physical, they are not considered impacts under CEQA. To
39 the extent that changes to community character are related to physical impacts involving population
40 growth, these impacts are described in Chapter 30, *Growth Inducement and Other Indirect Effects*.
41 Furthermore, notable decreases in population or employment, even if limited to certain areas,
42 sectors, or the vacancy of individual buildings, could result in decay and blight stemming from a lack
43 of maintenance, upkeep, and general investment. However, implementation of mitigation measures
44 and environmental commitments related to noise, visual effects, transportation, agriculture, and
45 recreation, would reduce the extent of these effects such that a significant impact would not occur

1 (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these include
 2 commitments to develop and implement erosion and sediment control plans, develop and
 3 implement hazardous materials management plans, provide notification of maintenance activities in
 4 waterways, develop and implement a noise abatement plan, develop and implement a fire
 5 prevention and control plan, and prepare and implement mosquito management plans.

6 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing**
 7 **Environmental Commitments 3, 4, 6-12, 15, and 16**

8 As discussed in relation to construction of water conveyance facilities, habitat restoration and
 9 enhancement activities under Alternative 4A would also take place, in part, on land held by private
 10 owners and from which local governments derive revenue through property taxes and assessments.
 11 In particular, Environmental Commitments related to protection and restoration of natural
 12 communities would require the acquisition of multiple parcels of land.

13 The loss of a substantial portion of an entity's tax base would represent an adverse effect on an
 14 agency, resulting in a decrease in local government's ability to provide public goods and services.
 15 Under Alternative 4A, property tax and assessment revenue forgone is estimated to reach \$13.7
 16 million as a result of implementing Environmental Commitments 3, 4, 6-12, and 16. Decreases in
 17 revenue could potentially represent a substantial share of individual agency tax bases, particularly
 18 for smaller districts affected by large, contiguous areas identified for habitat restoration.

19 Additionally, installation of non-physical fish barriers at Georgiana Slough may require that land
 20 currently on property tax rolls be acquired and eventually removed from the tax base. The fiscal
 21 effects stemming from this activity are, however, anticipated to be minor based upon the relatively
 22 small areas of land necessary for its implementation.

23 **NEPA Effects:** Effects on local government fiscal conditions during operation and maintenance of
 24 Environmental Commitments 3, 4, 6-12, 15, and 16 is estimated to total \$13.7 million. However, as
 25 discussed under Impact ECON-4, California Water Code requires that entities constructing and
 26 operating a new Delta conveyance offset the loss of property tax or assessment revenues. The
 27 requirement will ensure that forgone tax revenues resulting from transferring lands for private to
 28 public ownership will be fully offset and an adverse impact on local agency tax revenues would be
 29 avoided.

30 **CEQA Conclusion:** Under Alternative 4A, implementation of habitat enhancement and restoration
 31 activities would result in the removal of a portion of the property tax base for various local
 32 government entities in the Delta region. Over a 50-year period, property tax and assessment
 33 revenue forgone is estimated to reach \$13.2 million, compared with annual property tax revenue of
 34 more than \$934 million in the Delta counties (California State Controller's Office 2012). These
 35 potential losses would be offset by the provisions in the Water Code that require entities
 36 constructing and operating new Delta conveyance facilities to fully mitigate for the loss of property
 37 tax assessments levied by local governments or special districts. It is anticipated that the Water
 38 Code requirement will ensure that forgone tax revenues will be fully offset. Furthermore, CEQA does
 39 not require a discussion of socioeconomic effects except where they would result in physical
 40 changes. The potential for a physical change to the environment attributable to foregone tax
 41 revenues would be avoided by offsetting the loss of those revenues.

1 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing**
2 **Environmental Commitments 3, 4, 6–12, 15, and 16**

3 **NEPA Effects:** Implementation of habitat enhancement and restoration activities under this
4 alternative would be anticipated to create an adverse effect on recreational resources by limiting
5 access to facilities, restricting boat navigation, and disturbing fish habitat while restoration activities
6 are taking place. These measures may also permanently reduce the extent of upland recreation sites.
7 However, these components could also create beneficial effects by enhancing aquatic habitat and
8 fish abundance, expanding the extent of navigable waterways available to boaters, and improving
9 the quality of existing upland recreation opportunities. Therefore, the potential exists for the
10 creation of adverse and beneficial effects related to recreational economics. Adverse effects would
11 be anticipated to be primarily limited to areas close to restoration areas and during site preparation
12 and earthwork phases. These effects could result in a decline in visits to the Delta and reduction in
13 recreation-related spending, creating an adverse economic effect throughout the Delta. Beneficial
14 recreational effects would generally result during later stages of restoration implementation as
15 environmental conditions supporting recreational activities are enhanced. These effects could
16 improve the quality of recreational experiences, leading to increased economic activities related to
17 recreation, particularly in areas where habitat enhancement or restoration could create new
18 recreational opportunities.

19 **CEQA Conclusion:** Site preparation and earthwork activities associated with a number of
20 Environmental Commitments would limit opportunities for recreational activities where they occur
21 in or near existing recreational areas. Noise, odors, and visual effects of construction activities would
22 also temporarily compromise the quality of recreation in and around these areas, leading to
23 potential economic impacts. However, over time, implementation could improve the quality of
24 existing recreational opportunities, leading to increased economic activity. This section considers
25 only the economic effects of recreational changes brought about by implementation of habitat
26 enhancement and restoration activities. CEQA does not require a discussion of socioeconomic effects
27 except where they would result in reasonably foreseeable physical changes. Potential physical
28 changes to the environment relating to recreational resources are described and evaluated in
29 Chapter 15, *Recreation*, Impacts REC-9 through REC-11.

30 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of**
31 **Implementing Environmental Commitments 3, 4, 6–12, 15, and 16**

32 **NEPA Effects:** Habitat enhancement and restoration activities would convert land from existing
33 agricultural uses. These direct effects on agricultural land are described qualitatively in Chapter 14,
34 *Agricultural Resources*, Impacts AG-3 and AG-4. Effects on agricultural economics would include
35 effects on crop production and agricultural investments resulting from restoration actions on
36 agricultural lands. The effects would be similar in kind to those described for lands converted due to
37 construction and operation of the conveyance features and facilities. The total acreage and crop mix
38 of agricultural land potentially affected is not specified at this time, but when required, the project
39 proponents would provide compensation to property owners for losses due to implementation of
40 the alternative. Because implementation of habitat enhancement and restoration activities would be
41 anticipated to lead to reductions in crop acreage and in the value of agricultural production in the
42 Delta region, this is considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14,
43 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by
44 preserving agricultural productivity and compensating offsite.

1 **CEQA Conclusion:** Implementation of habitat enhancement and restoration activities would reduce
 2 the total value of agricultural production in the Delta region. The permanent removal of agricultural
 3 land from production is addressed in Chapter 14, *Agricultural Resources*, Impacts AG-3 and AG-4.
 4 The reduction in the value of agricultural production is not considered an environmental impact.
 5 Significant environmental impacts would only result if the changes in regional economics cause
 6 reasonably foreseeable physical impacts. Such physical effects are discussed in other chapters
 7 throughout this EIR/EIS. When required, the project proponents would provide compensation to
 8 property owners for economic losses due to implementation of the alternative. While the
 9 compensation to property owners would reduce the severity of economic effects related to the loss
 10 of agricultural land, it would not constitute mitigation for any related physical impact. Measures to
 11 reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 12 AG-1.

13 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

14 As described in Chapter 30, *Growth Inducement and Other Indirect Effects*, the operational
 15 components of water conveyance facilities under Alternative 4A could result in a number of effects
 16 in areas receiving SWP and CVP water deliveries outside of the Delta. Generally, these effects would
 17 be similar to those described for Alternative 4 (Operational Scenarios H3 and H4) in Section 16.3.3.9
 18 because the incremental change in Delta exports is similar, when compared to the relevant No
 19 Action condition.

20 Under Alternative 4A (at the ELT), the average annual increase in CVP and SWP deliveries would be
 21 93 TAF, and the distribution of these increased deliveries to each hydrologic region are given in
 22 Table 30-21. Changes in the amount, cost, or reliability of water deliveries could create
 23 socioeconomic effects in the hydrologic regions. To the extent that unreliable or insufficient water
 24 supplies currently represent obstacles to agricultural production, Alternative 4A may support more
 25 stable agricultural activities by enabling broader crop selection or by reducing risk associated with
 26 uncertain water deliveries. As a result of an increase in water supply and supply reliability, farmers
 27 may choose to leave fewer acres fallow and/or plant higher-value crops. While the locations and
 28 extent of any increases in production would depend on local factors and individual economic
 29 decisions, a general increase in production would be anticipated to support growth in seasonal and
 30 permanent on-farm employment, along with the potential expansion of employment in industries
 31 closely associated with agricultural production. These include food processing, agricultural inputs,
 32 and transportation.

33 In contrast, decreased water deliveries may affect socioeconomics in hydrologic regions through
 34 mechanisms similar to those described above; however, the effects would generally be reversed. For
 35 example, it is reasonable to expect that reduced or less reliable water deliveries would result in
 36 decreased agricultural production and, in turn, a reduction in both direct and indirect agricultural
 37 employment. Economic and social patterns tied to predominant agricultural industrial activities and
 38 land uses could erode, changing the character of agricultural communities in hydrologic regions. If
 39 operation of water conveyance facilities under Alternative 4A reduced M&I deliveries to the extent
 40 that it would, in the long run, constrain population growth, its implementation could reinforce a
 41 socioeconomic status quo or limit potential economic and employment growth in hydrologic
 42 regions. Such changes to agricultural production and population growth with its associated
 43 economic activity could also lead to shifts in the character of communities in the hydrologic regions
 44 with resultant beneficial or adverse effects.

1 Generally, these effects (both beneficial and adverse) would be most concentrated in hydrologic
2 regions where agriculture is a primary industry and where agricultural operations depend most
3 heavily on SWP and CVP deliveries.

4 **NEPA Effects:** Increases in average annual water deliveries to service areas could induce population
5 growth and new housing to accommodate growth. Such deliveries could also provide support for
6 water-intensive industries. Long-term water supply reliability is an important component in
7 enabling long-term population increases. However, other factors—including natural growth,
8 employment opportunities, local policy, and quality of life—are more likely to determine population
9 growth. Nonetheless, population growth could stimulate economic activity resulting from increased
10 demand for goods and services. This increased demand could create broad economic benefits for
11 regions whose growth is supported by increased deliveries under Alternative 4A.

12 Social changes, including changes in community character, could also result from an expansion in
13 population or economic activity linked to changes in water deliveries. For example, more stable
14 agricultural production and associated economic activities in areas where agriculture is a
15 predominant industry could strengthen and reinforce existing economic and social patterns and
16 institutions. Increased production could also intensify existing socioeconomic challenges, including
17 seasonal cycles in employment, housing demand, and provision of social services. In areas where
18 population growth would be enabled by increased water supplies or reliability, changes to
19 community character could result from an increased population, including the potential for changes
20 in urban form, environmental factors such as traffic or noise, demographic composition, or the rise
21 of new or broader economic or social opportunities. Again, the nature and extent of such changes
22 would be predominantly influenced by prevailing socioeconomic forces, rather than any specific
23 change associated with implementation of Alternative 4A.

24 Changes in agricultural production and population growth could also affect local government fiscal
25 conditions. Population growth would be anticipated to result in higher property and sales tax
26 revenue while increased agricultural activity could result in higher sales tax receipts for a local
27 jurisdiction. However, growth would also require expanded public services to meet the needs of a
28 larger population and a larger economic base. Expansion could require additional spending on
29 education, police and fire protection, medical services, and transportation and utility infrastructure.
30 Whether such growth would result in a long-term net benefit or cost would depend on a number of
31 factors including prevailing local service levels and tax rates, as well as the characteristics of the
32 growth.

33 Changes in water deliveries associated with operation of Alternative 4A could result in beneficial or
34 adverse socioeconomic effects in areas receiving water from the SWP and CVP. In hydrologic regions
35 where water deliveries are predicted to increase when compared with the No Action Alternative,
36 more stable agricultural activities could support employment and economic production associated
37 with agriculture. Where M&I deliveries increase, population growth could lead to general economic
38 growth and support water-intensive industries. Such changes could also lead to shifts in the
39 character of communities in the hydrologic regions with resultant beneficial or adverse effects.
40 Likewise, growth associated with deliveries could require additional expenditures for local
41 governments while also supporting increases in revenue.

1 **CEQA Conclusion:** As described above, the operational components of the proposed water
2 conveyance facilities could result in a number of socioeconomic effects in areas receiving SWP and
3 CVP water deliveries outside of the Delta. However, because these impacts are social and economic
4 in nature, rather than physical, they are not considered environmental impacts under CEQA. To the
5 extent that changes in socioeconomic conditions in the hydrologic regions would lead to reasonably
6 foreseeable physical impacts, such impacts are described in Chapter 30, *Growth Inducement and*
7 *Other Indirect Effects*.

8 **16.3.4.3 Alternative 2D—Dual Conveyance with Modified** 9 **Pipeline/Tunnel and Intakes 1, 2, 3, 4, and 5 (15,000 cfs;** 10 **Operational Scenario B)**

11 Alternative 2D would result in temporary effects on lands and communities associated with
12 construction of five intakes and associated facilities; an intermediate forebay; tunnels; an operable
13 barrier at the head of Old River; pumping plants and an expanded and modified Clifton Court
14 Forebay. Nearby areas would be altered as work or staging areas, concrete batch plants, fuel
15 stations, or be used for spoils storage areas. Transmission lines, access roads, and other incidental
16 facilities would also be needed for operations, and construction of these structures would also have
17 effects on lands and communities.

18 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 19 **Region during Construction of the Proposed Water Conveyance Facilities**

20 The regional economic effects on employment and income in the Delta region during construction
21 were evaluated. Changes are shown relative to the Existing Conditions and the No Action Alternative
22 (regional economic conditions do not differ between Existing Conditions and No Action Alternative).
23 The effects on employment and income are displayed in Table 16-61. The table shows the direct and
24 total changes that would result from conveyance-related spending. As evident in Table 16-61,
25 spending on conveyance construction would result in substantial economic activity in the region. As
26 shown, direct construction employment is anticipated to vary over the 14-year construction period,
27 with an estimated 75 FTE jobs in the first year and 550 FTE jobs in the final year of the construction
28 period. Construction employment is estimated to peak at 2,747 FTE jobs in year 3. Total
29 employment (direct, indirect, and induced) would peak in year 12, at 9,818 FTE jobs.

1 **Table 16-61. Regional Economic Effects on Employment and Labor Income during Construction**
 2 **(Alternative 2D)**

Regional Economic Impact ^a	Year							
	1	2	3	4	5	6	7	8
Employment (FTE)								
Direct	75	846	2,747	1,973	1,272	1,780	2,498	2,572
Total ^b	102	1,160	9,042	7,521	6,115	7,303	9,265	9,366
Labor Income (million \$)								
Direct	-	0.6	190.9	173.5	157.3	175.2	210.4	210.4
Total ^b	1.2	14.7	367.4	325.8	286.8	325.3	396.9	398.1

Note: Scaled from Alternative 4 IMPLAN results, based on percentage of construction cost assumptions per intake.

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

Regional Economic Impact ^a	Year					
	9	10	11	12	13	14
Employment (FTE)						
Direct	2,579	2,484	2,393	2,545	1,950	550
Total ^b	9,418	9,268	9,184	9,818	5,619	900
Labor Income (million \$)						
Direct	212.1	211.3	212.7	228.1	106.4	5.4
Total ^b	401.0	398.0	398.9	427.3	211.9	18.2

Note: Scaled from Alternative 4 IMPLAN results, based on percentage of construction cost assumptions per intake.

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

3

4 The footprint of conveyance and related facilities such as roads and utilities would remove some
 5 existing agricultural land from production, so the effects on employment and income would be
 6 negative. The regional economic effects on employment and income in the Delta region from the
 7 change in agricultural production are reported in Table 16-62. As shown, direct agricultural
 8 employment would be reduced by an estimated 12 FTE jobs, while total employment (direct,
 9 indirect, and induced) associated with agricultural employment would fall by 44 FTE jobs. Based on
 10 the crop production values changes described in Impact ECON-6 for construction effects, the direct
 11 agricultural job losses would more likely be concentrated in the vegetable, truck, orchard, and
 12 vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage crop
 13 sectors, where more jobs are mechanized. Note that direct agricultural job losses could be higher
 14 than the 12 FTE jobs shown in Table 16-62 because many agricultural jobs are seasonal rather than
 15 year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every FTE job
 16 lost as a result of construction of conveyance facilities construction. Mapbook Figures M14-7 and
 17 M14-8 display areas of Important Farmland and lands under Williamson Act contracts that could be
 18 converted to other uses due to the construction of water conveyance facilities for the Modified
 19 Pipeline/Tunnel alignment.

1 **Table 16-62. Regional Economic Effects on Agricultural Employment and Labor Income during**
 2 **Construction (Alternative 2D)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-12
Total ^b	-44
Labor Income (million \$)	
Direct	-1.8
Total ^b	-3.2

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.
^b Includes direct, indirect, and induced effects.

3
 4 The Alternative 2D construction footprint would not result in the abandonment of any active
 5 producing natural gas wells in the study area, as described in Chapter 26, *Mineral Resources*, Section
 6 26.3.4.3, Impact MIN-1. Therefore, this alternative would not be anticipated to result in the loss of
 7 employment or labor income associated with monitoring and maintaining these wells.

8 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 9 construction-related employment and labor income, this would be considered a beneficial effect.
 10 However, these activities would also be anticipated to result in a decrease in agricultural-related
 11 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 12 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 13 available to reduce these effects by preserving agricultural productivity and compensating off-site.

14 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would temporarily
 15 increase total employment and income in the Delta region. The change would result from
 16 expenditures on construction, increasing employment, and from changes in agricultural production,
 17 decreasing employment. Changes in recreational expenditures and natural gas well operations could
 18 also affect regional employment and income, but these have not been quantified. The total change in
 19 employment and income is not, in itself, considered an environmental impact. Significant
 20 environmental impacts would only result if the changes in regional economics cause physical
 21 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 22 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 23 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts AG-1
 24 and AG-2; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 25 15.3.3.9, REC-1 through REC-4; abandonment of natural gas wells is addressed in Chapter 26,
 26 *Mineral Resources*, Section 26.3.3.19, Impact MIN-1. When required, DWR would provide
 27 compensation to property owners for economic losses due to implementation of the alternative.
 28 While the compensation to property owners would reduce the severity of economic effects related
 29 to the loss of agricultural land, it would not constitute mitigation for any related physical impact.
 30 Measures to reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section
 31 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve
 32 agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson
 33 Act contracts or in Farmland Security Zones.

1 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 2 **the Proposed Water Conveyance Facilities**

3 Construction of conveyance facilities would require an estimated peak of 2,747 workers in year 3 of
4 the assumed 14-year construction period. It is anticipated that many of these new jobs would be
5 filled from within the existing five-county labor force; however, it is anticipated that some
6 specialized workers may be recruited from outside the five-county region and would relocate to the
7 area. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, an
8 estimated 30% of workers could come from out of the Delta region, suggesting that approximately
9 820 workers could relocate to the Delta region at the peak of the construction period. However, this
10 additional population would constitute a minor increase in the total 2025 projected regional
11 population of 4.6 million and be distributed throughout the region. Changes in demand for public
12 services resulting from any increase in population are addressed under Impacts UT-1 through UT-6
13 in Chapter 20, *Public Services and Utilities*.

14 Changes in housing demand are based on changes in supply resulting from displacement during
15 facilities construction and changes in housing demand resulting from employment associated with
16 construction of conveyance facilities. As described under Impact LU-2 in Chapter 13, *Land Use*,
17 construction of water conveyance facilities under Alternative 4 would conflict with approximately
18 35 residential structures. The physical footprints of the three intake facilities, along with associated
19 work areas, are anticipated to create the largest disruption to structures, conflicting with 29 of these
20 residences.

21 The construction workforce would most likely commute daily to the work sites from within the five-
22 county region; however, if needed, there are about 53,000 housing units available to accommodate
23 workers who may choose to commute on a workweek basis or who may choose to temporarily
24 relocate to the region for the duration of the construction period, including the estimated 820
25 workers who may temporarily relocate to the Delta region from out of the region. In addition to the
26 available housing units, there are recreational vehicle parks and hotels and motels within the five-
27 county region to accommodate any construction workers. As a result, and as discussed in more
28 detail in Chapter 30, *Growth Inducement and Other Indirect Effects*, construction of the proposed
29 conveyance facilities is not expected to substantially increase the demand for housing within the
30 five-county region.

31 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
32 However, given the availability of housing within the five-county region, predicting where this
33 impact might fall would be speculative. In addition, new residents would likely be dispersed across
34 the region, thereby not creating a burden on any one community. Because these activities would not
35 result in permanent concentrated, substantial increases in population or new housing, they would
36 not be considered to have an adverse effect.

37 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
38 population increases in the Delta region with adequate housing supply to accommodate the change
39 in population. Therefore, the minor increase in demand for housing is not anticipated to lead to
40 reasonably foreseeable adverse physical changes constituting a significant impact on the
41 environment.

1 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 2 **Water Conveyance Facilities**

3 **NEPA Effects:** Effects related to changes in community character in the Delta region during
4 construction of Alternative 2D would be similar to those described for Alternative 4 in Section
5 16.3.3.9 because the water conveyance facilities proposed under these alternatives are similar.
6 However, under Alternative 2D two additional intake facilities would be constructed, which would
7 result in additional localized effects on community character when compared to Alternative 4,
8 particularly in and around the communities of Clarksburg, Hood, and Courtland.

9 Under Alternative 2D, additional regional employment and income could create net positive effects
10 on the character of Delta communities. In addition to potential demographic effects associated with
11 changes in employment, however, property values may decline in areas that become less desirable
12 in which to live, work, shop, or participate in recreational activities. For instance, negative visual- or
13 noise-related effects on residential property could lead to localized abandonment of buildings. While
14 water conveyance construction could result in beneficial effects relating to the economic welfare of a
15 community, adverse social effects could also arise as a result of declining economic stability in
16 communities closest to construction effects and in those most heavily influenced by agricultural and
17 recreational activities. Implementation of mitigation measures and environmental commitments
18 related to noise, visual effects, transportation, agriculture, and recreation, would reduce adverse
19 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*).

20 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 2D could affect
21 community character in the Delta region. However, because these impacts are social in nature,
22 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
23 community character would lead to physical impacts involving population growth, such impacts are
24 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*.
25 Furthermore, notable decreases in population or employment, even if limited to specific areas,
26 sectors, or the vacancy of individual buildings, could result in alteration of community character
27 stemming from a lack of maintenance, upkeep, and general investment. However, implementation of
28 mitigation measures and environmental commitments related to noise, visual effects,
29 transportation, agriculture, and recreation, would reduce the extent of these effects such that a
30 significant impact would not occur (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*).
31 Specifically, these include commitments to develop and implement erosion and sediment control
32 plans, develop and implement hazardous materials management plans, provide notification of
33 maintenance activities in waterways, develop and implement a noise abatement plan, develop and
34 implement a fire prevention and control plan, and prepare and implement mosquito management
35 plans.

36 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 37 **the Proposed Water Conveyance Facilities**

38 **NEPA Effects:**

39 Under Alternative 2D, publicly owned water conveyance facilities would be constructed on land of
40 which some is currently held by private owners. Property tax and assessment revenue generated by
41 lands that would be transferred from private is estimated to total \$6.8 million over the construction
42 period. Typically, decreases in revenue could potentially result in the loss of a substantial share of
43 some agencies' tax bases and particularly for smaller districts affected by a project. However,
44 California Water Code (Section 85089 subdivision 9b) specifies that the entities constructing and

1 operating a new Delta conveyance facility will fully mitigate for the loss of property tax revenues or
 2 assessments levied by local governments or special districts. This Water Code requirement will
 3 ensure that tax revenues forgone as a result of transferring land from private to public ownership
 4 will be fully offset. In addition, as discussed under Impact ECON-1, construction of the water
 5 conveyance facilities would be anticipated to result in a net temporary increase of income and
 6 employment in the Delta region. This would also create an indirect beneficial effect through
 7 increased sales tax revenue for local government entities that rely on sales taxes.

8 **CEQA Conclusion:** Under Alternative 2D, construction of water conveyance facilities would result in
 9 the removal of a portion of the property tax base for various local government entities in the Delta
 10 region. Over the construction period, property tax and assessment revenue generated by these
 11 properties is estimated at \$6.8 million. These potential losses would be offset by the provisions in
 12 the California Water Code that require entities constructing and operating new Delta conveyance
 13 facilities to fully mitigate for the loss of property tax or assessments levied by local governments or
 14 special districts. It is anticipated that the Water Code requirement will ensure that forgone tax
 15 revenues will be fully offset. In addition, CEQA does not require a discussion of socioeconomic
 16 effects except where they would result in reasonably foreseeable physical changes. The potential for
 17 a physical change to the environment as a result of changes in tax revenues would be avoided by
 18 offsetting the potential losses in tax revenues.

19 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 20 **Water Conveyance Facilities**

21 **NEPA Effects:** As described and defined in Chapter 15, *Recreation*, Section 15.3.4.3, in Impacts REC-1
 22 through REC-4, construction of water conveyance facilities under Alternative 2D would be similar to
 23 those under Alternative 4. Disruption of recreational activities during the construction period would
 24 be similar in character, but larger in extent and duration, than that described under Alternative 4,
 25 Impact ECON-5. This is largely because Alternative 2A would include Intakes 1 and 4 in addition to
 26 the three intakes under Alternative 4 (Intakes 2, 3, and 5). This alternative would include elements
 27 that would be permanently located in two existing recreation areas. Additionally, substantial
 28 disruption of other recreational activities considered temporary and permanent would occur in
 29 certain areas during the construction period. Were it to occur, a decline in visits to Delta recreational
 30 sites as a result of facility construction would be expected to reduce recreation-related spending,
 31 creating an adverse effect throughout the Delta region. Additionally, if construction activities shift
 32 the relative popularity of different recreational sites, implementation of Alternative 2D may carry
 33 localized beneficial or adverse effects.

34 Access would be maintained to all existing recreational facilities, including marinas, throughout
 35 construction. As part of Mitigation Measure REC-2, project proponents would enhance nearby
 36 fishing access sites and would incorporate public recreational access into design of the intakes along
 37 the Sacramento River. Implementation of this measure along with separate other commitments as
 38 set forth in Appendix 3B, *Environmental Commitments, AMMs, and CMs*, relating to the enhancement
 39 of recreational access and control of aquatic weeds in the Delta would reduce these effects.
 40 Environmental commitments would also be implemented to reduce some of the effects of
 41 construction activities on the recreational experience. Similarly, mitigation measures proposed
 42 throughout other chapters of this document, and listed under Impact REC-2 in Chapter 15,
 43 *Recreation*, would also contribute to reducing construction effects on recreational experiences in the
 44 study area. These include Chapter 12, *Terrestrial Biological Resources*, Chapter 17, *Aesthetics and*
 45 *Visual Resources*, Chapter 19, *Transportation*, and Chapter 23, *Noise*.

1 Construction of water conveyance structures would be anticipated to result in a lower-quality
 2 recreational experience in a number of localized areas throughout the Delta, despite the
 3 implementation of environmental commitments. With a decrease in recreational quality,
 4 particularly for boating and fishing (two of the most popular activities in the Delta), the number of
 5 visits would be anticipated to decline, at least in areas close to construction activities. Under this
 6 alternative, small areas of the Cosumnes River Preserve on Staten Island would be affected by the
 7 construction of tunnels and associated activities. In the Clifton Court Forebay, permanent siphons,
 8 canals, forebay embankment areas, a control structure, and a forebay overflow structure would be
 9 built. New pumping plants would also be constructed at the northeast corner of the forebay. There
 10 are no formal recreation facilities at Clifton Court Forebay, although well-established recreation,
 11 mostly fishing and hunting, takes place at the southern end of the forebay along the embankment.
 12 This access would be lost during construction, but once new embankments are built, recreation
 13 could again occur. Six other recreational sites or areas would experience periods of construction-
 14 related effects, including noise, access, visual disturbances, or a combination of these effects. As
 15 described in Chapter 15, *Recreation*, 15.3.3.9, Impact REC-2, these include Clarksburg Boat Launch
 16 (fishing access), Stone Lakes National Wildlife Refuge, Wimpy's Marina, Delta Meadows River Park,
 17 Bullfrog Landing Marina, and Lazy M Marina. Fewer visits to these sites or areas would lead to less
 18 spending, creating an adverse effect. While visitors can adjust their recreational patterns to avoid
 19 areas substantially affected by construction activities (by boating or fishing elsewhere in the Delta,
 20 for instance), recreation-dependent businesses including marinas and recreational supply retailers
 21 may not be able to economically weather the effects of multiyear construction activities and may be
 22 forced to close as a result, even while businesses in areas that become more popular could benefit.
 23 Overall, the multi-year schedule and geographic scale of construction activities and the anticipated
 24 decline in recreational spending would be considered an adverse effect. The commitments and
 25 mitigation measures cited above would contribute to the reduction of this effect.

26 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 2D
 27 could affect recreational revenue in the Delta region if construction activities result in fewer visits to
 28 the area. Fewer visits would be anticipated to result in decreased economic activity related to
 29 recreational activities. This section considers only the economic effects of recreational changes
 30 brought about by construction of the proposed water conveyance facilities. Potential physical
 31 changes to the environment relating to recreational resources are described and evaluated in
 32 Chapter 15, *Recreation*, Section 15.3.4.3, Impacts REC-1 through REC-4.

33 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 34 **the Proposed Water Conveyance Facilities**

35 Construction of conveyance facilities would convert land from existing agricultural uses to uses that
 36 include direct facility footprints, construction staging areas, borrow/spoils areas, RTM storage,
 37 temporary and permanent roads, and utilities. Agricultural land could also be affected by changes in
 38 water quality and other conditions that would affect crop productivity. These direct effects on
 39 agricultural land are described in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts AG-1
 40 and AG-2.

41 Changes in crop acreage were used to describe the associated changes in economic values. Unit
 42 prices, yields, and crop production and investment costs were presented in Section 16.1,
 43 *Environmental Setting/Affected Environment*. Table 16-63 summarizes the changes in acreage and
 44 value of agricultural production that would result in the Delta region as a result of Alternative 2D
 45 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative

1 by aggregate crop category (agricultural resources under Existing Conditions and in the No Action
 2 Alternative were assumed to be the same). The table also includes a summary of changes in crop
 3 acreages that are reported in greater detail in Appendix 14A, *Individual Crop Effects as a Result of*
 4 *BDCP Water Conveyance Facility Construction*.

5 Total value of irrigated crop production in the Delta would decline on average by \$5.5 million per
 6 year during the construction period, with total irrigated crop acreage declining by about 4,900 acres.
 7 These estimates are not dependent on water year type.

8 **Table 16-63. Crop Acres and Value of Agricultural Production in the Delta during Construction**
 9 **(Alternative 2D)**

Analysis Metric	Alternative 2D	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	478.8	-4.9
Total Value of Production (million \$)	644.5	-5.5

Notes: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).
 Scaled from Alternative 4 IMPLAN results, based on change in crop acres affected under Alternative 2D.

10
 11 Alternative 2D may also affect production costs on lands even if gross revenues are largely
 12 unaffected. Costs could be increased by operational constraints and longer travel times due to
 13 facilities construction. Construction designs and costs have provided for such costs in two ways. In
 14 most cases, affected lands fall within the facilities footprint, and are included in the agricultural
 15 acreage and value of production described elsewhere in this chapter and in Chapter 14, *Agricultural*
 16 *Resources*, Section 14.3.3.9, Impacts AG-1 and AG-2. For potentially affected lands not included in the
 17 facilities footprint, conveyance construction costs include temporary and permanent roads, bridges,
 18 and other facilities as needed to service agricultural lands (California Department of Water
 19 Resources 2010a, 2010b). There could be some additional travel time and other costs associated
 20 with using these facilities, but such costs are not environmental impacts requiring mitigation.

21 Loss of investments in production facilities and standing orchards and vineyards would occur as a
 22 result of facilities construction. The value of structures and equipment potentially affected would
 23 vary widely across parcels. Much of the equipment is portable (e.g., machinery, tools, portable
 24 sprinkler pipe), and could be sold or used on other lands. Shop and storage buildings and permanent
 25 irrigation and drainage equipment plus orchards and vineyards may have little or no salvage value.
 26 The negotiated purchase of lands for the conveyance and associated facilities would compensate for
 27 some, but perhaps not all of that value. According to Cooperative Extension cost of production
 28 studies (University of California Cooperative Extension 2003a, 2003b, 2004, 2005, 2006a, 2006b,
 29 2007a, 2007b, 2008a, 2008b, 2008c, 2008d), permanent structures, irrigation systems, and drainage
 30 systems can represent a wide range of investment, from less than \$100 per acre for field and
 31 vegetable crops up to over \$3,000 per acre for some orchards. Most such investments would not be
 32 new, so their depreciated values would be substantially lower.

33 Investment in standing orchards and vineyards would also be considered during negotiations for
 34 land purchases. Typical investments required to bring permanent crops into production are shown
 35 in Section 16.1, *Environmental Setting/Affected Environment*. For example, the establishment of wine
 36 grapes requires an investment of over \$15,000 per acre and Bartlett pears require over \$20,000 per

1 acre. Forage crops such as irrigated pasture and alfalfa may require an establishment cost of about
 2 \$400 per acre. The depreciated values of the growing stock could be substantially below these
 3 establishment costs, depending on the ages of the stands that would be affected.

4 Only minor changes in salinity of agricultural water supply are expected during construction.
 5 Consequently, costs related to salinity changes would also be minor. Further discussion of effects
 6 from changes in salinity is presented in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts
 7 AG-1 and AG-2.

8 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
 9 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
 10 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
 11 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
 12 agricultural productivity and compensating off-site.

13 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
 14 value of agricultural production in the Delta region. The removal of agricultural land from
 15 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts AG-1 and
 16 AG-2. The reduction in the value of agricultural production is not considered an environmental
 17 impact. Significant environmental impacts would only result if the changes in regional economics
 18 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 19 required, DWR would provide compensation to property owners for economic losses due to
 20 implementation of the alternative. While the compensation to property owners would reduce the
 21 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
 22 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
 23 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
 24 Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland
 25 and land subject to Williamson Act contracts or in Farmland Security Zones.

26 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 27 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

28 Permanent effects on regional economics during operation and maintenance of the proposed water
 29 conveyance facilities would be similar to those described under Alternative 4A, Impact ECON-7.
 30 Increased expenditures related to operation and maintenance of water conveyance facilities would
 31 be expected to result in a permanent increase in regional employment and income, as presented in
 32 Table 16-22. The permanent removal of agricultural land following construction would have lasting
 33 negative effects on agricultural employment and income, as shown in Table 16-23.

34 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
 35 result in an increase in operations-related employment and labor income, this would be considered
 36 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
 37 agricultural-related employment and labor income, which would be considered an adverse effect.
 38 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*.

39 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 40 increase total employment and income in the Delta region. The net change would result from
 41 expenditures on operation and maintenance and from changes in agricultural production. The total
 42 change in income and employment is not, in itself, considered an environmental impact. Significant
 43 environmental impacts would only result if the changes in regional economics cause physical

1 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 2 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Impacts AG-1
 3 and AG-2; and changes in recreation related activities are addressed in Chapter 15, *Recreation*,
 4 Impacts REC-5 through REC-8 in this RDEIR/SDEIS. When required, DWR would provide
 5 compensation to landowners as a result of acquiring lands for the proposed conveyance facilities.
 6 While the compensation to property owners would reduce the severity of economic effects related
 7 to the loss of agricultural land, it would not constitute mitigation for any related physical impact.
 8 Measures to reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section
 9 14.3.3.2, Impact AG-1.

10 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 11 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

12 Permanent effects on population and housing during operation and maintenance of the proposed
 13 water conveyance facilities would be similar to those described under Alternative 4 in Section
 14 16.3.3.9 because the physical water conveyance facilities proposed under these alternatives are
 15 similar. It is anticipated that non-local workers would relocate to the five-county region, thus adding
 16 to the local population. However, this additional population would constitute a minor increase in the
 17 total 2025 projected regional population of 4.6 million and be distributed throughout the region. It
 18 is anticipated that most of the operational workforce would be drawn from within the five-county
 19 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

20 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 21 population or new housing, they would not be considered to have an adverse effect.

22 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 23 result in minor population increases in the Delta region with adequate housing supply to
 24 accommodate the change in population and therefore significant impacts on the physical
 25 environment are not anticipated.

26 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 27 **Proposed Water Conveyance Facilities**

28 **NEPA Effects:** Under Alternative 2D, effects on community character would be similar in nature,
 29 location, and magnitude to those described under Alternative 4A, Impact ECON-9. Variations in the
 30 location of effects would result from the operation and maintenance of Intakes 1, 2, 3, 4, and 5, and
 31 the operation of an operable barrier at the Head of Old River, rather than Intakes 2, 3, and 5. While
 32 water conveyance operation and maintenance could result in beneficial effects relating to the
 33 economic welfare of a community, lasting adverse social effects, including effects on community
 34 cohesion, could also arise in communities closest to physical features and in those most heavily
 35 influenced by agricultural and recreational activities. Implementation of mitigation measures and
 36 environmental commitments related to noise, visual effects, transportation, agriculture, and
 37 recreation would reduce adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and*
 38 *CMs*). These actions are summarized under Alternative 4A, Impact ECON-9.

39 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 2D
 40 could affect community character in the Delta region. However, because these impacts are social in
 41 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
 42 changes to community character would lead to physical impacts involving population growth, such
 43 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*

1 *Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population or employment, even if
 2 limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of
 3 community character stemming from a lack of maintenance, upkeep, and general investment.

4 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 5 **Maintenance of the Proposed Water Conveyance Facilities**

6 **NEPA Effects:** Effects related to changes in local government fiscal conditions during operation and
 7 maintenance of Alternative 2D would be similar to those described for Alternative 4 in Section
 8 16.3.3.9 because the water conveyance facilities proposed under these alternatives would be similar.
 9 Over a 50-year period, property tax and assessment revenue forgone is estimated at \$41.1 million.
 10 These decreases in revenue could potentially result in the loss of a substantial share of some
 11 agencies' tax bases, particularly for smaller districts affected by Alternative 4A. However, as
 12 discussed under Impact ECON-4, California Water Code requires that entities constructing and
 13 operating a new Delta conveyance offset the loss of property tax or assessment revenues. The
 14 requirement will ensure that forgone tax revenues resulting from transferring lands for private to
 15 public ownership will be fully offset.

16 **CEQA Conclusion:** Under Alternative 2D, the ongoing operation and maintenance of water
 17 conveyance facilities would restrict property tax revenue levels for various local government
 18 entities in the Delta region. Over a 50-year period, property tax and assessment revenue forgone is
 19 estimated at \$41.1 million. These potential losses would be offset by the provisions in the Water
 20 Code that require entities constructing and operating new Delta conveyance facilities to fully
 21 mitigate for the loss of property tax assessments levied by local governments or special districts. It
 22 is anticipated that the Water Code requirement will ensure that forgone tax revenues will be fully
 23 offset. Furthermore, CEQA does not require a discussion of socioeconomic effects except where they
 24 would result in reasonably foreseeable physical changes. The potential for physical change to the
 25 environment as a result of changes would be avoided by offsetting the losses in tax revenues.

26 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 27 **Proposed Water Conveyance Facilities**

28 **NEPA Effects:** Effects on recreation economics during operation and maintenance of the proposed
 29 water conveyance facilities under Alternative 2D would be similar to those described under
 30 Alternative 4A, Impact ECON-11. Maintenance of conveyance facilities, including intakes, would
 31 result in periodic temporary but not substantial adverse effects on boat passage and water-based
 32 recreational activities. Because effects of facility maintenance would be short-term and intermittent,
 33 substantial economic effects are not anticipated to result from operation and maintenance of the
 34 facilities.

35 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 36 conveyance facilities under Alternative 2D are anticipated to create minor effects on recreational
 37 resources and therefore, are not expected to substantially reduce economic activity related to
 38 recreational activities. This section considers only the economic effects of recreational changes.
 39 Potential physical changes to the environment relating to recreational resources are described and
 40 evaluated in Chapter 15, *Recreation*, Section 15.3.3.5, Impacts REC-5 through REC-8.

1 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during**
 2 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

3 During operation and maintenance of conveyance facilities existing agricultural land would be in
 4 uses that include direct facility footprints and associated permanent roads and utilities. Agricultural
 5 land could also be affected by changes in water quality and other conditions that would affect crop
 6 productivity. These direct effects on agricultural land are described in Chapter 14, *Agricultural*
 7 *Resources*, Section 14.3.3.9, Impacts AG-1 and AG-2.

8 Changes in crop acreage were used to estimate the associated changes in economic values. Unit
 9 prices, yields, and crop production and investment costs were presented in Section 16.1,
 10 *Environmental Setting/Affected Environment*. Table 16-64 summarizes the changes in acreage and
 11 value of agricultural production that would result in the Delta region during operation of Alternative
 12 2D. Changes are shown relative to the Existing Conditions and the No Action Alternative by
 13 aggregate crop category (agricultural resources under Existing Conditions and in the No Action
 14 Alternative were assumed to be the same). The changes in crop acreages are reported in greater
 15 detail in Appendix 14A, *Individual Crop Effects as a Result of BDCP Water Conveyance Facility*
 16 *Construction*.

17 Total value of irrigated crop production in the Delta region would decline on average by \$3.8 million
 18 per year during operation and maintenance, with total irrigated crop acreage declining by about
 19 3,500 acres. These estimates are not dependent on water year type.

20 **Table 16-64. Crop Acres and Value of Agricultural Production in the Delta during Operations and**
 21 **Maintenance (Alternative 2D)**

Analysis Metric	Alternative 2D	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	480.0	-3.5
Total Value of Production (million \$)	646.2	-3.8

Notes: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).
 Analysis scaled from Alternative 4 data.

22
 23 Alternative 2D may also affect production costs on lands even if gross revenues are largely
 24 unaffected. Costs could be associated with operational constraints and longer travel times due to
 25 permanent facilities. In most cases, affected lands fall within the facilities footprint, and are included
 26 in the agricultural acreage and value of production described elsewhere in this chapter and in
 27 Chapter 14, *Agricultural Resources*, Section 14.3.3.9.

28 Crop yields and crop selection on lands in the Delta could be affected by changes in salinity of
 29 agricultural water supply during operation and maintenance activities. If operation of the proposed
 30 conveyance facilities increases salinity in part of the Delta, crops that are more sensitive to salinity
 31 could shift to other lands in the five-county Delta region. See Chapter 14, *Agricultural Resources*,
 32 Section 14.3.3.9, Impact AG-2, for further discussion of effects from changes in salinity.

33 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 34 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 35 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section

1 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
2 productivity and compensating off-site.

3 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities
4 the value of agricultural production in the Delta region would be reduced. The permanent removal
5 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
6 14.3.3.9, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
7 considered an environmental impact. Significant environmental impacts would only result if the
8 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
9 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
10 economic losses due to implementation of the alternative. While the compensation to property
11 owners would reduce the severity of economic effects related to the loss of agricultural land, it
12 would not constitute mitigation for any related physical effect. Measures to reduce these impacts are
13 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
14 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
15 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
16 Zones.

17 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the**
18 **Implementation of Environmental Commitments 3, 4, 6-12, 15, and 16**

19 The effects on the economy of the Delta region associated with implementation of these
20 Environmental Commitments would be similar to those described for Alternative 4A in Section
21 16.3.4.2. However, as described in Chapter 3, *Description of Alternatives*, Alternative 2D would
22 protect and restore up to 16,959 acres of habitat under Environmental Commitment 3, 4, and 6-10
23 as compared with 83,800 acres under Alternative 4.

24 **NEPA Effects:** Because implementation of these Environmental Commitments would be anticipated
25 to result in an increase in construction and operation and maintenance-related employment and
26 labor income, this would be considered a beneficial effect. However, implementation of these
27 components would also be anticipated to result in a decrease in agricultural-related and natural gas
28 production-related employment and labor income, which would be considered an adverse effect.
29 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
30 AG-1, would be available to reduce these effects by preserving agricultural productivity and
31 compensating offsite. Additionally, measures to reduce impacts on natural gas wells are discussed in
32 Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

33 **CEQA Conclusion:** Implementation of the proposed Environmental Commitments would affect total
34 employment and income in the Delta region. The change in total employment and income in the
35 Delta region is based on expenditures resulting from implementation of the habitat enhancement
36 and restoration activities and any resulting changes in agricultural production, recreation, and
37 natural gas production. The total change in employment and income is not, in itself, considered an
38 environmental impact. Significant environmental impacts would only result if the changes in
39 regional economics cause physical impacts. Such effects are discussed in other chapters throughout
40 this EIR/EIS. Removal of agricultural land from production is addressed in Chapter 14, *Agricultural*
41 *Resources*, Impacts AG-3 and AG-4; changes in recreation-related activities are addressed in Chapter
42 15, *Recreation*, Impacts REC-9 through REC-11; and abandonment of natural gas wells is addressed
43 in Chapter 26, *Mineral Resources*, Impact MIN-5. When required, the project proponents would
44 provide compensation to property owners for economic losses due to implementation of the

1 alternative. While the compensation to property owners would reduce the severity of economic
 2 effects related to the loss of agricultural land, it would not constitute mitigation for any related
 3 physical impact. Measures to reduce these impacts and impacts on natural gas wells are discussed in
 4 Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and Chapter 26, *Mineral Resources*,
 5 Section 26.3.3.2, Impact MIN-5.

6 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 7 **Implementing Environmental Commitments 3, 4, 6-12, 15, and 16**

8 **NEPA Effects:** In the Delta region, implementation of habitat enhancement and restoration activities
 9 could increase employment and convert land from existing uses, including possible displacement of
 10 residential housing and business establishments. The effects on population and housing in the Delta
 11 region would be similar to those described for Alternative 4A. However, as described in Chapter 3,
 12 *Description of Alternatives*, Alternative 2D would protect and restore up to 16,959 acres of habitat
 13 under Environmental Commitment 3, 4, and 6-10 as compared with 83,800 acres under Alternative
 14 4. In general, the changes in population and housing would include increases in population from the
 15 construction and operation and maintenance-related activity and declines in residential housing and
 16 business establishments as a result of lands converted or impaired. Because these activities would
 17 not result in concentrated, substantial increases in population or new housing, they would not be
 18 considered to have an adverse effect.

19 **CEQA Conclusion:** Implementation of the proposed habitat enhancement and restoration activities
 20 could affect total population and housing in the Delta region. The change in total population and
 21 housing in the Delta region is based on employment resulting from implementation of the proposed
 22 conservation activities. The change in population and housing is expected to be minor relative to the
 23 five-county Delta region, and dispersed throughout the region. Therefore, significant impacts on the
 24 physical environment are not anticipated to result.

25 **Impact ECON-15: Changes in Community Character as a Result of Implementing** 26 **Environmental Commitments 3, 4, 6-12, 15, and 16**

27 **NEPA Effects:** As noted under Impacts ECON-13 and ECON-14, conservation activities designed to
 28 restore, conserve, or enhance natural habitat would be anticipated to create economic effects similar
 29 to Alternative 4A. However, as described in Chapter 3, *Description of Alternatives*, Alternative 2D
 30 would protect and restore up to 16,959 acres of habitat under Environmental Commitment 3, 4, and
 31 6-10 as compared with 83,800 acres under Alternative 4. Effects could include increases to
 32 employment and changes in land use that could trigger the disruption of agricultural and
 33 recreational economies. They could also affect the possible displacement of residences and
 34 businesses. The effects these activities would create with regard to community character would
 35 depend on the nature of each measure along with its specific location, size, and other factors that are
 36 not yet defined.

37 Under Alternative 2D, temporary construction associated with implementation of these measures
 38 could lead to demographic changes and resulting effects on the composition and size of Delta
 39 communities. Earthwork and site preparation associated with Environmental Commitments could
 40 also detract from the rural qualities of the Delta region; however, their implementation would take
 41 place in phases over time, which would limit the extent of effects taking place at any one point in
 42 time.

1 Implementation of these measures could also alter community character over the long term.
 2 Conversion of agricultural land to restored habitat would result in the erosion of some economic and
 3 social contributions stemming from agriculture in Delta communities. However, in the context of the
 4 Delta region, a substantial proportion of land would not be converted. Additionally, restored habitat
 5 could support some rural qualities, particularly in terms of visual resources and recreational
 6 opportunities. These effects could attract more residents to some areas of the Delta, and could
 7 replace some agricultural economic activities with those related to recreation and tourism. To the
 8 extent that agricultural facilities and supportive businesses were affected and led to vacancy,
 9 alteration of community character could result from these activities. However, protection of
 10 cultivated lands would ensure the continuation of agricultural production on a substantial area of
 11 land in the Delta. If necessary, implementation of mitigation measures and environmental
 12 commitments related to transportation, agriculture, and recreation would be anticipated to reduce
 13 these adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically,
 14 these include commitments to develop and implement erosion and sediment control plans, develop
 15 and implement hazardous materials management plans, provide notification of maintenance
 16 activities in waterways, develop and implement a noise abatement plan, develop and implement a
 17 fire prevention and control plan, and prepare and implement mosquito management plans.

18 **CEQA Conclusion:** Implementation of habitat enhancement and restoration activities under
 19 Alternative 2D could affect community character within the Delta region. However, because these
 20 impacts are social in nature, rather than physical, they are not considered impacts under CEQA. To
 21 the extent that changes to community character are related to physical impacts involving population
 22 growth, these impacts are described in Chapter 30, *Growth Inducement and Other Indirect Effects*.
 23 Furthermore, notable decreases in population or employment, even if limited to certain areas,
 24 sectors, or the vacancy of individual buildings, could result in decay and blight stemming from a lack
 25 of maintenance, upkeep, and general investment. However, implementation of mitigation measures
 26 and environmental commitments related to noise, visual effects, transportation, agriculture, and
 27 recreation, would reduce the extent of these effects such that a significant impact would not occur
 28 (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these include
 29 commitments to develop and implement erosion and sediment control plans, develop and
 30 implement hazardous materials management plans, provide notification of maintenance activities in
 31 waterways, develop and implement a noise abatement plan, develop and implement a fire
 32 prevention and control plan, and prepare and implement mosquito management plans.

33 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 34 **Environmental Commitments 3, 4, 6-12, 15, and 16**

35 As discussed in relation to construction of water conveyance facilities, habitat restoration and
 36 enhancement activities under Alternative 2D would also take place, in part, on land held by private
 37 owners and from which local governments derive revenue through property taxes and assessments.
 38 In particular, Environmental Commitments related to protection and restoration of natural
 39 communities would require the acquisition of multiple parcels of land.

40 The loss of a substantial portion of an entity's tax base would represent an adverse effect on an
 41 agency, resulting in a decrease in local government's ability to provide public goods and services.
 42 Under Alternative 2D, property tax and assessment revenue forgone is estimated to reach \$16.2
 43 million as a result of implementing Environmental Commitments 3, 4, 6-12, and 16. Decreases in
 44 revenue could potentially represent a substantial share of individual agency tax bases, particularly
 45 for smaller districts affected by large, contiguous areas identified for habitat restoration.

1 Additionally, installation of non-physical fish barriers at Georgiana Slough may require that land
 2 currently on property tax rolls be acquired and eventually removed from the tax base. The fiscal
 3 effects stemming from this activity are, however, anticipated to be minor based upon the relatively
 4 small areas of land necessary for its implementation. **NEPA Effects:** Overall, habitat enhancement
 5 and restoration activities would remove many acres of private land from local property tax and
 6 assessment rolls. This economic effect would be considered adverse; however, project proponents
 7 would offset forgone property tax and assessments levied by local governments and special districts
 8 on private lands converted to habitat. As described under Impact ECON-13, regional economic
 9 effects from the implementation of these activities would be mixed. While activities associated with
 10 construction and establishment of habitat areas could boost regional expenditures and sales tax
 11 revenue, reduced agricultural activities may offset these gains. Changes in recreation spending and
 12 related sales tax revenue could be positive or negative, depending on the implementation of the
 13 measures.

14 **CEQA Conclusion:** Under Alternative 2D, implementation of habitat enhancement and restoration
 15 activities would result in the removal of a portion of the property tax base for various local
 16 government entities in the Delta region. Over a 50-year period, property tax and assessment
 17 revenue forgone is estimated to reach \$16.2 million, compared with annual property tax revenue of
 18 more than \$934 million in the Delta counties (California State Controller's Office 2012). As discussed
 19 in Alternative 4A, these losses would be offset by the requirements stipulated in the California
 20 Water Code. CEQA does not require a discussion of socioeconomic effects except where they would
 21 result in physical changes. The potential for a physical change in the environment would be avoided
 22 by offsetting the potential losses in tax revenues

23 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing** 24 **Environmental Commitments 3, 4, 6-12, 15, and 16**

25 **NEPA Effects:** Implementation of habitat enhancement and restoration activities under this
 26 alternative would be anticipated to create an adverse effect on recreational resources by limiting
 27 access to facilities, restricting boat navigation, and disturbing fish habitat while restoration activities
 28 are taking place. These measures may also permanently reduce the extent of upland recreation sites.
 29 However, these components could also create beneficial effects by enhancing aquatic habitat and
 30 fish abundance, expanding the extent of navigable waterways available to boaters, and improving
 31 the quality of existing upland recreation opportunities. Therefore, the potential exists for the
 32 creation of adverse and beneficial effects related to recreational economics. Adverse effects would
 33 be anticipated to be primarily limited to areas close to restoration areas and during site preparation
 34 and earthwork phases. These effects could result in a decline in visits to the Delta and reduction in
 35 recreation-related spending, creating an adverse economic effect throughout the Delta. Beneficial
 36 recreational effects would generally result during later stages of restoration implementation as
 37 environmental conditions supporting recreational activities are enhanced. These effects could
 38 improve the quality of recreational experiences, leading to increased economic activities related to
 39 recreation, particularly in areas where habitat enhancement or restoration could create new
 40 recreational opportunities.

41 **CEQA Conclusion:** Site preparation and earthwork activities associated with Environmental
 42 Commitments would limit opportunities for recreational activities where they occur in or near
 43 existing recreational areas. Noise, odors, and visual effects of construction activities would also
 44 temporarily compromise the quality of recreation in and around these areas, leading to potential
 45 economic impacts. However, over time, implementation could improve the quality of existing

1 recreational opportunities, leading to increased economic activity. This section considers only the
 2 economic effects of recreational changes brought about by implementation of habitat enhancement
 3 and restoration activities. CEQA does not require a discussion of socioeconomic effects except where
 4 they would result in reasonably foreseeable physical changes. Potential physical changes to the
 5 environment relating to recreational resources are described and evaluated in Chapter 15,
 6 *Recreation*, Impacts REC-9 through REC-11.

7 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of**
 8 **Implementing Environmental Commitments 3, 4, 6-12, 15, and 16**

9 **NEPA Effects:** Habitat enhancement and restoration activities would convert land from existing
 10 agricultural uses. These direct effects on agricultural land are described qualitatively in Chapter 14,
 11 *Agricultural Resources*, Impacts AG-3 and AG-4. Effects on agricultural economics would include
 12 effects on crop production and agricultural investments resulting from restoration actions on
 13 agricultural lands. The effects would be similar in kind to those described for lands converted due to
 14 construction and operation of the conveyance features and facilities. The total acreage and crop mix
 15 of agricultural land potentially affected is not specified at this time, but when required, the project
 16 proponents would provide compensation to property owners for losses due to implementation of
 17 the alternative. Because implementation of habitat enhancement and restoration activities would be
 18 anticipated to lead to reductions in crop acreage and in the value of agricultural production in the
 19 Delta region, this is considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14,
 20 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by
 21 preserving agricultural productivity and compensating offsite.

22 **CEQA Conclusion:** Implementation of habitat enhancement and restoration activities would reduce
 23 the total value of agricultural production in the Delta region. The permanent removal of agricultural
 24 land from production is addressed in Chapter 14, *Agricultural Resources*, Impacts AG-3 and AG-4.
 25 The reduction in the value of agricultural production is not considered an environmental impact.
 26 Significant environmental impacts would only result if the changes in regional economics cause
 27 physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 28 required, the project proponents would provide compensation to property owners for economic
 29 losses due to implementation of the alternative. While the compensation to property owners would
 30 reduce the severity of economic effects related to the loss of agricultural land, it would not
 31 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 32 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

33 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

34 As described in Chapter 30, *Growth Inducement and Other Indirect Effects*, the operational
 35 components of water conveyance facilities under Alternative 2D could result in a number of effects
 36 in areas receiving SWP and CVP water deliveries outside of the Delta. Generally, these effects would
 37 be similar to those described for Alternative 2A (Operational Scenario B) in Section 16.3.3.5 because
 38 the incremental change in Delta exports is similar, when compared to the relevant No Action
 39 condition.

40 Under Operational Scenario B as considered for Alternative 2D (at the ELT), the average annual
 41 increase in CVP and SWP deliveries would be 497 TAF, and the distribution of these increased
 42 deliveries to each hydrologic region are given in Table 30-21.

1 Changes in the amount, cost, or reliability of water deliveries could create socioeconomic effects in
 2 the hydrologic regions. To the extent that unreliable or insufficient water supplies currently
 3 represent obstacles to agricultural production, Alternative 2D may support more stable agricultural
 4 activities by enabling broader crop selection or by reducing risk associated with uncertain water
 5 deliveries. As a result of an increase in water supply and supply reliability, farmers may choose to
 6 leave fewer acres fallow and/or plant higher-value crops. While the locations and extent of any
 7 increases in production would depend on local factors and individual economic decisions, a general
 8 increase in production would be anticipated to support growth in seasonal and permanent on-farm
 9 employment, along with the potential expansion of employment in industries closely associated
 10 with agricultural production. These include food processing, agricultural inputs, and transportation.
 11 Generally, these effects would be most concentrated in hydrologic regions where agriculture is a
 12 primary industry and where agricultural operations depend most heavily on SWP and CVP
 13 deliveries.

14 **NEPA Effects:** Changes in water deliveries associated with operation of Alternative 2D could result
 15 in beneficial socioeconomic effects in areas receiving water from the SWP and CVP. In hydrologic
 16 regions where water deliveries are predicted to increase when compared with the No Action
 17 Alternative, more stable agricultural activities could support employment and economic production
 18 associated with agriculture. Where M&I deliveries increase, population growth could lead to general
 19 economic growth and support water-intensive industries. Such changes could also lead to shifts in
 20 the character of communities in the hydrologic regions with resultant beneficial or adverse effects.
 21 Likewise, growth associated with deliveries could require additional expenditures for local
 22 governments while also supporting increases in revenue.

23 **CEQA Conclusion:** As described above, the operational components of the proposed water
 24 conveyance facilities could result in a number of socioeconomic effects in areas receiving SWP and
 25 CVP water deliveries outside of the Delta. However, because these impacts are social and economic
 26 in nature, rather than physical, they are not considered environmental impacts under CEQA. To the
 27 extent that changes in socioeconomic conditions in the hydrologic regions would lead to physical
 28 impacts, such impacts are described in Chapter 30, *Growth Inducement and Other Indirect Effects*.

29 **16.3.4.4 Alternative 5A—Dual Conveyance with Modified** 30 **Pipeline/Tunnel and Intake 2 (3,000 cfs; Operational Scenario C)**

31 Alternative 5A would result in temporary effects on lands and communities associated with
 32 construction of one intake and associated facilities; an intermediate forebay; tunnels; an operable
 33 barrier at the head of Old River; pumping plants and an expanded and modified Clifton Court
 34 Forebay. Nearby areas would be altered as work or staging areas, concrete batch plants, fuel
 35 stations, or be used for spoils storage areas. Transmission lines, access roads, and other incidental
 36 facilities would also be needed for operations, and construction of these structures would also have
 37 effects on lands and communities.

38 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 39 **Region during Construction of the Proposed Water Conveyance Facilities**

40 The regional economic effects on employment and income in the Delta region during construction
 41 were evaluated. Changes are shown relative to the Existing Conditions and the No Action Alternative
 42 (regional economic conditions do not differ between Existing Conditions and No Action Alternative).
 43 The effects on employment and income are displayed in Table 16-65. The table shows the direct and

1 total changes that would result from conveyance-related spending. As evident in Table 16-65,
 2 spending on conveyance construction would result in substantial economic activity in the region. As
 3 shown, direct construction employment is anticipated to vary over the 14-year construction period,
 4 with an estimated 57 FTE jobs in the first year and 422 FTE jobs in the final year of the construction
 5 period. Construction employment is estimated to peak at 2,107 FTE jobs in year 3. Total
 6 employment (direct, indirect, and induced) would peak in year 12, at 7,528 FTE jobs.

7 **Table 16-65. Regional Economic Effects on Employment and Labor Income during Construction**
 8 **(Alternative 5A)**

Regional Economic Impact ^a	Year							
	1	2	3	4	5	6	7	8
Employment (FTE)								
Direct	57	648	2,107	1,513	976	1,364	1,916	1,972
Total ^b	78	890	6,934	5,767	4,689	5,599	7,105	7,182
Labor Income (million \$)								
Direct	-	0.4	146.3	133.1	120.7	134.4	161.4	161.4
Total ^b	1.0	11.3	281.8	249.8	220.0	249.5	304.3	305.3

Note: Scaled from Alternative 4 IMPLAN results, based on percentage of construction cost assumptions per intake.

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

Regional Economic Impact ^a	Year					
	9	10	11	12	13	14
Employment (FTE)						
Direct	1,977	1,904	1,835	1,951	1,496	422
Total ^b	7,222	7,106	7,042	7,528	4,309	690
Labor Income (million \$)						
Direct	162.7	162.1	163.1	174.9	81.6	4.2
Total ^b	307.4	305.2	305.9	327.7	162.5	14.0

Note: Scaled from Alternative 4 IMPLAN results, based on percentage of construction cost assumptions per intake.

^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.

^b Includes direct, indirect, and induced effects; numbers may not sum to the total due to rounding. Detailed estimates are presented in Appendix 16A, *Regional Economic Impacts of Water Conveyance Facility Construction*.

9

10 The footprint of conveyance and related facilities such as roads and utilities would remove some
 11 existing agricultural land from production, so the effects on employment and income would be
 12 negative. The regional economic effects on employment and income in the Delta region from the
 13 change in agricultural production are reported in Table 16-66. As shown, direct agricultural
 14 employment would be reduced by an estimated 10 FTE jobs, while total employment (direct,
 15 indirect, and induced) associated with agricultural employment would fall by 37 FTE jobs. Based on
 16 the crop production values changes described in Impact ECON-6 for construction effects, the direct
 17 agricultural job losses would more likely be concentrated in the vegetable, truck, orchard, and
 18 vineyard crops sectors, which are relatively labor intensive, than in the grain, field, and forage crop
 19 sectors, where more jobs are mechanized. Note that direct agricultural job losses could be higher
 20 than the 10 FTE jobs shown in Table 16-66 because many agricultural jobs are seasonal rather than
 21 year-round, FTE jobs, suggesting that more than one seasonal job could be lost per every FTE job

1 lost as a result of construction of conveyance facilities construction. Mapbook Figures M14-7 and
 2 M14-8 display areas of Important Farmland and lands under Williamson Act contracts that could be
 3 converted to other uses due to the construction of water conveyance facilities for the Modified
 4 Pipeline/Tunnel alignment.

5 **Table 16-66. Regional Economic Effects on Agricultural Employment and Labor Income during**
 6 **Construction (Alternative 2D)**

Regional Economic Impact ^a	Impacts on Agriculture
Employment (FTE)	
Direct	-10
Total ^b	-37
Labor Income (million \$)	
Direct	-2
Total ^b	-3

Note: Labor income is reported 2011 dollars (U.S. Department of Commerce 2012).
^a IMPLAN results are changes relative to Existing Condition or No Action Alternative.
^b Includes direct, indirect, and induced effects.

7
 8 The Alternative 5A construction footprint would not result in the abandonment of any active
 9 producing natural gas wells in the study area, as described in Chapter 26, *Mineral Resources*, Section
 10 26.3.3.9, Impact MIN-1. Therefore, this alternative would not be anticipated to result in the loss of
 11 employment or labor income associated with monitoring and maintaining these wells.

12 **NEPA Effects:** Because construction of water conveyance facilities would result in an increase in
 13 construction-related employment and labor income, this would be considered a beneficial effect.
 14 However, these activities would also be anticipated to result in a decrease in agricultural-related
 15 employment and labor income, which would be considered an adverse effect. Mitigation Measure
 16 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 17 available to reduce these effects by preserving agricultural productivity and compensating off-site.

18 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would temporarily
 19 increase total employment and income in the Delta region. The change would result from
 20 expenditures on construction, increasing employment, and from changes in agricultural production,
 21 decreasing employment. Changes in recreational expenditures and natural gas well operations could
 22 also affect regional employment and income, but these have not been quantified. The total change in
 23 employment and income is not, in itself, considered an environmental impact. Significant
 24 environmental impacts would only result if the changes in regional economics cause physical
 25 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 26 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 27 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts AG-1
 28 and AG-2; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 29 15.3.3.9, REC-1 through REC-4; abandonment of natural gas wells is addressed in Chapter 26,
 30 *Mineral Resources*, Section 26.3.3.9, Impact MIN-1. When required, DWR would provide
 31 compensation to property owners for economic losses due to implementation of the alternative.
 32 While the compensation to property owners would reduce the severity of economic effects related
 33 to the loss of agricultural land, it would not constitute mitigation for any related physical impact.
 34 Measures to reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section

1 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1, Develop an ALSP to preserve
 2 agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson
 3 Act contracts or in Farmland Security Zones.

4 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of**
 5 **the Proposed Water Conveyance Facilities**

6 Construction of conveyance facilities would require an estimated peak of 2,107 workers in year 3 of
 7 the assumed 14-year construction period. It is anticipated that many of these new jobs would be
 8 filled from within the existing five-county labor force; however, it is anticipated that some
 9 specialized workers may be recruited from outside the five-county region and would relocate to the
 10 area. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.1, an
 11 estimated 30% of workers could come from out of the Delta region, suggesting that approximately
 12 630 workers could relocate to the Delta region at the peak of the construction period. However, this
 13 additional population would constitute a minor increase in the total 2025 projected regional
 14 population of 4.6 million and be distributed throughout the region. Changes in demand for public
 15 services resulting from any increase in population are addressed under Impacts UT-1 through UT-6
 16 in Chapter 20, *Public Services and Utilities*.

17 Changes in housing demand are based on changes in supply resulting from displacement during
 18 facilities construction and changes in housing demand resulting from employment associated with
 19 construction of conveyance facilities. As described under Impact LU-2 in Chapter 13, *Land Use*,
 20 construction of water conveyance facilities under Alternative 5A would conflict with approximately
 21 13 residential structures. The physical footprints of the three intake facilities, along with associated
 22 work areas, are anticipated to create the largest disruption to structures, conflicting with 7 of these
 23 residences.

24 The construction workforce would most likely commute daily to the work sites from within the five-
 25 county region; however, if needed, there are about 53,000 housing units available to accommodate
 26 workers who may choose to commute on a workweek basis or who may choose to temporarily
 27 relocate to the region for the duration of the construction period, including the estimated 630
 28 workers who may temporarily relocate to the Delta region from out of the region. In addition to the
 29 available housing units, there are recreational vehicle parks and hotels and motels within the five-
 30 county region to accommodate any construction workers. As a result, and as discussed in more
 31 detail in Chapter 30, *Growth Inducement and Other Indirect Effects*, construction of the proposed
 32 conveyance facilities is not expected to substantially increase the demand for housing within the
 33 five-county region.

34 **NEPA Effects:** Within specific local communities, there could be localized effects on housing.
 35 However, given the availability of housing within the five-county region, predicting where this
 36 impact might fall would be speculative. In addition, new residents would likely be dispersed across
 37 the region, thereby not creating a burden on any one community. Because these activities would not
 38 result in permanent concentrated, substantial increases in population or new housing, they would
 39 not be considered to have an adverse effect.

40 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would result in minor
 41 population increases in the Delta region with adequate housing supply to accommodate the change
 42 in population. Therefore, the minor increase in demand for housing is not anticipated to lead to
 43 reasonably foreseeable adverse physical changes constituting a significant impact on the
 44 environment.

1 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 2 **Water Conveyance Facilities**

3 **NEPA Effects:** Effects related to changes in community character in the Delta region during
4 construction of Alternative 5A would be similar to those described for Alternative 4 in Section
5 16.3.3.9 because the water conveyance facilities proposed under these alternatives are similar.
6 However, under Alternative 5A two fewer intake facilities would be constructed, which would result
7 in smaller localized effects on community character when compared to Alternative 4, particularly in
8 and around the communities of Clarksburg, Hood, and Courtland.

9 Under Alternative 5A, additional regional employment and income could create net positive effects
10 on the character of Delta communities. In addition to potential demographic effects associated with
11 changes in employment, however, property values may decline in areas that become less desirable
12 in which to live, work, shop, or participate in recreational activities. For instance, negative visual- or
13 noise-related effects on residential property could lead to localized abandonment of buildings. While
14 water conveyance construction could result in beneficial effects relating to the economic welfare of a
15 community, adverse social effects could also arise as a result of declining economic stability in
16 communities closest to construction effects and in those most heavily influenced by agricultural and
17 recreational activities. Implementation of mitigation measures and environmental commitments
18 related to noise, visual effects, transportation, agriculture, and recreation, would reduce adverse
19 effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*).

20 **CEQA Conclusion:** Construction of water conveyance facilities under Alternative 5A could affect
21 community character in the Delta region. However, because these impacts are social in nature,
22 rather than physical, they are not considered impacts under CEQA. To the extent that changes to
23 community character would lead to physical impacts involving population growth, such impacts are
24 described under Impact ECON-2 and in Chapter 30, *Growth Inducement and Other Indirect Effects*.
25 Furthermore, notable decreases in population or employment, even if limited to specific areas,
26 sectors, or the vacancy of individual buildings, could result in alteration of community character
27 stemming from a lack of maintenance, upkeep, and general investment. However, implementation of
28 mitigation measures and environmental commitments related to noise, visual effects,
29 transportation, agriculture, and recreation, would reduce the extent of these effects such that a
30 significant impact would not occur (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*).
31 Specifically, these include commitments to develop and implement erosion and sediment control
32 plans, develop and implement hazardous materials management plans, provide notification of
33 maintenance activities in waterways, develop and implement a noise abatement plan, develop and
34 implement a fire prevention and control plan, and prepare and implement mosquito management
35 plans.

36 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 37 **the Proposed Water Conveyance Facilities**

38 **NEPA Effects:**

39 Under Alternative 5A, publicly owned water conveyance facilities would be constructed on land of
40 which some is currently held by private owners. Property tax and assessment revenue generated by
41 lands that would be transferred from private to is estimated to total \$6 million over the construction
42 period. Typically, decreases in revenue could potentially result in the loss of a substantial share of
43 some agencies' tax bases and particularly for smaller districts affected by a project. However,
44 California Water Code (Section 85089 subdivision 9b) specifies that the entities constructing and

1 operating a new Delta conveyance facility will fully mitigate for the loss of property tax revenues or
 2 assessments levied by local governments or special districts. This Water Code requirement will
 3 ensure that tax revenues forgone as a result of transferring land from private to public ownership
 4 will be fully offset. In addition, as discussed under Impact ECON-1, construction of the water
 5 conveyance facilities would be anticipated to result in a net temporary increase of income and
 6 employment in the Delta region. This would also create an indirect beneficial effect through
 7 increased sales tax revenue for local government entities that rely on sales taxes.

8 **CEQA Conclusion:** Under Alternative 5A, construction of water conveyance facilities would result in
 9 the removal of a portion of the property tax base for various local government entities in the Delta
 10 region. Over the construction period, property tax and assessment revenue generated by these
 11 properties is estimated at \$6 million. These potential losses would be offset by the provisions in the
 12 California Water Code that require entities constructing and operating new Delta conveyance
 13 facilities to fully mitigate for the loss of property tax or assessments levied by local governments or
 14 special districts. It is anticipated that the Water Code requirement will ensure that forgone tax
 15 revenues will be fully offset. In addition, CEQA does not require a discussion of socioeconomic
 16 effects except where they would result in reasonably foreseeable physical changes. The potential for
 17 a physical change to the environment as a result of changes in tax revenues would be avoided by
 18 offsetting the potential losses in tax revenues.

19 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 20 **Water Conveyance Facilities**

21 **NEPA Effects:** As described and defined in Chapter 15, *Recreation*, Impacts REC-1 through REC-4,
 22 construction of water conveyance facilities under Alternative 5A would be similar to those under
 23 Alternative 4. Disruption of recreational activities during the construction period would be similar
 24 in character, but smaller in extent and duration, than that described under Alternative 4, Impact
 25 ECON-5. This is largely because only Intake 2 would be constructed under this alternative; therefore,
 26 fewer impacts would occur near Stone Lakes National Wildlife Refuge. Alternative 5A would include
 27 elements that would be permanently located in two existing recreation areas (Cosumnes River
 28 Preserve and Clifton Court Forebay). Additionally, substantial disruption of other recreational
 29 activities considered temporary and permanent would occur in certain areas during the
 30 construction period. A decline in visits to the Delta recreational sites, were it to occur as a result of
 31 facility construction, would be expected to reduce recreation-related spending, creating an adverse
 32 effect throughout the Delta region. Additionally, if construction activities shift the relative popularity
 33 of different recreational sites, implementation of Alternative 5A may carry localized beneficial or
 34 adverse effects.

35 Access would be maintained to all existing recreational facilities, including marinas, throughout
 36 construction. As part of Mitigation Measure REC-2, project proponents would enhance nearby
 37 fishing access sites and would incorporate public recreational access into design of the intakes along
 38 the Sacramento River. Implementation of this measure along with separate other commitments as
 39 set forth in Appendix 3B, *Environmental Commitments, AMMs, and CMs*, relating to the enhancement
 40 of recreational access and control of aquatic weeds in the Delta would reduce these effects.
 41 Environmental commitments would also be implemented to reduce some of the effects of
 42 construction activities on the recreational experience. Similarly, mitigation measures proposed
 43 throughout other sections of this document, and listed under Impact REC-2 in Chapter 15,
 44 *Recreation*, would also contribute to reducing construction effects on recreational experiences in the

1 study area. These include Chapter 12, *Terrestrial Biological Resources*, Chapter 17, *Aesthetics and*
 2 *Visual Resources*, Chapter 19, *Transportation*, and Chapter 23, *Noise*.

3 Construction of water conveyance structures would be anticipated to result in a lower-quality
 4 recreational experience in a number of localized areas throughout the Delta, despite the
 5 implementation of environmental commitments. With a decrease in recreational quality,
 6 particularly for boating and fishing (two of the most popular activities in the Delta), the number of
 7 visits would be anticipated to decline, at least in areas close to construction activities. Under this
 8 alternative, small areas of the Cosumnes River Preserve on Staten Island would be affected by the
 9 construction of tunnels and associated activities. In the Clifton Court Forebay, permanent siphons,
 10 canals, forebay embankment areas, a control structure, and a forebay overflow structure would be
 11 built. New pumping plants would also be constructed at the northeast corner of the forebay. There
 12 are no formal recreation facilities at Clifton Court Forebay, although well-established recreation,
 13 mostly fishing and hunting, takes place at the southern end of the forebay along the embankment.
 14 This access would be lost during construction, but once new embankments are built, recreation
 15 could again occur. Six other recreational sites or areas would experience periods of construction-
 16 related effects, including noise, access, visual disturbances, or a combination of these effects. As
 17 described in Chapter 15, *Recreation*, 15.3.3.9, Impact REC-2, these include Clarksburg Boat Launch
 18 (fishing access), Stone Lakes National Wildlife Refuge, Wimpy's Marina, Delta Meadows River Park,
 19 Bullfrog Landing Marina, and Lazy M Marina. Fewer visits to these sites or areas would lead to less
 20 spending, creating an adverse effect. While visitors can adjust their recreational patterns to avoid
 21 areas substantially affected by construction activities (by boating or fishing elsewhere in the Delta,
 22 for instance), recreation-dependent businesses including marinas and recreational supply retailers
 23 may not be able to economically weather the effects of multiyear construction activities and may be
 24 forced to close as a result, even while businesses in areas that become more popular could benefit.

25 Overall, however, the multi-year schedule and geographic scale of construction activities and the
 26 anticipated decline in recreational spending would be considered an adverse effect. The
 27 commitments and mitigation measures cited above would contribute to the reduction of this effect.

28 **CEQA Conclusion:** Construction of the proposed water conveyance facilities under Alternative 5A
 29 could affect recreational revenue in the Delta region if construction activities result in fewer visits to
 30 the area. Fewer visits would be anticipated to result in decreased economic activity related to
 31 recreational activities. This section considers only the economic effects of recreational changes
 32 brought about by construction of the proposed water conveyance facilities. Potential physical
 33 changes to the environment relating to recreational resources are described and evaluated in
 34 Chapter 15, *Recreation*, Impacts REC-1 through REC-4.

35 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 36 **the Proposed Water Conveyance Facilities**

37 Construction of conveyance facilities would convert land from existing agricultural uses to uses that
 38 include direct facility footprints, construction staging areas, borrow/spoils areas, RTM storage,
 39 temporary and permanent roads, and utilities. Agricultural land could also be affected by changes in
 40 water quality and other conditions that would affect crop productivity. These direct effects on
 41 agricultural land are described in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts AG-1
 42 and AG-2.

43 Changes in crop acreage were used to describe the associated changes in economic values. Unit
 44 prices, yields, and crop production and investment costs were presented in Section 16.1,

1 *Environmental Setting/Affected Environment.* Table 16-67 summarizes the changes in acreage and
 2 value of agricultural production that would result in the Delta region as a result of Alternative 5A
 3 construction. Changes are shown relative to the Existing Conditions and the No Action Alternative
 4 by aggregate crop category (agricultural resources under Existing Conditions and in the No Action
 5 Alternative were assumed to be the same). The table also includes a summary of changes in crop
 6 acreages that are reported in greater detail in Appendix 14A, *Individual Crop Effects as a Result of*
 7 *BDCP Water Conveyance Facility Construction.*

8 Total value of irrigated crop production in the Delta would decline on average by \$4.8 million per
 9 year during the construction period, with total irrigated crop acreage declining by about 4,300.
 10 These estimates are not dependent on water year type.

11 **Table 16-67. Crop Acres and Value of Agricultural Production in the Delta during Construction**
 12 **(Alternative 5A)**

Analysis Metric	Alternative 5A	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	479.4	-4.3
Total Value of Production (million \$)	645.2	-4.8

Notes: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).
 Scaled from Alternative 4 IMPLAN results, based on change in crop acres affected under Alternative 2D.

13
 14 Alternative 5A may also affect production costs on lands even if gross revenues are largely
 15 unaffected. Costs could be increased by operational constraints and longer travel times due to
 16 facilities construction. Construction designs and costs have provided for such costs in two ways. In
 17 most cases, affected lands fall within the facilities footprint, and are included in the agricultural
 18 acreage and value of production described elsewhere in this chapter and in Chapter 14, *Agricultural*
 19 *Resources*, Section 14.3.3.9, Impacts AG-1 and AG-2. For potentially affected lands not included in the
 20 facilities footprint, conveyance construction costs include temporary and permanent roads, bridges,
 21 and other facilities as needed to service agricultural lands (California Department of Water
 22 Resources 2010a, 2010b). There could be some additional travel time and other costs associated
 23 with using these facilities, but such costs are not environmental impacts requiring mitigation.

24 Loss of investments in production facilities and standing orchards and vineyards would occur as a
 25 result of facilities construction. The value of structures and equipment potentially affected would
 26 vary widely across parcels. Much of the equipment is portable (e.g., machinery, tools, portable
 27 sprinkler pipe), and could be sold or used on other lands. Shop and storage buildings and permanent
 28 irrigation and drainage equipment plus orchards and vineyards may have little or no salvage value.
 29 The negotiated purchase of lands for the conveyance and associated facilities would compensate for
 30 some, but perhaps not all of that value. According to Cooperative Extension cost of production
 31 studies (University of California Cooperative Extension 2003a, 2003b, 2004, 2005, 2006a, 2006b,
 32 2007a, 2007b, 2008a, 2008b, 2008c, 2008d), permanent structures, irrigation systems, and drainage
 33 systems can represent a wide range of investment, from less than \$100 per acre for field and
 34 vegetable crops up to over \$3,000 per acre for some orchards. Most such investments would not be
 35 new, so their depreciated values would be substantially lower.

1 Investment in standing orchards and vineyards would also be considered during negotiations for
2 land purchases. Typical investments required to bring permanent crops into production are shown
3 in Section 16.1, *Environmental Setting/Affected Environment*. For example, the establishment of wine
4 grapes requires an investment of over \$15,000 per acre and Bartlett pears require over \$20,000 per
5 acre. Forage crops such as irrigated pasture and alfalfa may require an establishment cost of about
6 \$400 per acre. The depreciated values of the growing stock could be substantially below these
7 establishment costs, depending on the ages of the stands that would be affected.

8 Only minor changes in salinity of agricultural water supply are expected during construction.
9 Consequently, costs related to salinity changes would also be minor. Further discussion of effects
10 from changes in salinity is presented in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts
11 AG-1 and AG-2.

12 **NEPA Effects:** Because construction of the proposed water conveyance facilities would lead to
13 reductions in crop acreage and in the value of agricultural production in the Delta region, this is
14 considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
15 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving
16 agricultural productivity and compensating off-site.

17 **CEQA Conclusion:** Construction of the proposed water conveyance facilities would reduce the total
18 value of agricultural production in the Delta region. The removal of agricultural land from
19 production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.3.9, Impacts AG-1 and
20 AG-2. The reduction in the value of agricultural production is not considered an environmental
21 impact. Significant environmental impacts would only result if the changes in regional economics
22 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
23 required, DWR would provide compensation to property owners for economic losses due to
24 implementation of the alternative. While the compensation to property owners would reduce the
25 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
26 for any related physical impact. Measures to reduce these impacts are discussed in Chapter 14,
27 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly Mitigation Measure AG-1,
28 Develop an ALSF to preserve agricultural productivity and mitigate for loss of Important Farmland
29 and land subject to Williamson Act contracts or in Farmland Security Zones.

30 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 31 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

32 Permanent effects on regional economics during operation and maintenance of the proposed water
33 conveyance facilities would be similar to those described under Alternative 4A, Impact ECON-7.
34 Increased expenditures related to operation and maintenance of water conveyance facilities would
35 be expected to result in a permanent increase in regional employment and income, as presented in
36 Table 16-22. The permanent removal of agricultural land following construction would have lasting
37 negative effects on agricultural employment and income, as shown in Table 16-23.

38 **NEPA Effects:** Because continued operation and maintenance of water conveyance facilities would
39 result in an increase in operations-related employment and labor income, this would be considered
40 a beneficial effect. However, the long-term footprint of facilities would lead to a continued decline in
41 agricultural-related employment and labor income, which would be considered an adverse effect.
42 Mitigation Measure AG-1, described in Chapter 14, *Agricultural*

1 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 2 increase total employment and income in the Delta region. The net change would result from
 3 expenditures on operation and maintenance and from changes in agricultural production. The total
 4 change in income and employment is not, in itself, considered an environmental impact. Significant
 5 environmental impacts would only result if the changes in regional economics cause physical
 6 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Removal of
 7 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Impacts AG-1
 8 and AG-2; and changes in recreation related activities are addressed in Chapter 15, *Recreation*,
 9 Impacts REC-5 through REC-8 in this RDEIR/SDEIS. When required, DWR would provide
 10 compensation to landowners as a result of acquiring lands for the proposed conveyance facilities.
 11 While the compensation to property owners would reduce the severity of economic effects related
 12 to the loss of agricultural land, it would not constitute mitigation for any related physical impact.
 13 Measures to reduce these impacts are discussed in Chapter 14, *Agricultural Resources*, Section
 14 14.3.3.2, Impact AG-1.

15 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during**
 16 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

17 Permanent effects on population and housing during operation and maintenance of the proposed
 18 water conveyance facilities would be similar to those described under Alternative 4 in Section
 19 16.3.3.9 because the physical water conveyance facilities proposed under these alternatives are
 20 similar. It is anticipated that non-local workers would relocate to the five-county region, thus adding
 21 to the local population. However, this additional population would constitute a minor increase in the
 22 total 2020 projected regional population of 4.6 million and be distributed throughout the region. It
 23 is anticipated that most of the operational workforce would be drawn from within the five-county
 24 region. Consequently, operation of the conveyance facilities would not result in impacts on housing.

25 **NEPA Effects:** Because these activities would not result in concentrated, substantial increases in
 26 population or new housing, they would not be considered to have an adverse effect.

27 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 28 result in minor population increases in the Delta region with adequate housing supply to
 29 accommodate the change in population and therefore significant impacts on the physical
 30 environment are not anticipated.

31 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the**
 32 **Proposed Water Conveyance Facilities**

33 **NEPA Effects:** Under Alternative 5A, effects on community character would be similar in nature,
 34 location, and magnitude to those described under Alternative 4 in Section 16.3.3.9 because the
 35 physical water conveyance facilities proposed under these alternatives are similar. Variations in the
 36 location of effects would result from the operation and maintenance of Intake 2 rather than Intakes
 37 2, 3, and 5. This would result in smaller localized effects on community character when compared to
 38 Alternative 4, particularly in and around the communities of Clarksburg, Hood, and Courtland.

39 While water conveyance operation and maintenance could result in beneficial effects relating to the
 40 economic welfare of a community, lasting adverse social effects, including effects on community
 41 cohesion, could also arise in communities closest to physical features and in those most heavily
 42 influenced by agricultural and recreational activities. Implementation of mitigation measures and
 43 environmental commitments related to noise, visual effects, transportation, agriculture, and

1 recreation would reduce adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and*
2 *CMs*).

3 **CEQA Conclusion:** Operation and maintenance of water conveyance facilities under Alternative 5A
4 could affect community character in the Delta region. However, because these impacts are social in
5 nature, rather than physical, they are not considered impacts under CEQA. To the extent that
6 changes to community character would lead to physical impacts involving population growth, such
7 impacts are described under Impact ECON-8 and in Chapter 30, *Growth Inducement and Other*
8 *Indirect Effects*. Furthermore, notable decreases in population or employment, even if limited to
9 specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community
10 character stemming from a lack of maintenance, upkeep, and general investment. However,
11 implementation of mitigation measures and environmental commitments related to noise, visual
12 effects, transportation, agriculture, and recreation, would reduce the extent of these effects such that
13 a significant impact would not occur (see Appendix 3B, *Environmental Commitments, AMMs, and*
14 *CMs*). Specifically, these include commitments to develop and implement erosion and sediment
15 control plans, develop and implement hazardous materials management plans, provide notification
16 of maintenance activities in waterways, develop and implement a noise abatement plan, develop
17 and implement a fire prevention and control plan, and prepare and implement mosquito
18 management plans.

19 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 20 **Maintenance of the Proposed Water Conveyance Facilities**

21 **NEPA Effects:** Effects related to changes in local government fiscal conditions during operation and
22 maintenance of Alternative 5A would be similar to those described for Alternative 4 in Section
23 16.3.3.9 because the water conveyance facilities proposed under these alternatives would be similar.
24 Over a 50-year period, property tax and assessment revenue forgone is estimated at \$35.8 million.
25 These decreases in revenue could potentially result in the loss of a substantial share of some
26 agencies' tax bases, particularly for smaller districts affected by Alternative 4A. However, as
27 discussed under Impact ECON-4, California Water Code requires that entities constructing and
28 operating a new Delta conveyance offset the loss of property tax or assessment revenues. The
29 requirement will ensure that forgone tax revenues resulting from transferring lands for private to
30 public ownership will be fully offset.

31 **CEQA Conclusion:** Under Alternative 5A, the ongoing operation and maintenance of water
32 conveyance facilities would restrict property tax revenue levels for various local government
33 entities in the Delta region. Over a 50-year period, property tax and assessment revenue forgone is
34 estimated at \$35.8 million. These potential losses would be offset by the provisions in the Water
35 Code that require entities constructing and operating new Delta conveyance facilities to fully
36 mitigate for the loss of property tax assessments levied by local governments or special districts. It
37 is anticipated that the Water Code requirement will ensure that forgone tax revenues will be fully
38 offset. Furthermore, CEQA does not require a discussion of socioeconomic effects except where they
39 would result in reasonably foreseeable physical changes. The potential for physical change to the
40 environment as a result of changes would be avoided by offsetting the losses in tax revenues.

1 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the**
 2 **Proposed Water Conveyance Facilities**

3 **NEPA Effects:** Effects on recreation economics during operation and maintenance of the proposed
 4 water conveyance facilities under Alternative 5A would be similar to those described under
 5 Alternative 4A, Impact ECON-11. However, only one intake would be constructed under this
 6 alternative, so while operation and maintenance would be similar in nature, it would result in lesser
 7 impacts in magnitude. Maintenance of conveyance facilities, including Intake 2, would result in
 8 periodic temporary but not substantial adverse effects on boat passage and water-based
 9 recreational activities. Because effects of facility maintenance would be short-term and intermittent,
 10 substantial economic effects are not anticipated to result from operation and maintenance of the
 11 facilities.

12 **CEQA Conclusion:** Operation and maintenance activities associated with the proposed water
 13 conveyance facilities under Alternative 5A are anticipated to create minor effects on recreational
 14 resources and therefore, are not expected to substantially reduce economic activity related to
 15 recreational activities. This section considers only the economic effects of recreational changes.
 16 Potential physical changes to the environment relating to recreational resources are described and
 17 evaluated in Chapter 15, *Recreation*, Section 15.3.4.4, Impacts REC-5 through REC-8.

18 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during**
 19 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

20 During operation and maintenance of conveyance facilities existing agricultural land would be in
 21 uses that include direct facility footprints and associated permanent roads and utilities. Agricultural
 22 land could also be affected by changes in water quality and other conditions that would affect crop
 23 productivity. These direct effects on agricultural land are described in Chapter 14, *Agricultural*
 24 *Resources*, Section 14.3.3.9, Impacts AG-1 and AG-2.

25 Changes in crop acreage were used to estimate the associated changes in economic values. Unit
 26 prices, yields, and crop production and investment costs were presented in Section 16.1,
 27 *Environmental Setting/Affected Environment*. Table 16-68 summarizes the changes in acreage and
 28 value of agricultural production that would result in the Delta region during operation of Alternative
 29 5A. Changes are shown relative to the Existing Conditions and the No Action Alternative by
 30 aggregate crop category (agricultural resources under Existing Conditions and in the No Action
 31 Alternative were assumed to be the same). The changes in crop acreages are reported in greater
 32 detail in Appendix 14A, *Individual Crop Effects as a Result of BDCP Water Conveyance Facility*
 33 *Construction*.

34 **Table 16-68. Crop Acres and Value of Agricultural Production in the Delta during Operations and**
 35 **Maintenance (Alternative 5A)**

Analysis Metric	Alternative 5A	Change from Existing Conditions and No Action Alternative
Total Crop Acreage (thousand acres)	480.6	-3.1
Total Value of Production (million \$)	646.9	-3.3

Notes: Value of production is based on prices received by farmers, in 2011 dollars (U.S. Department of Commerce 2012).
 Analysis scaled from Alternative 4 data.

36

1 Total value of irrigated crop production in the Delta region would decline on average by \$3.3 million
 2 per year during operation and maintenance, with total irrigated crop acreage declining by about
 3 3,100 acres. These estimates are not dependent on water year type.

4 Alternative 5A may also affect production costs on lands even if gross revenues are largely
 5 unaffected. Costs could be associated with operational constraints and longer travel times due to
 6 permanent facilities. In most cases, affected lands fall within the facilities footprint, and are included
 7 in the agricultural acreage and value of production described elsewhere in this Chapter and in
 8 Chapter 14, *Agricultural Resources*, Section 14.3.3.9.

9 Crop yields and crop selection on lands in the Delta could be affected by changes in salinity of
 10 agricultural water supply during operation and maintenance activities. If operation of the proposed
 11 conveyance facilities increases salinity in part of the Delta, crops that are more sensitive to salinity
 12 could shift to other lands in the five-county Delta region. See Chapter 14, *Agricultural Resources*,
 13 Section 14.3.3.9, Impact AG-2, for further discussion of effects from changes in salinity.

14 **NEPA Effects:** The footprint of water conveyance facilities would result in lasting reductions in crop
 15 acreage and in the value of agricultural production in the Delta region; therefore, this is considered
 16 an adverse effect. Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section
 17 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural
 18 productivity and compensating off-site.

19 **CEQA Conclusion:** During operation and maintenance of the proposed water conveyance facilities
 20 the value of agricultural production in the Delta region would be reduced. The permanent removal
 21 agricultural land from production is addressed in Chapter 14, *Agricultural Resources*, Section
 22 14.3.3.9, Impacts AG-1 and AG-2. The reduction in the value of agricultural production is not
 23 considered an environmental impact. Significant environmental impacts would only result if the
 24 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 25 throughout this EIR/EIS. When required, DWR would provide compensation to property owners for
 26 economic losses due to implementation of the alternative. While the compensation to property
 27 owners would reduce the severity of economic effects related to the loss of agricultural land, it
 28 would not constitute mitigation for any related physical effect. Measures to reduce these impacts are
 29 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and particularly
 30 Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for
 31 loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security
 32 Zones.

33 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the** 34 **Implementation of Environmental Commitments 3, 4, 6, 7, 9–12, 15, and 16**

35 The effects on the economy of the Delta region associated with implementation of these
 36 Environmental Commitments would be similar to those described for Alternative 4A in Section
 37 16.3.4.2. However, as described in Chapter 3, *Description of Alternatives*, Alternative 5A would
 38 protect and restore up to 14,145 acres of habitat under Environmental Commitments 3, 4, and 6–10,
 39 as compared with 83,800 acres under Alternative 4.

40 **NEPA Effects:** Because implementation of these Environmental Commitments would be anticipated
 41 to result in an increase in construction and operation and maintenance-related employment and
 42 labor income, this would be considered a beneficial effect. However, implementation of these
 43 components would also be anticipated to result in a decrease in agricultural-related and natural gas

1 production-related employment and labor income, which would be considered an adverse effect.
2 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
3 AG-1, would be available to reduce these effects by preserving agricultural productivity and
4 compensating offsite. Additionally, measures to reduce impacts on natural gas wells are discussed in
5 Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

6 **CEQA Conclusion:** Implementation of the proposed Environmental Commitments would affect total
7 employment and income in the Delta region. The change in total employment and income in the
8 Delta region is based on expenditures resulting from implementation of the habitat enhancement
9 and restoration activities and any resulting changes in agricultural production, recreation, and
10 natural gas production. The total change in employment and income is not, in itself, considered an
11 environmental impact. Significant environmental impacts would only result if the changes in
12 regional economics cause physical impacts. Such effects are discussed in other chapters throughout
13 this EIR/EIS. For example, removal of agricultural land from production is addressed in Chapter 14,
14 *Agricultural Resources*, Impacts AG-3 and AG-4; changes in recreation-related activities are
15 addressed in Chapter 15, *Recreation*, Impacts REC-9 through REC-11; and abandonment of natural
16 gas wells is addressed in Chapter 26, *Mineral Resources*, Impact MIN-5. When required, the project
17 proponents would provide compensation to property owners for economic losses due to
18 implementation of the alternative. While the compensation to property owners would reduce the
19 severity of economic effects related to the loss of agricultural land, it would not constitute mitigation
20 for any related physical impact. Measures to reduce these impacts and impacts on natural gas wells
21 are discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, and Chapter 26,
22 *Mineral Resources*, Section 26.3.3.2, Impact MIN-5.

23 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of** 24 **Implementing Environmental Commitments 3, 4, 6, 7, 9–12, 15, and 16**

25 **NEPA Effects:** In the Delta region, implementation of habitat enhancement and restoration activities
26 could increase employment and convert land from existing uses, including possible displacement of
27 residential housing and business establishments. The effects on population and housing in the Delta
28 region would be similar to those described for Alternative 4A. However, as described in Chapter 3,
29 *Description of Alternatives*, Alternative 5A would protect and restore up to 14,145 acres of habitat
30 under Environmental Commitments 3, 4, and 6–10, as compared with 83,800 acres under
31 Alternative 4. In general, the changes in population and housing would include increases in
32 population from the construction and operation and maintenance-related activity and declines in
33 residential housing and business establishments as a result of lands converted or impaired. Because
34 these activities would not result in concentrated, substantial increases in population or new
35 housing, they would not be considered to have an adverse effect.

36 **CEQA Conclusion:** Implementation of the proposed habitat enhancement and restoration activities
37 could affect total population and housing in the Delta region. The change in total population and
38 housing in the Delta region is based on employment resulting from implementation of the proposed
39 conservation activities. The change in population and housing is expected to be minor relative to the
40 five-county Delta region, and dispersed throughout the region. Therefore, significant impacts on the
41 physical environment are not anticipated to result.

1 **Impact ECON-15: Changes in Community Character as a Result of Implementing**
2 **Environmental Commitments 3, 4, 6, 7, 9–12, 15, and 16**

3 **NEPA Effects:** As noted under Impacts ECON-13 and ECON-14, conservation activities designed to
4 restore, conserve, or enhance natural habitat would be anticipated to create economic effects similar
5 to, but slightly lower than those described for Alternative 4A. However, as described in Chapter 3,
6 *Description of Alternatives*, Alternative 5A would protect and restore up to 14,145 acres of habitat
7 under Environmental Commitments 3, 4, and 6–10, as compared with 83,800 acres under
8 Alternative 4. Effects could include increases to employment and changes in land use that could
9 trigger the disruption of agricultural and recreational economies. They could also affect the possible
10 displacement of residences and businesses. The effects these activities would create with regard to
11 community character would depend on the nature of each measure along with its specific location,
12 size, and other factors that are not yet defined.

13 Under Alternative 5A, temporary construction associated with implementation of these measures
14 could lead to demographic changes and resulting effects on the composition and size of Delta
15 communities. Earthwork and site preparation associated with Environmental Commitments could
16 also detract from the rural qualities of the Delta region; however, their implementation would take
17 place in phases over time, which would limit the extent of effects taking place at any one point in
18 time.

19 Implementation of these measures could also alter community character over the long term.
20 Conversion of agricultural land to restored habitat would result in the erosion of some economic and
21 social contributions stemming from agriculture in Delta communities. However, in the context of the
22 Delta region, a substantial proportion of land would not be converted. Additionally, restored habitat
23 could support some rural qualities, particularly in terms of visual resources and recreational
24 opportunities. These effects could attract more residents to some areas of the Delta, and could
25 replace some agricultural economic activities with those related to recreation and tourism. To the
26 extent that agricultural facilities and supportive businesses were affected and led to vacancy,
27 alteration of community character could result from these activities. However, protection of
28 cultivated lands would ensure the continuation of agricultural production on a substantial area of
29 land in the Delta. If necessary, implementation of mitigation measures and environmental
30 commitments related to transportation, agriculture, and recreation would be anticipated to reduce
31 these adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically,
32 these include commitments to develop and implement erosion and sediment control plans, develop
33 and implement hazardous materials management plans, provide notification of maintenance
34 activities in waterways, develop and implement a noise abatement plan, develop and implement a
35 fire prevention and control plan, and prepare and implement mosquito management plans.

36 **CEQA Conclusion:** Implementation of habitat enhancement and restoration activities under
37 Alternative 5A could affect community character within the Delta region. However, because these
38 impacts are social in nature, rather than physical, they are not considered impacts under CEQA. To
39 the extent that changes to community character are related to physical impacts involving population
40 growth, these impacts are described in Chapter 30, *Growth Inducement and Other Indirect Effects*.
41 Furthermore, notable decreases in population or employment, even if limited to certain areas,
42 sectors, or the vacancy of individual buildings, could result in decay and blight stemming from a lack
43 of maintenance, upkeep, and general investment. However, implementation of mitigation measures
44 and environmental commitments related to noise, visual effects, transportation, agriculture, and
45 recreation, would reduce the extent of these effects such that a significant impact would not occur

1 (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*). Specifically, these include
2 commitments to develop and implement erosion and sediment control plans, develop and
3 implement hazardous materials management plans, provide notification of maintenance activities in
4 waterways, develop and implement a noise abatement plan, develop and implement a fire
5 prevention and control plan, and prepare and implement mosquito management plans.

6 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing** 7 **Environmental Commitments 3, 4, 6, 7, 9-12, 15, and 16**

8 As discussed in relation to construction of water conveyance facilities, habitat restoration and
9 enhancement activities under Alternative 5A would also take place, in part, on land held by private
10 owners and from which local governments derive revenue through property taxes and assessments.
11 In particular, Environmental Commitments related to protection and restoration of natural
12 communities would require the acquisition of multiple parcels of land.

13 The loss of a substantial portion of an entity's tax base would represent an adverse effect on an
14 agency, resulting in a decrease in local government's ability to provide public goods and services.
15 Under Alternative 5A, property tax and assessment revenue forgone is estimated to reach \$12.2
16 million as a result of implementing Environmental Commitments 3, 4, 6-12, and 16. Decreases in
17 revenue could potentially represent a substantial share of individual agency tax bases, particularly
18 for smaller districts affected by large, contiguous areas identified for habitat restoration.

19 Additionally, installation of non-physical fish barriers at Georgiana Slough may require that land
20 currently on property tax rolls be acquired and eventually removed from the tax base. The fiscal
21 effects stemming from this activity are, however, anticipated to be minor based upon the relatively
22 small areas of land necessary for implementation.

23 **NEPA Effects:** Overall, habitat enhancement and restoration activities would remove many acres of
24 private land from local property tax and assessment rolls. This economic effect would be considered
25 adverse; however, project proponents would offset forgone property tax and assessments levied by
26 local governments and special districts on private lands converted to habitat. As previously
27 described under Impact ECON-13, regional economic effects from the implementation of these
28 activities would be mixed. While activities associated with construction and establishment of habitat
29 areas could boost regional expenditures and sales tax revenue, reduced agricultural activities may
30 offset these gains. Changes in recreation spending and related sales tax revenue could be positive or
31 negative, depending on the implementation of the measures.

32 **CEQA Conclusion:** Under Alternative 5A, implementation of habitat enhancement and restoration
33 activities would result in the removal of a portion of the property tax base for various local
34 government entities in the Delta region. Over a 50-year period, property tax and assessment
35 revenue forgone is estimated to reach \$12.2 million, compared with annual property tax revenue of
36 more than \$934 million in the Delta counties (California State Controller's Office 2012). As discussed
37 in Alternative 4A, these losses would be offset by the requirements stipulated in the California
38 Water Code CEQA does not require a discussion of socioeconomic effects except where they would
39 result in physical changes. The potential for a physical change to the environment would be avoided
40 by offsetting the potential losses in revenue.

1 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing**
 2 **Environmental Commitments 3, 4, 6, 7, 9–12, 15, and 16**

3 **NEPA Effects:** Implementation of habitat enhancement and restoration activities under this
 4 alternative would be anticipated to create an adverse effect on recreational resources by limiting
 5 access to facilities, restricting boat navigation, and disturbing fish habitat while restoration activities
 6 are taking place. These measures may also permanently reduce the extent of upland recreation sites.
 7 However, these components could also create beneficial effects by enhancing aquatic habitat and
 8 fish abundance, expanding the extent of navigable waterways available to boaters, and improving
 9 the quality of existing upland recreation opportunities. Therefore, the potential exists for the
 10 creation of adverse and beneficial effects related to recreational economics. Adverse effects would
 11 be anticipated to be primarily limited to areas close to restoration areas and during site preparation
 12 and earthwork phases. These effects could result in a decline in visits to the Delta and reduction in
 13 recreation-related spending, creating an adverse economic effect throughout the Delta. Beneficial
 14 recreational effects would generally result during later stages of restoration implementation as
 15 environmental conditions supporting recreational activities are enhanced. These effects could
 16 improve the quality of recreational experiences, leading to increased economic activities related to
 17 recreation, particularly in areas where habitat enhancement or restoration could create new
 18 recreational opportunities.

19 **CEQA Conclusion:** Site preparation and earthwork activities associated with Environmental
 20 Commitments would limit opportunities for recreational activities where they occur in or near
 21 existing recreational areas. Noise, odors, and visual effects of construction activities would also
 22 temporarily compromise the quality of recreation in and around these areas, leading to potential
 23 economic impacts. However, over time, implementation could improve the quality of existing
 24 recreational opportunities, leading to increased economic activity. This section considers only the
 25 economic effects of recreational changes brought about by implementation of habitat enhancement
 26 and restoration activities. CEQA does not require a discussion of socioeconomic effects except where
 27 they would result in reasonably foreseeable physical changes. Potential physical changes to the
 28 environment relating to recreational resources are described and evaluated in Chapter 15,
 29 *Recreation*, Impacts REC-9 through REC-11.

30 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of**
 31 **Implementing Environmental Commitments 3, 4, 6, 7, 9–12, 15, and 16**

32 **NEPA Effects:** Habitat enhancement and restoration activities would convert land from existing
 33 agricultural uses. These direct effects on agricultural land are described qualitatively in Chapter 14,
 34 *Agricultural Resources*, Impacts AG-3 and AG-4. Effects on agricultural economics would include
 35 effects on crop production and agricultural investments resulting from restoration actions on
 36 agricultural lands. The effects would be similar in kind to those described for lands converted due to
 37 construction and operation of the conveyance features and facilities. The total acreage and crop mix
 38 of agricultural land potentially affected is not specified at this time, but when required, the project
 39 proponents would provide compensation to property owners for losses due to implementation of
 40 the alternative. Because implementation of habitat enhancement and restoration activities would be
 41 anticipated to lead to reductions in crop acreage and in the value of agricultural production in the
 42 Delta region, this is considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14,
 43 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by
 44 preserving agricultural productivity and compensating offsite.

1 **CEQA Conclusion:** Implementation of habitat enhancement and restoration activities would reduce
 2 the total value of agricultural production in the Delta region. The permanent removal of agricultural
 3 land from production is addressed in Chapter 14, *Agricultural Resources*, under Impacts AG-3 and
 4 AG-4. The reduction in the value of agricultural production is not considered an environmental
 5 impact. Significant environmental impacts would only result if the changes in regional economics
 6 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. When
 7 required, the project proponents would provide compensation to property owners for economic
 8 losses due to implementation of the alternative. While the compensation to property owners would
 9 reduce the severity of economic effects related to the loss of agricultural land, it would not
 10 constitute mitigation for any related physical impact. Measures to reduce these impacts are
 11 discussed in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1.

12 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

13 As described in Chapter 30, *Growth Inducement and Other Indirect Effects*, the operational
 14 components of water conveyance facilities under Alternative 5A could result in a number of effects
 15 in areas receiving SWP and CVP water deliveries outside of the Delta. Generally, these effects would
 16 be similar to those described for Alternative 5 (Operational Scenario C) in Section 16.3.3.10 because
 17 the incremental change in Delta exports is similar, when compared to the relevant No Action
 18 condition.

19 Under Operational Scenario C as considered for Alternative 5A (at the ELT), the average annual
 20 increase in CVP and SWP deliveries would be 347 TAF, and the distribution of these increased
 21 deliveries to each hydrologic region are given in Table 30-21.

22 Changes in the amount, cost, or reliability of water deliveries could create socioeconomic effects in
 23 the hydrologic regions. To the extent that unreliable or insufficient water supplies currently
 24 represent obstacles to agricultural production, Alternative 5A may support more stable agricultural
 25 activities by enabling broader crop selection or by reducing risk associated with uncertain water
 26 deliveries. As a result of an increase in water supply and supply reliability, farmers may choose to
 27 leave fewer acres fallow and/or plant higher-value crops. While the locations and extent of any
 28 increases in production would depend on local factors and individual economic decisions, a general
 29 increase in production would be anticipated to support growth in seasonal and permanent on-farm
 30 employment, along with the potential expansion of employment in industries closely associated
 31 with agricultural production. These include food processing, agricultural inputs, and transportation.
 32 Generally, these effects would be most concentrated in hydrologic regions where agriculture is a
 33 primary industry and where agricultural operations depend most heavily on SWP and CVP
 34 deliveries.

35 **NEPA Effects:** Changes in water deliveries associated with operation of Alternative 5A could result
 36 in beneficial socioeconomic effects in areas receiving water from the SWP and CVP. In hydrologic
 37 regions where water deliveries are predicted to increase when compared with the No Action
 38 Alternative, more stable agricultural activities could support employment and economic production
 39 associated with agriculture. Where M&I deliveries increase, population growth could lead to general
 40 economic growth and support water-intensive industries. Such changes could also lead to shifts in
 41 the character of communities in the hydrologic regions with resultant beneficial or adverse effects.
 42 Likewise, growth associated with deliveries could require additional expenditures for local
 43 governments while also supporting increases in revenue.

CEQA Conclusion: As described above, the operational components of the proposed water conveyance facilities could result in a number of socioeconomic effects in areas receiving SWP and CVP water deliveries outside of the Delta. However, because these impacts are social and economic in nature, rather than physical, they are not considered environmental impacts under CEQA. To the extent that changes in socioeconomic conditions in the hydrologic regions would lead to physical impacts, such impacts are described in Chapter 30, *Growth Inducement and Other Indirect Effects*.

16.3.5 Cumulative Analysis

Socioeconomic effects in the Delta region are expected to change as a result of past, present, and reasonably foreseeable future projects, related to population growth and changes in economic activity in the three regions (Chapter 30, *Growth Inducement and Other Indirect Effects*).

When the effects of the project on socioeconomic conditions are considered in connection with the potential effects of projects listed in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions*, the potential effects range from beneficial to potentially adverse cumulative effects on socioeconomic conditions. In addition to the projects listed in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions*, Table 16-69 lists the specific programs, projects, and policies for each impact category based on the potential to contribute to an impact that could be deemed cumulatively considerable. The potential for cumulative impacts on socioeconomic conditions within the Delta region is related to physical changes in the environment.

Over the long-term, Delta communities and socioeconomic conditions therein would be subject to risks associated with climate change, seismic activity, and other phenomena as discussed in Appendix 3E, *Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies*.

Table 16-69. Effects on Socioeconomics from Plans, Policies, and Programs Considered for Cumulative Analysis

Agency	Programs, Projects, and Policies	Status	Description of Program/Project	Potential Effects on Socioeconomics
Department of Fish and Wildlife	California Aquatic Invasive Species Draft Rapid Response Plan	Program under development.	Draft plan issued in 2007.	Beneficial effects on recreational economics
Department of Fish and Wildlife	Fremont Landing Conservation Bank	Project completed.	Program preserves, enhances, and restores riparian and wetland habitat to aid recovery of NOAA listed fisheries.	Adverse effects on agricultural economics, community character
Department of Parks and Recreation	Central Valley Vision	Implementation plan completed in 2009.	The Implementation plan focuses on helping to meet the public's recreation needs in the Central Valley. It outlines specific initiatives to build economic and volunteer partnerships, acquire new park lands and develop new and improved recreation opportunities.	Beneficial effects on recreational economics, community character

Agency	Programs, Projects, and Policies	Status	Description of Program/Project	Potential Effects on Socioeconomics
Department of Water Resources	North Delta Flood Control and Ecosystem Restoration Project	Completed in 2012.	This project implements flood control improvements principally on and around McCormack-Williamson Tract, Dead Horse Island, and Grizzly Slough in a manner that benefits aquatic and terrestrial habitats, species, and ecological processes.	Potential adverse effects related to population and housing
Department of Water Resources	Dutch Slough Tidal Marsh Restoration Project	EIR certified in 2010, project is ongoing.	The Dutch Slough Tidal Marsh Restoration Project, located near Oakley in Eastern Contra Costa County, would restore wetland and uplands, and provide public access to the 1,166-acre Dutch Slough property owned by the Department of Water Resources. The property is composed of three parcels separated by narrow man-made sloughs.	Potential beneficial effects on recreational economics and potential adverse effects, although limited, on agricultural economics
Contra Costa Water District, Bureau of Reclamation, and Department of Water Resources	Los Vaqueros Reservoir Expansion Project	Project completed in 2012.	Project increases the storage capacity of Los Vaqueros Reservoir and diverts additional water from the Delta intake near Rock Slough to fill the additional storage volume.	Beneficial effects on regional economics (construction-related employment and income)
Davis, Woodland, and University of California, Davis	Davis-Woodland Water Supply Project	Project under development. Final EIR completed in 2009.	The project will provide 12 million gallons per day of surface water from the Sacramento River to Davis water customers and 18 MGD to Woodland customers.	Beneficial effects on regional economics (construction-related employment and income); potential adverse effects related to population and housing
Northeastern San Joaquin County Groundwater Banking Authority	Eastern San Joaquin Integrated Conjunctive Use Program	Final Programmatic EIR completed in 2011.	The program is intended to develop approximately 140,000 to 160,000 acre-feet per year of new surface water supply for the basin that will be used to directly and indirectly to support conjunctive use by groundwater banking authority member agencies.	Beneficial effects on regional economics (construction-related employment and income); potential adverse effects related to population and housing

Agency	Programs, Projects, and Policies	Status	Description of Program/Project	Potential Effects on Socioeconomics
University of California, Davis, California Department of Water Resources, Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and Bureau of Reclamation	Delta Smelt Permanent Refuge	Program under development.	The project would develop a permanent facility, possibly at the proposed FWS Science Center at Rio Vista.	Beneficial effects on regional economics (construction and operational employment and income)
Bureau of Reclamation	Delta-Mendota Canal/California Aqueduct Intertie	Project completed in 2012.	The Intertie addresses conveyance conditions that had restricted use of the C.W. "Bill" Jones Pumping Plant to less than its design capacity, potentially restoring as much as 35,000 acre-feet of average annual deliveries to the Central Valley Project.	Beneficial effects on regional economics (construction-related employment and income); potential adverse effects related to population and housing
Bureau of Reclamation, U.S. Fish and Wildlife Service, National Marine Fisheries Services, Department of Water Resources, and Department of Fish and Wildlife	San Joaquin River Restoration Program	Initiated in 2006. Ongoing program.	150 miles of the river is planned for restoration, including within the BDCP Plan Area.	Potential beneficial effects on recreational economics and potential adverse agricultural economics
Bureau of Reclamation and San Luis & Delta Mendota Water Authority	Grassland Bypass Project, 2010 -2019	Final EIS/EIR completed in 2009.	The project prevents discharge of subsurface agricultural drainage water into wildlife refuges and wetlands in central California.	Potential beneficial effects on agricultural economics due to reduction of selenium and salt loading
Bureau of Reclamation and San Luis & Delta Mendota Water Authority	Agricultural Drainage Selenium Management Program	Program under development. Draft EIS/EIR issued in 2008.	The program is designed to reduce agricultural-related discharges of selenium into the San Joaquin River and south Delta.	Potential adverse effects on agricultural economics
Water Forum and Bureau of Reclamation	Lower American River Flow Management Standard	Program under development. Draft EIR issued in 2010. Recommendations included in National Marine Fisheries Service Biological Opinion.	The project would ensure that flow releases and water temperatures from Folsom Reservoir best match the needs of anadromous fish and preserve recreational and aesthetic values, secure reliable water supplies for the region, and contribute to the Delta's ecological health downstream.	Potential adverse effects on agricultural economics

Agency	Programs, Projects, and Policies	Status	Description of Program/Project	Potential Effects on Socioeconomics
West Sacramento Area Flood Control Agency and U.S. Army Corps of Engineers	West Sacramento Levee Improvements Program	Program under development. Construction initiated in several areas. Further environmental and engineering documentation required for future projects.	Project would reduce flood risk for the city of West Sacramento by incrementally improving the levees around the city in the form of early implementation projects.	Beneficial effects on regional economics (construction-related employment and income); potential adverse effects related to population and housing
Freeport Regional Water Authority and Bureau of Reclamation	Freeport Regional Water Project	Ongoing program	Project increases water service reliability for customers, reduces rationing during droughts, and facilitates conjunctive use of surface water and groundwater supplies in central Sacramento County.	Potential adverse effects on agricultural economics
Reclamation District 2093	Staten Island Wildlife-Friendly Farming Demonstration	Ongoing program.	Habitat restoration project allowing longer flooding duration on agricultural lands	Potential adverse effects on agricultural economics
California Department of Fish and Wildlife	Restoring Ecosystem Integrity in the Northwest Delta	Phase I and II completed.	The project will acquire conservation easements to secure sensitive areas along the Delta's Barker slough and will evaluate the feasibility of restoring tidal marsh and improving habitat at Calhoun Cut Ecological Reserve.	Potential adverse effects on agricultural economics
California Department of Water Resources	South Delta Temporary Barriers Project	Ongoing program.	The program was initiated in 1991, and includes four rock barriers across South Delta channels.	Potential beneficial effects on agricultural economics
Central Valley Regional Water Quality Board	Irrigated Lands Regulatory Program	Ongoing program.	The program was initiated in 2003 to prevent agricultural runoff from impairing surface waters, and in 2012, groundwater regulations were added to the program.	Potential adverse effects on agricultural economics
California Department of Fish and Wildlife	Lower Sherman Island Wildlife Area Land Management Plan	Ongoing program.	Directs habitat and species management on 3,100 acres of marsh and open water.	Potential adverse effects on regional economics from abandonment of natural gas wells
San Joaquin Council of Governments	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan	Plan completed in 2000.	The plan provides a strategy for balancing the need to conserve open space and the need to convert open space to non-open space uses while protecting the region's agricultural economy.	Potential adverse effects on regional economics from abandonment of natural gas wells

Agency	Programs, Projects, and Policies	Status	Description of Program/Project	Potential Effects on Socioeconomics
California High Speed Rail Authority and Federal Railroad Administration	California High-Speed Rail System Fresno to Merced Section	Final EIR/EIS certified on May 3, 2012.	The project would construct a new rail corridor between Merced and Fresno.	Potential beneficial effects on regional economics and potential adverse agricultural economics
Semitropic Water Storage District	Delta Wetlands Project	Semitropic Water Storage District issued a Draft EIR in 2010 and a Final EIR in 2012.	Under the current proposal, the project would: 1) provide water to Semitropic WSD to augment its water supply, 2) bank water within the Semitropic Groundwater Storage Bank and Antelope Valley Water Bank, and 3) provide water to other places, including the service areas of the Golden State Water Company and Valley Mutual Water Company.	Potential beneficial effects on recreational economics and potential adverse agricultural economics
Natural Resources Agency, Salton Sea Authority, California Department of Fish and Wildlife, California Department of Water Resources	Salton Sea Species Conservation Habitat Project	Ongoing	The Natural Resources Agency, in partnership with the Salton Sea Authority, will coordinate state, local and federal restoration efforts and work with local stakeholders to develop a shared vision for the future of the Salton Sea. Restoration will include construction of 600 acres of near shore aquatic habitat to provide feeding, nesting and breeding habitat for birds. This project is permitted to increase to 3,600 acres and could be scaled even greater with additional resources. Additional restoration projects may follow.	Potential beneficial effects on recreational economics
Department of Water Resources	California Water Action Plan	Initiated in January 2014	This plan lays out a roadmap for the next 5 years for actions that would fulfill 10 key themes. In addition, the plan describes certain specific actions and projects that call for improved water management throughout the state.	Potential for positive socio-economic effects from improved state-wide water resources management.

Agency	Programs, Projects, and Policies	Status	Description of Program/Project	Potential Effects on Socioeconomics
Delta Conservancy	California EcoRestore	Initiated in 2015	This program will accelerate and implement a suite of Delta restoration actions for up to 30,000 acres of fish and wildlife habitat by 2020.	Potential for positive socioeconomic effects from improved Delta habitat conditions.

1

2 16.3.5.1 Cumulative Effects of the No Action Alternative

3 Regional Economics

4 Under the No Action Alternative, the regional economy of the Delta region is expected to be similar
5 in structure to that described in Section 16.1, *Environmental Setting/Affected Environment*. Potential
6 changes in expenditures related to recreation and municipal and industrial water uses as well as
7 potential changes in the value of agricultural production could result in changes to regional
8 employment and income in the Delta region under the No Action Alternative. The scale of the
9 economy would change with population growth; however, the structure of the economy would not.
10 Therefore, for the purposes of this analysis, no regional economic impact evaluation is undertaken
11 as the economy is assumed to be similar to that characterized by the baseline five-county Delta
12 region IMPLAN model.

13 Population and Housing

14 Under the No Action Alternative, it is anticipated that the population would follow the projections
15 described in Section 16.1, *Environmental Setting/Affected Environment*. Trends in housing demand
16 and supply would correspond to population trends. It is assumed that the growth in housing would
17 match the growth in population, as described in Section 16.1, *Environmental Setting/Affected*
18 *Environment*.

19 Community Character

20 Under the No Action Alternative, community character within the five-county Delta region would be
21 similar to that described under Section 16.1, *Environmental Setting/Affected Environment*. Projects
22 and programs implemented under this alternative would not be anticipated to create adverse effects
23 on the character of Delta communities.

24 Local Government Fiscal Conditions

25 In consideration of the programs and plans adopted included in the No Action Alternative, local
26 government fiscal conditions in Delta region would be anticipated to be similar to those conditions
27 described under Section 16.1, *Affected Environment/Environmental Setting*. Programs resulting in
28 public acquisition of privately held land, in addition to the population and economic changes
29 described above, could affect property and sales tax revenue; however, the overall effects of this
30 alternative are not anticipated to be adverse.

31 Recreational Economics

32 Recreational economics within the five-county Delta region would be anticipated to be similar to
33 that described under Section 16.1, *Affected Environment/Environmental Setting*. Projects to enhance

1 and manage recreational resources, along with population growth in the Region, would be expected
2 to increase economic activity associated with recreation in the Delta. While outside factors including
3 changes to fisheries could alter the quality of recreational resources, based on consideration of
4 ongoing measures to support recreation, adverse effects would not be anticipated.

5 **Agricultural Economics in the Delta Region**

6 Irrigated crop acreage and value of agricultural production in the Delta region under the No Action
7 Alternative are summarized in Table 16-18. On average, \$650 million in crop value would be
8 generated on about 480 thousand irrigated acres. Field and forage crops are the two largest
9 categories in acreage, and account for over 60% of the total irrigated acreage. Over 65% of the
10 annual value of crop production is accounted for by two other crop categories: vegetable, truck, and
11 specialty, and orchards and vineyards. It is possible that some of the projects, programs, and plans
12 considered part of the No Action Alternative would reduce the total acreage and value of agricultural
13 production in the Delta region. For example, under the 2008 and 2009 NMFS and USFWS BiOps, up
14 to 8,000 acres of agricultural land could be converted to tidal habitat. Similarly, agricultural land
15 uses in the Yolo Bypass or Suisun Marsh could be periodically or permanently disrupted by other
16 habitat restoration efforts.

17 Because the agricultural economy of the Delta is expected to be similar in structure to that described
18 in Section 16.1, *Environmental Setting/Affected Environment*, no quantitative impact evaluation was
19 conducted.

20 **Effects in South-of-Delta Hydrologic Regions**

21 Under the No Action Alternative, several assumptions would create a deviation from Existing
22 Conditions. First, an increase in M&I water rights demands is assumed north of the Delta, increasing
23 overall system demands and reducing the availability of CVP water for export south of the Delta.
24 Secondly, the No Action Alternative includes the effects of implementation of the Fall X2 standard,
25 which requires additional water releases through the Delta and would therefore reduce the
26 availability of water for export to SWP and CVP facilities. The No Action Alternative also includes
27 effects of sea level rise and climate change, factors that would also reduce the amount of water
28 available for SWP and CVP supplies. These factors result in a decrease in deliveries under the No
29 Action Alternative, when compared to Existing Conditions. A detailed explanation of factors
30 influencing deliveries under the No Action Alternative is provided in Chapter 5, *Water Supply*,
31 Section 5.3.3.1.

32 As described in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section 30.3.2.3, overall
33 deliveries would decrease, though SWP deliveries to the San Francisco Bay, South Coast, and
34 Colorado River hydrologic regions would increase to meet projected increases in demand in those
35 areas. Where there are reduced deliveries to agricultural contractors, it is reasonable to expect that
36 agricultural production in affected areas would also decline. This decline could result from a shift to
37 lower value crops or an increase in the acreage of land fallowed as a result of reduced deliveries or
38 reduced reliability of deliveries. Under this scenario, it would also be anticipated that employment
39 directly and indirectly associated with agriculture would decline in areas affected by reduced water
40 deliveries. The location and magnitude of effects would depend largely on local factors and
41 individual decisions. However, hydrologic regions where SWP and CVP deliveries represent a higher
42 share of total water supply and where agriculture comprises a larger proportion of applied water
43 use could be most susceptible to reductions in deliveries under the No Action Alternative. This
44 includes the Tulare and San Joaquin River regions.

1 Increased SWP deliveries to M&I contractors in the San Francisco Bay, South Coast, and Colorado
2 River hydrologic regions would be anticipated to meet demand associated with population growth
3 in those regions. In other areas, M&I deliveries would generally decrease under the No Action
4 Alternative. As discussed in Chapter 30, *Growth Inducement and Other Indirect Effects*, Section
5 30.3.2.5, long-term water supply reliability is an important component in enabling long-term
6 population increases. However, other factors—including natural growth, employment opportunities,
7 local policy, and quality of life—are more likely to determine population growth. Nonetheless,
8 population growth could stimulate economic activity resulting from increased demand for goods
9 and services. This increased demand could create broad economic benefits for regions whose
10 growth is supported by increased deliveries under the action alternatives. As with estimating
11 changes in agricultural production, the location and extent of population growth would depend
12 largely on local factors. Where M&I deliveries under the No Action Alternative would be reduced
13 compared to Existing Conditions to the extent that they would, in the long run, constrain population
14 growth, their implementation could reinforce a socioeconomic status quo or limit potential
15 economic and employment growth in hydrologic regions. Such a result could have the largest
16 socioeconomic effect on regions with high dependence on SWP and CVP deliveries and where urban
17 uses represent a high share of applied water use, including the South Lahontan region and the San
18 Francisco Bay region (in consideration of a reduction in CVP deliveries). A detailed discussion of
19 these potential effects is found in Appendix 5B, *Responses to Reduced South of Delta Water Supplies*.

20 Changes to SWP and CVP deliveries to the hydrologic regions under the No Action Alternative could
21 affect community character. Where agricultural deliveries decline, resultant decreases in
22 employment and production could destabilize economic and social patterns and institutions in
23 communities where agriculture is a predominant economic activity. Decreases in M&I deliveries as a
24 result of the No Action Alternative, were they to constrain long-term population growth, could
25 reinforce a socioeconomic status quo or limit potential economic and employment growth in
26 hydrologic regions. Changes in agricultural production and population growth could also affect local
27 government fiscal conditions. Declining employment and production linked to a reduction in
28 agricultural water deliveries could lead to a reduction in property and sales tax revenue. Similarly,
29 population growth or employment growth limited by reduced M&I deliveries could result in
30 foregone revenue. However, such growth could also require additional public sector expenditures
31 for public services and utilities. Again, the location and intensity of these effects would depend on
32 factors unique to local conditions and decisions, but as noted above, those regions most dependent
33 on SWP and CVP deliveries would generally be anticipated to be most directly affected by reduced
34 deliveries under this alternative.

35 **Climate Change and Catastrophic Seismic Risks**

36 Agriculture and recreation are primary economic activities in the Delta region. The potential for
37 major seismic events, along with the potential effects of climate change, could affect ongoing
38 agricultural and recreational uses if they resulted in the failure of levees or in climatic conditions
39 less favorable for productive agricultural uses. Such events could also result in changes in the
40 character of Delta communities and effects on individual homes and businesses, potentially
41 requiring construction of new buildings. Catastrophic events resulting in levee failure could also
42 place additional financial burdens on local governments in the Delta region. In hydrologic regions,
43 disruptions to Delta water deliveries could alter agricultural and industrial activities, along with
44 general effects on water supply in hydrologic regions (See Appendix 3E, *Potential Seismic and*
45 *Climate Change Risks to SWP/CVP Water Supplies* and Appendix 5B, *Responses to Reduced South of*

1 *Delta Water Supplies*, for more detailed discussion of seismic and climate change risks and potential
 2 responses to reduced supplies). While similar risks would occur under implementation of the action
 3 alternatives, these risks may be reduced by project-related levee improvements along with those
 4 projects identified for the purposes of flood protection in Table 16-69.

5 Overall, the No Action Alternative would result in reduced deliveries to hydrologic regions, which
 6 could create cumulative adverse socioeconomic effects related to reduced agricultural production,
 7 employment, and the character of agricultural communities. Reductions in water deliveries could
 8 occur in areas where a large proportion of economic activity and employment is dependent on
 9 agricultural production. Reducing exports to the San Joaquin Valley and Tulare Basin would result in
 10 reduced deliveries to agricultural users and associated reduction in employment opportunities. Any
 11 reduction in water deliveries would result in an adverse effect to these affected workers'
 12 employment and income levels. Water deliveries to southern California are made to a broad range of
 13 municipal and industrial users. To the extent that reductions in deliveries to these areas would
 14 constrain population or industrial growth, such reductions would also be expected to result in an
 15 adverse effect on employment and income. Further discussion of these potential effects is included
 16 in Chapter 28, *Environmental Justice*, Section 28.5.3.1, and in Chapter 30, *Growth Inducement and*
 17 *Other Indirect Effects*, Section 30.3.4.

18 **16.3.5.2 Concurrent Project Effects**

19 Construction of the water conveyance facilities under all action alternatives has the potential to
 20 result in socioeconomic effects including temporary effects, regional economics and employment in
 21 the Delta; effects on population and housing in the Delta; changes in community character; changes
 22 in local government fiscal conditions; and effects on recreational and agricultural economics.
 23 Operation and maintenance of the water conveyance facilities under all action alternatives could
 24 potentially result in permanent regional effects including economic and employment effects; effects
 25 on population and housing; changes in community character; changes in local government fiscal
 26 conditions; and effects on recreational and agricultural economics. Of these potential effects,
 27 implementation of CM2–CM21 for all action alternatives except Alternatives 4A, 2D, and 5A could
 28 potentially contribute to effects on population and housing in the Delta; changes in community
 29 character; changes in local government fiscal conditions; and changes in recreational and
 30 agricultural economics in the Delta. CM2–CM21 would not be implemented under Alternatives 4A,
 31 2D, and 5A. However, habitat restoration and enhancement would be implemented under this
 32 alternative, albeit to a smaller geographic scale and magnitude relative to the other action
 33 alternatives; therefore, the types of socioeconomic effects associated with habitat
 34 restoration/enhancement that could occur under the other action alternatives could occur under
 35 Alternatives 4A, 2D, and 5A.

36 Beneficial effects on the Delta region's economy and employment would be expected under all
 37 action alternatives as a result of implementing CM1 and CM2–CM21, or water conveyance facilities
 38 and the habitat restoration and enhancement under Alternatives 4A, 2D, and 5A, due to
 39 expenditures on construction and increased operations-related employment and labor income.
 40 Therefore, to the extent that construction and/or operation of the water conveyance facilities and
 41 the conservation measures (or habitat restoration and enhancement under Alternative 4A) overlap
 42 in time and geographic area, it is expected that the beneficial economic effect in the Delta region may
 43 be additive. Although the combined beneficial effects with Alternative 4A would likely be
 44 considerably less substantial given that the magnitude of restoration/enhancement under that
 45 alternative would be lower relative to the other action alternatives. There would also be an

1 anticipated decrease in agricultural- and natural gas production-related employment and labor
2 income in the region due to these activities as well, and the combined effects of implementing CM1
3 with implementing either the other conservation measures under Alternatives 1A–2C, 3, 4, 5, and 6–
4 9 or the restoration/ enhancement activities under Alternatives 4A, 2D, and 5A, could increase the
5 severity of this adverse economic effect.

6 To the extent that construction and/or operation of the water conveyance facilities and the
7 conservation measures (or habitat restoration and enhancement under Alternatives 4A, 2D, and 5A)
8 overlap in time and geographic area, there could be additive increases in population and housing in
9 the Delta region as a result. However, the magnitude of this increase would likely be less under
10 Alternative 4A given that there would be less habitat restoration and enhancement under this action
11 alternative relative to the others. Although the combined effects with Alternatives 4A, 2D, and 5A
12 would likely be considerably less substantial given that the magnitude of restoration/enhancement
13 under that alternative would be lower relative to the other action alternatives. Because these
14 activities would not result in concentrated, substantial increases in population or new housing, they
15 would not be considered to have an adverse effect.

16 Implementation of CM1 and CM2–CM21 under the BDCP alternatives, or water conveyance facilities
17 and habitat restoration and enhancement under Alternatives 4A, 2D, and 5A, could alter the
18 community character in the Delta through noise, visual effects, air pollution and traffic associated
19 with earthwork and site preparation for CM1 and any restoration, enhancement, protection, and
20 management of various natural community types could alter the rural characteristics of Delta
21 communities. While water conveyance construction could result in beneficial effects relating to the
22 economic welfare of a community, adverse social effects could also arise as a result of declining
23 economic stability in communities closest to construction effects and in those most heavily
24 influenced by agricultural and recreational activities. To the extent that construction and/or
25 operation of the water conveyance facilities and the conservation measures (or habitat restoration
26 and enhancement under Alternatives 4A, 2D, and 5A) overlap in time and geographic area, there
27 could be additive adverse effects.

28 Construction of water conveyance facilities would result in the removal of a portion of the property
29 tax base for various local government entities in the Delta region, as would implementation of CM2–
30 21 (BDCP alternatives) or of habitat restoration and enhancement (Alternative 4A). Therefore, to
31 the extent that construction of CM1 and the other conservation measures (or habitat restoration and
32 enhancement under Alternatives 4A, 2D, and 5A) overlap in time and geographic area, there could
33 be additive adverse effects on local government fiscal conditions. Combined adverse effects would
34 likely be less severe under Alternative 4A given the smaller geographic scale and magnitude of
35 habitat restoration and enhancement relative to the other action alternatives.

36 With implementation of CM1, as well as with implementation of the other conservation measures
37 (Alternatives 1A–2C, 3, 4, 5, and 6A–9) or habitat restoration and enhancement under Alternatives
38 4A, 2D, and 5A, adverse effects on recreational and agriculture economics are anticipated.
39 Construction activities (including site preparation and earthwork) would limit opportunities for
40 recreational activities where they occur in or near existing recreational areas, and noise, odors, and
41 visual effects of construction activities would also temporarily compromise the quality of recreation.
42 Implementation of the action alternatives would lead to reductions in crop acreage and in the value
43 of agricultural production in the Delta region. Effects on agricultural economics would include
44 effects on crop production and agricultural investments resulting from restoration actions on
45 agricultural lands. Accordingly, to the extent that construction/operation of CM1 and the other

1 conservation measures (or habitat restoration and enhancement under Alternatives 4A, 2D, and 5A)
 2 overlap in time and geographic area, there could be additive adverse effects on recreational and
 3 agricultural economics, but the magnitude of the effects would likely be lower for Alternatives 4A,
 4 2D, and 5A relative to the other action alternatives given that there would be considerably less
 5 habitat restoration and enhancement under this alternative.

6 Measures to reduce these combined socioeconomic effects in the Delta region would include
 7 implementation of Mitigation Measure AG-1, Mitigation Measure MIN-13 and Mitigation Measure
 8 REC-2, as well as implementation of other mitigation measures and environmental commitments
 9 related to noise, visual effects, transportation, agriculture, and recreation. These mitigation measure
 10 and environmental commitments would help preserve agricultural productivity, provide offsite
 11 mitigation for Important Farmland and land subject to the Williamson Act, minimize the need for
 12 well abandonment or relocation, and would enhance recreational access and conditions (e.g., noise
 13 abatement, mosquito control, erosion control).

14 **16.3.5.3 Cumulative Effects of the Action Alternatives**

15 **Impact ECON-1: Temporary Effects on Regional Economics and Employment in the Delta** 16 **Region during Construction of the Proposed Water Conveyance Facilities**

17 **NEPA Effects:** The regional economic impacts on employment and income in the Delta region
 18 attributable to the action alternatives (including sea level rise and climate change) are evaluated in
 19 Section 16.3.3, *Effects and Mitigation Approaches*, and Section 16.3.4, *Effects and Mitigation*
 20 *Approaches – Alternatives 4A, 2D and 5A*. No additional changes are estimated between Existing
 21 Conditions and No Action Alternative. Therefore, the impacts of the action alternatives (including
 22 sea level rise and climate change) compared to No Action Alternative (with sea level rise and climate
 23 change) are the same as in Sections 16.3.3 and 16.3.4.

24 Employment and income associated with the construction of any one of the projects described in
 25 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
 26 *Cumulative Impact Conditions*, could increase employment and income in the Delta region. The
 27 projects would also potentially convert or disturb existing land use. The effects on the economy of
 28 the Delta region would be similar in kind, although not magnitude, to those estimated for
 29 construction of conveyance features and facilities for Alternatives 1A through 9 (see analysis earlier
 30 in this chapter). In general, the changes in regional economic activity (employment and income)
 31 would include increases from the construction-related activity, declines resulting from agricultural
 32 or other land uses converted or impaired, declines resulting from abandonment of natural gas wells
 33 on lands converted or impaired, and changes in recreation spending that could be positive or
 34 negative depending on the specific project. A number of the projects described in Appendix 3D,
 35 *Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact*
 36 *Conditions*, are located within the Delta, and if their construction were concurrent with that of the
 37 action alternatives, the cumulative effects on employment and income would be larger than for the
 38 proposed water conveyance facilities alone. Construction of water conveyance facilities, in addition
 39 to these other projects would result in an increase in construction-related employment and labor
 40 income, this would be considered a beneficial effect. However, these activities would also be
 41 anticipated to result in a decrease in agricultural-related or natural gas-related employment and
 42 labor income, which would be considered an adverse effect. The scale of project activities indicates
 43 that its effects are cumulatively considerable. Mitigation Measure AG-1, described in Chapter 14,
 44 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce Project-related

1 effects by preserving agricultural productivity and compensating off-site. Mitigation Measure MIN-5,
 2 described in Chapter 26, *Mineral Resources*, Section 26.3.3.2, Impact MIN-5, would be available to
 3 reduce Project-related effects on natural gas wells and associated employment and labor income by
 4 minimizing, to the extent feasible, the need for well abandonment or relocation.

5 **CEQA Conclusion:** Construction of the project's water conveyance facilities and projects described in
 6 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
 7 *Cumulative Impact Conditions*, would affect total employment and income in the Delta region. The
 8 potential cumulative change in total employment and income in the Delta region is based on
 9 expenditures resulting from construction and resulting changes in agricultural production
 10 recreation, and natural gas well operations. The total cumulative change in employment and income
 11 is not considered an environmental impact. Significant environmental impacts would only result if
 12 the changes in regional economics cause physical impacts. Such effects are discussed in other
 13 chapters throughout this EIR/EIS. Cumulative removal of agricultural land from production is
 14 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.5, Impacts AG-1 and AG-2; cumulative
 15 changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section 15.3.5,
 16 Impacts REC-16 through REC-19; cumulative abandonment of natural gas wells is addressed in
 17 Chapter 26, *Mineral Resources*, Section 26.3.5.3 Impact MIN-13.

18 **Impact ECON-2: Effects on Population and Housing in the Delta Region during Construction of** 19 **the Proposed Water Conveyance Facilities**

20 **NEPA Effects:** The effects on population and housing in the Delta region attributable to the action
 21 alternatives (including sea level rise and climate change) are evaluated in Section 16.3.3, *Effects and*
 22 *Mitigation Approaches*, and Section 16.3.4, *Effects and Mitigation Approaches – Alternatives 4A, 2D,*
 23 *and 5A*. No additional change in impacts is estimated when comparing the action alternatives to No
 24 Action Alternative (with sea level rise and climate change).

25 Employment associated with any one of the projects described in Appendix 3D, *Defining Existing*
 26 *Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions*, could
 27 require the temporary or permanent relocation of workers into the region. The local population
 28 could increase from the workers and their families, plus any additional employment generated by
 29 the local spending associated with the project. In turn, demand for housing could increase. The
 30 magnitude of the potential impacts would depend on the availability of workers with the required
 31 skills already living within the vicinity of the project. If insufficient labor is available locally, workers
 32 may relocate into the region, and the number doing this would depend on the scale and rate of
 33 spending on the project.

34 A number of projects described in Appendix 3D, *Defining Existing Conditions, No Action Alternative,*
 35 *No Project Alternative, and Cumulative Impact Conditions*, are located within the Delta, and if their
 36 construction were concurrent with that of conveyance or restoration actions of action alternatives,
 37 the cumulative effects on population and housing during the common construction period would be
 38 larger than for the proposed water conveyance facilities alone. While the combined population and
 39 housing effects from the action alternatives and projects described in Appendix 3D, *Defining Existing*
 40 *Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions*, could
 41 lead to a cumulatively significantly adverse effect, because the project activities would not result in
 42 permanent concentrated, substantial increases in population or new housing, they would not be
 43 considered to be cumulatively considerable.

1 **CEQA Conclusion:** Construction of the project's water conveyance facilities and projects described in
 2 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
 3 *Cumulative Impact Conditions*, would result in population increases in the Delta region. An increase
 4 in population, by itself, is not considered a physical impact under CEQA. Any physical impacts
 5 associated with the cumulative effects of the project regarding population are discussed in other
 6 chapters. Changes in demand for public services resulting from any increase in population are
 7 addressed in Chapter 20, *Public Services and Utilities*, Section 20.3.3.2, Impact UT-1 through UT-6.

8 **Impact ECON-3: Changes in Community Character as a Result of Constructing the Proposed** 9 **Water Conveyance Facilities**

10 **NEPA Effects:** Under the action alternatives, community character could change as a result of
 11 constructing water conveyance facilities. While the location and magnitude of these effects would be
 12 anticipated to vary from alternative to alternative, the nature of these effects would be similar.
 13 Potential increases in population, along with reduced agricultural and recreational economic
 14 contributions, could create demographic changes in Delta communities, altering their character.
 15 Additionally, physical effects of construction could lead to changes in rural qualities including
 16 predominant agricultural land uses, relatively low population densities, and low levels of associated
 17 noise and vehicular traffic. Construction-related effects could also result in changes to community
 18 cohesion if they were to restrict mobility, reduce opportunities for maintaining face-to-face
 19 relationships, or disrupt the functions of community organizations or community gathering places
 20 (such as schools, libraries, places of worship, and recreational facilities).

21 Employment, income, and land use changes associated with the projects described in Appendix 3D,
 22 *Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact*
 23 *Conditions*, could bring about changes in community character similar to those described above. The
 24 magnitude of the potential impacts would depend on the timing, location, and intensity of effects
 25 from these projects. Implementation of these projects concurrent with that of the project's
 26 conveyance construction would result in a cumulatively significant adverse social effect on
 27 community character during the common construction period. The incremental contribution of
 28 Project-related activities to this effect would be cumulatively considerable. Implementation of
 29 mitigation measures and environmental commitments related to noise, visual effects,
 30 transportation, agriculture, and recreation would reduce cumulative adverse effects (see Appendix
 31 3B, *Environmental Commitments, AMMs, and CMs*). These actions are summarized under Alternative
 32 1A, Impact ECON-3.

33 **CEQA Conclusion:** Construction of the project's water conveyance facilities and projects described in
 34 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
 35 *Cumulative Impact Conditions*, could affect the character in Delta communities. To the extent that
 36 project construction schedules and locations overlap, the cumulative impacts on housing and
 37 population within specific communities could be substantial in intensity. However, because these
 38 cumulative impacts are social in nature, rather than physical, they are not considered impacts under
 39 CEQA. To the extent that changes to community character would lead to physical impacts involving
 40 population growth, such impacts are described under Impact ECON-2 and in Chapter 30, *Growth*
 41 *Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population
 42 or employment, even if limited to specific areas, sectors, or the vacancy of individual buildings, could
 43 result in alteration of community character stemming from a lack of maintenance, upkeep, and
 44 general investment. However, implementation of mitigation measures and environmental
 45 commitments related to noise, visual effects, transportation, agriculture, and recreation, would

1 reduce the extent of these effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*).
 2 Specifically, these commitments include Develop and Implement Erosion and Sediment Control
 3 Plans, Develop and Implement Hazardous Materials Management Plans, Notification of Maintenance
 4 Activities in Waterways, Noise Abatement Plan, Fire Prevention and Control Plan, and Prepare and
 5 Implement Mosquito Management Plans.

6 **Impact ECON-4: Changes in Local Government Fiscal Conditions as a Result of Constructing** 7 **the Proposed Water Conveyance Facilities**

8 **NEPA Effects:** Under the action alternatives, publicly owned water conveyance facilities would be
 9 constructed on land of which some is currently held by private owners. Over the construction
 10 period, local governments and special districts would not be able to collect property tax and
 11 assessment revenue on this land. These decreases in revenue could potentially result in the loss of a
 12 substantial share of some agencies' tax bases, particularly for smaller districts affected by the
 13 project.

14 Land use changes associated with the projects described in Appendix 3D, *Defining Existing*
 15 *Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions*, could
 16 bring about changes similar to those described above. Those projects involving public acquisition of
 17 land would be anticipated to add to the adverse effects associated with the project, resulting in a
 18 cumulatively significant adverse effect. Other projects involving private development could also
 19 create beneficial effects with respect to local government and special district revenue. The
 20 magnitude of the potential effects from these projects would depend on the amount of land affected
 21 and the nature of the conversion.

22 These cumulative economic effects would be considered adverse. Due to the extent of land required
 23 for construction and long-term placement of water conveyance facilities, the project's contribution
 24 to this cumulative economic effect would be deemed cumulatively considerable; however, the
 25 project proponents would make arrangements to compensate local governments for the loss of
 26 property tax or assessment revenue for land used for constructing, locating, operating, or mitigating
 27 for new project-related water conveyance facilities. Additionally, as discussed under Impact ECON-1
 28 for each alternative, construction of the water conveyance facilities would be anticipated to result in
 29 a net increase of income and employment in the Delta region. This would also create an indirect
 30 beneficial effect through increased sales tax revenue for local government entities that rely on sales
 31 taxes.

32 **CEQA Conclusion:** Construction of the project's water conveyance facilities and projects described in
 33 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
 34 *Cumulative Impact Conditions*, would result in the removal of a portion of the property tax base for
 35 various local government entities in the Delta region. To the extent that these projects collectively
 36 remove land from individual entities' tax rolls, the cumulative fiscal impacts could be substantial in
 37 intensity. However, the Sacramento-San Joaquin Delta Reform Act commits the entities receiving
 38 water from the State Water Project and federal Central Valley Project to mitigate for lost property
 39 tax and assessment revenue associated with land needed for the construction of new conveyance
 40 facilities (Water Code Section 85089). Additionally, any losses could be offset, at least in part, by an
 41 anticipated increase in sales tax revenue. CEQA does not require a discussion of socioeconomic
 42 effects except where they would result in reasonably foreseeable physical changes. If an alternative
 43 is not anticipated to result in a physical change to the environment, it would not be considered to

1 have a significant impact under CEQA (CEQA Guidelines Sections 15064(f) and 15131). Here, any
2 physical consequences resulting from fiscal impacts are too speculative to ascertain.

3 **Impact ECON-5: Effects on Recreational Economics as a Result of Constructing the Proposed** 4 **Water Conveyance Facilities**

5 **NEPA Effects:** Under the action alternatives, substantial disruption of recreational activities
6 considered temporary and permanent would occur in specific areas during the construction period,
7 as described and defined in Chapter 15, *Recreation*, Section 15.3.5.3, Impacts REC-16 through REC-
8 19. The quality of recreational activities including boating, fishing, waterfowl hunting, and hiking in
9 the Delta could be affected by noise, lighting, traffic, and visual degradation in proximity to water
10 conveyance construction. Additionally, under Alternative 9, several recreational facilities would be
11 permanently displaced and others would be temporarily disturbed during construction. A
12 substantial decline in visits to the Delta region as a result of facility construction would be expected
13 to reduce recreation-related spending, creating an adverse effect throughout the Delta. Additionally,
14 if construction activities shift the relative popularity of different recreational sites, the project may
15 carry localized beneficial or adverse effects.

16 Changes to recreational opportunities or quality associated with construction of the projects
17 described in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative,*
18 *and Cumulative Impact Conditions*, could bring about changes similar to those described above.
19 Those projects involving in-water construction in recreational areas would be anticipated to add to
20 the adverse effects associated with the action alternatives; however, other projects involving the
21 development or improvement of recreational opportunities could create beneficial effects with
22 respect to recreational economic activity.

23 Under the action alternatives, mitigation measures and environmental commitments would be
24 implemented to reduce some of the effects of construction activities upon the recreational
25 experience. These include protection of waterway navigation, recreational access, public views, and
26 noise abatement, as described in Chapter 15, *Recreation*, Chapter 17, *Aesthetics and Visual Resources*,
27 Chapter 19, *Transportation*, and Appendix 3B, *Environmental Commitments, AMMs, and CMs*.

28 Construction of water conveyance structures, in conjunction with construction activities for other
29 projects, would be anticipated to result in a lower-quality recreational experience in a number of
30 localized areas throughout the Delta, despite the implementation of environmental commitments.
31 With a decrease in recreational quality, the number of visits would be anticipated to decline, at least
32 in areas closest to construction activities. Fewer visits would lead to less spending, creating a
33 cumulatively significant adverse effect. While visitors can adjust their recreational patterns to avoid
34 areas substantially affected by construction activities (by boating or fishing elsewhere in the Delta,
35 for instance), recreation-dependent businesses including marinas and recreational supply retailers
36 may not be able to economically weather the effects of multiyear construction activities and may be
37 forced to close as a result, even while businesses in areas that become more popular could benefit.
38 The multi-year schedule and geographic scale of project-related construction activities and the
39 anticipated incremental decline in recreational spending would be cumulatively considerable. The
40 environmental commitments cited above would contribute to the reduction of this effect and long-
41 term benefits that may improve some recreation access and resources.

42 **CEQA Conclusion:** Construction of the water conveyance facilities and projects described in
43 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
44 *Cumulative Impact Conditions*, could impact recreational revenue in the Delta region if construction

1 activities result in fewer visits to the area. Fewer visits would be anticipated to result in decreased
 2 economic activity related to recreational activities. This section considers only the economic effects
 3 of recreational changes brought about by construction of the proposed water conveyance facilities.
 4 Potential physical changes to the environment relating to cumulative recreational resources are
 5 described and evaluated in Chapter 15, *Recreation*, Section 15.3.5.3, Impacts REC-16 through REC-
 6 19.

7 **Impact ECON-6: Effects on Agricultural Economics in the Delta Region during Construction of** 8 **the Proposed Water Conveyance Facilities**

9 The agricultural economics impact in the Delta region attributable to the action alternatives
 10 (including sea level rise and climate change) is evaluated in Section 16.3.3, *Effects and Mitigation*
 11 *Approaches*, and Section 16.3.4, *Effects and Mitigation Approaches – Alternatives 4A, 2D and 5A*. No
 12 additional changes in impacts are estimated when comparing the action alternatives to No Action
 13 Alternative (with sea level rise and climate change).

14 Projects described in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project*
 15 *Alternative, and Cumulative Impact Conditions*, could lead to the conversion or impairment of
 16 existing land uses, resulting in loss of existing economic activity, jobs, and tax revenues. This would
 17 occur due to temporary or permanent footprints of facilities such as pipelines, canals, levees, or
 18 habitat restoration. Projects that would convert existing Delta land uses could impose a cumulative
 19 impact on the Delta region. The nature of such impacts is discussed in the Cumulative Analysis
 20 section in Chapter 13, *Land Use*, Section 13.3.5, Impact LU-8.

21 **NEPA Effects:** Because construction of the proposed water conveyance facilities, in addition to the
 22 other projects, programs, and plans considered, would lead to reductions in crop acreage and in the
 23 value of agricultural production in the Delta region, this is considered an adverse effect and the
 24 incremental contribution of Project-related activities would be cumulatively considerable.
 25 Mitigation Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact
 26 AG-1, would be available to reduce Project-related effects by preserving agricultural productivity
 27 and compensating off-site.

28 **CEQA Conclusion:** Construction of the project's water conveyance facilities and projects described in
 29 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
 30 *Cumulative Impact Conditions*, could reduce the total value of agricultural production in the Delta
 31 region. The reduction in the value of agricultural production is not considered an environmental
 32 impact. Significant environmental impacts would only result if the changes in regional economics
 33 cause physical impacts. Such effects are discussed in other chapters throughout this EIR/EIS. The
 34 potential cumulative impacts from permanent removal of agricultural land from production are
 35 addressed in Chapter 14, *Agricultural Resources*, Section 14.3.5, Impacts AG-1 and AG-2.

36 **Impact ECON-7: Permanent Regional Economic and Employment Effects in the Delta Region** 37 **during Operation and Maintenance of the Proposed Water Conveyance Facilities**

38 Cumulative effects on regional economics during operation and maintenance of the action
 39 alternatives and projects described in Appendix 3D, *Defining Existing Conditions, No Action*
 40 *Alternative, No Project Alternative, and Cumulative Impact Conditions*, would be similar in kind,
 41 although not magnitude, to those described under Section 16.3.5.3, Impact ECON-1.

1 **NEPA Effects:** Increased expenditures related to operation and maintenance of water conveyance
 2 facilities would be expected to result in a permanent increase in regional employment and income,
 3 as presented in Table 16-22. This would be considered a beneficial effect. However, the permanent
 4 removal of agricultural land following construction would have lasting negative effects on
 5 agricultural employment and income, as shown in Table 16-23. Considered together, the cumulative
 6 effects of these projects on agricultural employment would be adverse and the effect of the project's
 7 activities would be cumulatively considerable. Mitigation Measure AG-1, described in Chapter 14,
 8 *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce Project-related
 9 effects by preserving agricultural productivity and compensating off-site.

10 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities would
 11 increase total employment and income in the Delta region. The net change would result from
 12 expenditures on operation and maintenance and from changes in agricultural production, which
 13 could also be affected by other projects, programs, and plans in the Delta region. The total change in
 14 income and employment is not, in itself, considered an environmental impact. Significant
 15 environmental impacts would only result if the changes in regional economics cause physical
 16 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. Costs are addressed
 17 in Chapter 8 of the BDCP, *Implementation Costs and Funding Sources*; removal of agricultural land
 18 from production is addressed in Chapter 14, *Agricultural Resources*, Section 14.3.5, Impacts AG-1
 19 and AG-2; changes in recreation related activities are addressed in Chapter 15, *Recreation*, Section
 20 15.3.5.3, Impacts REC-5 through REC-8.

21 **Impact ECON-8: Permanent Effects on Population and Housing in the Delta Region during** 22 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

23 **NEPA Effects:** Cumulative effects on population and housing during operation and maintenance of
 24 the action alternatives and projects described in Appendix 3D, *Defining Existing Conditions, No*
 25 *Action Alternative, No Project Alternative, and Cumulative Impact Conditions*, would be similar in
 26 kind, although not magnitude, to those described under Section 16.3.5.3, Impact ECON-2. It is
 27 anticipated that non-local workers would relocate to the five-county region, thus adding to the local
 28 population. However, this additional population and any population added by other projects in the
 29 Delta region would be anticipated to result in only a minor increase in the total 2020 projected
 30 regional population of 4.6 million and be distributed throughout the region. It is anticipated that
 31 most of the operational workforce would be drawn from within the five-county region.
 32 Consequently, operation of the conveyance facilities, in addition to the effects of other projects,
 33 would not result in cumulative adverse effects on housing.

34 **CEQA Conclusion:** Operation and maintenance of the proposed water conveyance facilities, in
 35 addition to other programs, plans, policies, and projects in the Delta region, would result in minor
 36 population increases in the Delta region with adequate housing supply to accommodate the change
 37 in population and therefore adverse changes in the physical environment are not anticipated.

38 **Impact ECON-9: Changes in Community Character during Operation and Maintenance of the** 39 **Proposed Water Conveyance Facilities**

40 **NEPA Effects:** Under the action alternatives, community character could change during the
 41 continued operation and maintenance of water conveyance facilities. While the location and
 42 magnitude of these effects would be anticipated to vary from alternative to alternative, the nature of
 43 these effects would be similar. Changes in population, along with reduced agricultural and

1 recreational economic contributions, could create demographic changes in Delta communities,
 2 altering their character. Additionally, continued physical effects of operations could lead to changes
 3 in rural qualities including predominant agricultural land uses, relatively low population densities,
 4 and low levels of associated noise and vehicular traffic. Such lasting effects could also result in
 5 changes to community cohesion if they were to restrict mobility, reduce opportunities for
 6 maintaining face-to-face relationships, or disrupt the functions of community organizations or
 7 community gathering places (such as schools, libraries, places of worship, and recreational
 8 facilities).

9 Employment, income, and land use changes associated with the projects described in Appendix 3D,
 10 *Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact*
 11 *Conditions*, could bring about changes in community character similar to those described above. The
 12 magnitude of the potential impacts would depend on the location and intensity of effects from these
 13 projects. However, the resultant cumulative social effects on community character would be
 14 significant and adverse. The incremental contribution of Project-related activities to this effect
 15 would be cumulatively considerable. Implementation of mitigation measures and environmental
 16 commitments related to noise, visual effects, transportation, agriculture, and recreation would
 17 reduce cumulative adverse effects (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*).
 18 These actions are summarized under Alternative 1A, Impact ECON-9.

19 **CEQA Conclusion:** Continued operation and maintenance of the project's water conveyance features,
 20 along with projects described in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No*
 21 *Project Alternative, and Cumulative Impact Conditions*, could affect the character in Delta
 22 communities. To the extent that project locations overlap, the cumulative impacts on housing and
 23 population within specific communities could be substantial in intensity. However, because these
 24 cumulative impacts are social in nature, rather than physical, they are not considered impacts under
 25 CEQA. To the extent that changes to community character would lead to physical impacts involving
 26 population growth, such impacts are described under Impact ECON-8 and in Chapter 30, *Growth*
 27 *Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in population
 28 or employment, even if limited to specific areas, sectors, or the vacancy of individual buildings, could
 29 result in alteration of community character stemming from a lack of maintenance, upkeep, and
 30 general investment.

31 **Impact ECON-10: Changes in Local Government Fiscal Conditions during Operation and** 32 **Maintenance of the Proposed Water Conveyance Facilities**

33 **NEPA Effects:** Under the action alternatives, publicly owned water conveyance facilities would be
 34 located, operated, and maintained on land of which some is currently held by private owners. Over
 35 the 50-year permit period, local governments and special districts would not be able to collect
 36 property tax and assessment revenue on this land. These decreases in revenue could potentially
 37 result in the loss of a substantial share of some agencies' tax bases, particularly for smaller districts
 38 affected by the project.

39 Land use changes associated with the projects described in Appendix 3D, *Defining Existing*
 40 *Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions*, could
 41 bring about changes similar to those described above. Those projects involving public acquisition of
 42 land would be anticipated to add to the adverse effects associated with the project resulting in a
 43 cumulatively significant adverse effect. Other projects involving private development could create
 44 beneficial effects with respect to local government and special district revenue. The magnitude of

1 the potential effects from these projects would depend on the amount of land affected and the
2 nature of the conversion.

3 These cumulative economic effects would be considered adverse. Due to the extent of land required
4 for construction and long-term placement of water conveyance facilities, the project's contribution
5 to this cumulative economic effect would be deemed cumulatively considerable; however, the
6 project proponents would make arrangements to compensate local governments for the loss of
7 property tax or assessment revenue for land used for constructing, locating, operating, or mitigating
8 for new project-related water conveyance facilities. Additionally, as discussed under Impact ECON-7
9 for Alternatives 1A, 1C, 2A, 2C, 2D, 3, 4, 4A, 5, 5A, 6A, 6C, 7, 8, and 9 above, construction of the water
10 conveyance facilities would be anticipated to result in a net increase of income and employment in
11 the Delta region. This may create an indirect beneficial effect through increased sales tax revenue for
12 local government entities that rely on sales taxes. However, under Alternatives 1B, 2B, and 6B,
13 decreased income and employment could create additional strains on the finances of local
14 government entities.

15 **CEQA Conclusion:** Continued operation and maintenance of the project's water conveyance facilities
16 and projects described in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project*
17 *Alternative, and Cumulative Impact Conditions*, would restrict potential property tax and assessment
18 revenue for various local government entities in the Delta region. To the extent that these projects
19 collectively remove land from individual entities' tax rolls, the cumulative fiscal impacts could be
20 substantial in intensity. However, the Sacramento–San Joaquin Delta Reform Act commits the
21 entities receiving water from the State Water Project and federal Central Valley Project to mitigate
22 for lost property tax and assessment revenue associated with land needed for the continued
23 operation and maintenance of new conveyance facilities (Water Code Section 85089). Additionally,
24 under some action alternatives, some losses may be mitigated by increases in sales tax revenue.
25 CEQA does not require a discussion of socioeconomic effects except where they would result in
26 reasonably foreseeable physical changes. If an alternative is not anticipated to result in a physical
27 change to the environment, it would not be considered to have a significant impact under CEQA
28 (CEQA Guidelines Sections 15064(f) and 15131). Here, any physical consequences resulting from
29 fiscal impacts are too speculative to ascertain.

30 **Impact ECON-11: Effects on Recreational Economics during Operation and Maintenance of the** 31 **Proposed Water Conveyance Facilities**

32 **Alternatives 1A through 8, including Alternatives 4A, 2D, and 5A**

33 Under Alternatives 1A through 8, including Alternatives 4A, 2D, and 5A, water conveyance
34 structures are expected to permanently displace some recreational access along the alternative
35 alignments. These impacts are discussed in Chapter 15, *Recreation*, Sections 15.3.3.2 through
36 15.3.3.15 and Sections 15.3.4.2 through 15.3.4.4.

37 Maintenance of conveyance facilities, including intakes, would result in periodic temporary but not
38 substantial adverse effects on boat passage and water-based recreational activities. Similarly,
39 recreational changes associated with operation and maintenance of the projects described in
40 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
41 *Cumulative Impact Conditions*, would not be anticipated to create adverse economic effects related to
42 recreation.

1 **NEPA Effects:** Because effects of facility maintenance would be short-term and intermittent,
2 substantial cumulative economic effects are not anticipated to result.

3 **Alternative 9**

4 Recreational changes associated with operation and maintenance of the projects described in
5 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
6 *Cumulative Impact Conditions*, would not be anticipated to create adverse economic effects related to
7 recreation. However, under Alternative 9, recreational activities including boat passage and
8 navigation would be adversely affected by water conveyance operations. Operable gate and boat
9 passage facilities would require boaters to wait for passage and would require speed limits in
10 nearby areas. In some areas, boat navigation could be enhanced due to dredging activities and a new
11 channel connection. However, use of operable gates would result in an adverse effect on recreational
12 activities and would be anticipated to result in a cumulative adverse economic effect, at least in
13 localized areas, by reducing the quality of the boating experience, along with other water-based
14 recreation.

15 **NEPA Effects:** The incremental effect of operating Alternative 9 would be cumulatively considerable.
16 An environmental commitment to retain passage at some facilities, along with implementation of
17 Mitigation Measures REC-13a and REC-13b, would reduce the severity of this effect.

18 **CEQA Conclusion:** Recreational changes associated with operation and maintenance of the projects
19 described in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative,*
20 *and Cumulative Impact Conditions*, would not be anticipated to create adverse economic effects
21 related to recreation. Similarly, operation and maintenance activities associated with the proposed
22 water conveyance facilities under Alternatives 1A through 8 would only be anticipated to create
23 minor effects on recreational spending. However, operation of Alternative 9 would be anticipated to
24 result in substantial effects on recreational resources and therefore, to reduce related economic
25 activity such as lodging, food, fuel, and accessories. This section considers only the economic effects
26 of recreational changes. Potential physical changes to the environment relating to recreational
27 resources are described and evaluated in Chapter 15, *Recreation*, Sections 15.3.3.2 through
28 15.3.3.16, Sections 15.3.4.2 through 15.3.4.4, and Section 15.3.5.3, Impacts REC-20 and REC-21.

29 **Impact ECON-12: Permanent Effects on Agricultural Economics in the Delta Region during** 30 **Operation and Maintenance of the Proposed Water Conveyance Facilities**

31 Cumulative effects on agricultural economics during operation and maintenance of the action
32 alternatives and projects described in Appendix 3D, *Defining Existing Conditions, No Action*
33 *Alternative, No Project Alternative, and Cumulative Impact Conditions*, would be similar in kind,
34 although not magnitude, to those described under Section 16.3.5.3, Impact ECON-6.

35 **NEPA Effects:** Together, the footprint of water conveyance facilities proposed under the action
36 alternatives, along with other projects, programs, and plans, would result in lasting reductions in
37 crop acreage and in the value of agricultural production in the Delta region; therefore, this is
38 considered an adverse cumulative effect and the incremental project's contribution to this effect
39 would be cumulatively considerable. Mitigation Measure AG-1, described in Chapter 14, *Agricultural*
40 *Resources*, Section 14.3.3.2, Impact AG-1, would be available to reduce Project-related effects by
41 preserving agricultural productivity and compensating off-site.

1 **CEQA Conclusion:** Operation and maintenance of the project and projects described in Appendix 3D,
 2 *Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact*
 3 *Conditions*, could reduce the total value of agricultural production in the Delta region. The reduction
 4 in the value of agricultural production is not considered an environmental impact. Significant
 5 environmental impacts would only result if the changes in regional economics cause physical
 6 impacts. Such effects are discussed in other chapters throughout this EIR/EIS. The potential
 7 cumulative impacts from permanent removal of agricultural land from production are addressed in
 8 Chapter 14, *Agricultural Resources*, Section 14.3.5, Impacts AG-1 and AG-2.

9 **Impact ECON-13: Effects on the Delta Region's Economy and Employment Due to the**
 10 **Implementation of CM2–CM21 under Alternatives 1A–2C, 3–5, and 6A–9, or Environmental**
 11 **Commitments under Alternatives 4A, 2D, and 5A**

12 **NEPA Effects:** Cumulative effects on regional economics as a result of implementing CM2–CM21
 13 under the BDCP alternatives, and as a result of implementing Environmental Commitments under
 14 Alternatives 4A, 2D, and 5A, and projects described in Appendix 3D, *Defining Existing Conditions, No*
 15 *Action Alternative, No Project Alternative, and Cumulative Impact Conditions*, would be similar in
 16 kind, although not magnitude, to those described under Section 16.3.5.3, Impact ECON-1. In the
 17 Delta region, spending on CM2–CM21, or Environmental Commitments under Alternatives 4A, 2D,
 18 and 5A, and other similar projects would include construction, operation and maintenance activities
 19 that would convert or disturb existing land use. Because implementation of Because implementation
 20 of CM2–CM21, or the Environmental Commitments under Alternatives 4A, 2D, and 5A, along with
 21 effects of similar projects, would be anticipated to result in an increase in construction and
 22 operation and maintenance-related employment and labor income, this would be considered a
 23 beneficial effect. However, implementation of these BDCP components and other non-BDCP projects
 24 would also be anticipated to result in a decrease in agricultural-related and natural gas production-
 25 related employment and labor income, which would be considered an adverse cumulative effect and
 26 the incremental BDCP contribution to this effect would be cumulatively considerable. Mitigation
 27 Measure AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would
 28 be available to reduce Project-related effects by preserving agricultural productivity and
 29 compensating off-site. Mitigation Measure MIN-5, described in Chapter 26, *Mineral Resources*,
 30 Section 26.3.3.2, Impact MIN-5, would be available to reduce Project-related effects on natural gas
 31 well-related employment and labor income by minimizing, to the extent feasible, the need for well
 32 abandonment or relocation.

33 **CEQA Conclusion:** Implementation of the proposed CM2–CM21, or Environmental Commitments
 34 under Alternatives 4A, 2D, and 5A, would affect total employment and income in the Delta region.
 35 The change in total employment and income in the Delta region is based on expenditures resulting
 36 from implementation of the proposed CM2–CM21, or the Environmental Commitments under
 37 Alternatives 4A, 2D, and 5A, and any resulting changes in agricultural production, recreation, and
 38 natural gas production activities. The total change in employment and income is not, in itself,
 39 considered an environmental impact. Significant environmental impacts would only result if the
 40 changes in regional economics cause physical impacts. Such effects are discussed in other chapters
 41 throughout this EIR/EIS. Removal of agricultural land from production is addressed in Chapter 14,
 42 *Agricultural Resources*, Section 14.3.3.2, Impacts AG-3 and AG-4; changes in recreation-related
 43 activities are addressed in Chapter 15, *Recreation*, Section 15.3.3.2, Impacts REC-9 through REC-11;
 44 abandonment of natural gas wells is addressed in Chapter 26, *Mineral Resources*, Section 26.3.3.2,
 45 Impact MIN-5.

1 **Impact ECON-14: Effects on Population and Housing in the Delta Region as a Result of**
 2 **Implementing CM2–CM21 under Alternatives 1A–2C, 3–5, and 6A–9, or Environmental**
 3 **Commitments under Alternatives 4A, 2D, and 5A**

4 Cumulative effects on population and housing as a result of implementing CM2–CM21, or the
 5 Environmental Commitments under Alternatives 4A, 2D, and 5A, and other projects described in
 6 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
 7 *Cumulative Impact Conditions*, would be similar in kind, although not magnitude, to those described
 8 under Section 16.3.5.3, Impact ECON-2. In general, the changes in population and housing associated
 9 with The action alternatives, as well as similar conservation efforts in the Delta region, would
 10 include increases in population from the construction and operation and maintenance-related
 11 activity and declines in residential housing and business establishments as a result of lands
 12 converted or impaired.

13 **NEPA Effects:** Because these activities would not be anticipated to result in concentrated,
 14 substantial increases in population or new housing, they would not be considered to have an
 15 adverse cumulative effect.

16 **CEQA Conclusion:** Implementation of the proposed CM2–CM21, or the Environmental Commitments
 17 under Alternatives 4A, 2D, and 5A, would impact total population and housing in the Delta region.
 18 The change in total population and housing in the Delta region is based on employment resulting
 19 from implementation of the proposed CM2–CM21, or the Environmental Commitments under
 20 Alternatives 4A, 2D, and 5A. The change in population and housing is expected to be minor relative
 21 to the five-county Delta region, and dispersed throughout the region. Therefore, significant changes
 22 to the physical environment are not anticipated to result.

23 **Impact ECON-15: Changes in Community Character as a Result of Implementing CM2–CM21**
 24 **under Alternatives 1A–2C, 3–5, and 6A–9, or Environmental Commitments under Alternatives**
 25 **4A, 2D, and 5A**

26 **NEPA Effects:** Cumulative effects on community character as a result of implementing CM2–CM21,
 27 or Environmental Commitments under Alternatives 4A, 2D, and 5A, and other cumulative projects
 28 described in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative,*
 29 *and Cumulative Impact Conditions*, would be similar in kind, although not magnitude, to those
 30 described above under Impacts ECON-3 and ECON-9. Changes in population and in agricultural and
 31 recreational economic contributions could create demographic changes in Delta communities,
 32 altering their character and resulting in potential effects on community cohesion. Additionally,
 33 physical effects of conservation measure implementation could improve or detract from the rural
 34 qualities of Delta communities.

35 Employment, income, and land use changes associated with the projects described in Appendix 3D,
 36 *Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact*
 37 *Conditions*, could bring about changes in community character similar to those described above. The
 38 magnitude of the potential impacts would depend on the location and intensity of effects from these
 39 projects. However, the resulting cumulative social effects on community character would be
 40 anticipated to be significant and adverse. The incremental contribution of Project-related activities
 41 to this effect would be cumulatively considerable. Implementation of mitigation measures and
 42 environmental commitments related to noise, visual effects, transportation, agriculture, and
 43 recreation would reduce cumulative adverse effects (see Appendix 3B, *Environmental Commitments,*
 44 *AMMs, and CMs*). These actions are summarized under Alternative 1A, Impact ECON-15.

1 **CEQA Conclusion:** Implementation of BDCP CM2–CM21, or Environmental Commitments under
 2 Alternatives 4A, 2D, and 5A, and other cumulative projects described in Appendix 3D, *Defining*
 3 *Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions*,
 4 could affect the character in Delta communities. To the extent that project locations overlap, the
 5 cumulative impacts on housing and population within specific communities could be substantial in
 6 intensity. However, because these cumulative impacts are social in nature, rather than physical, they
 7 are not considered impacts under CEQA. To the extent that changes to community character would
 8 lead to physical impacts involving population growth, such impacts are described in Chapter 30,
 9 *Growth Inducement and Other Indirect Effects*, Section 30.3.2. Furthermore, notable decreases in
 10 population or employment, even if limited to specific areas, sectors, or the vacancy of individual
 11 buildings, could result in alteration of community character stemming from a lack of maintenance,
 12 upkeep, and general investment.

13 **Impact ECON-16: Changes in Local Government Fiscal Conditions as a Result of Implementing**
 14 **CM2–CM21 under Alternatives 1A–2C, 3–5, and 6A–9, or Environmental Commitments under**
 15 **Alternatives 4A, 2D, and 5A**

16 **NEPA Effects:** Cumulative effects on community character as a result of implementing CM2–CM21,
 17 or Environmental Commitments under Alternatives 4A, 2D, and 5A, and other cumulative projects
 18 described in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative,*
 19 *and Cumulative Impact Conditions*, would be similar in kind, although not magnitude, to those
 20 described above under Impacts ECON-4 and ECON-10. Under the action alternatives,
 21 implementation of CM2–CM21, or Environmental Commitments under Alternatives 4A, 2D, and
 22 5A, would take place on at least some land currently held by private owners. Local governments and
 23 special districts would not be able to collect property tax and assessment revenue on this land.
 24 These decreases in revenue could potentially result in the loss of a substantial share of some
 25 agencies' tax bases, particularly for smaller districts affected by the project.

26 Land use changes associated with the projects described in Appendix 3D, *Defining Existing*
 27 *Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions*, could
 28 bring about changes similar to those described above. Those projects involving public acquisition of
 29 land would be anticipated to add to the adverse effects associated with the action alternatives
 30 resulting in a cumulatively significant adverse effect. Other projects involving private development
 31 could create beneficial effects with respect to local government and special district revenue. The
 32 magnitude of the potential effects from these projects would depend on the amount of land affected
 33 and the nature of the conversion. These cumulative economic effects would be considered adverse.
 34 Due to the extent of land required for construction and long-term placement of water conveyance
 35 facilities, the project's contribution to this cumulative economic effect would be deemed
 36 cumulatively considerable; however, the project proponents would offset forgone property tax and
 37 assessments levied by local governments and special districts on private lands converted to habitat.

38 **CEQA Conclusion:** Implementation of BDCP CM2–CM21, or the Environmental Commitments under
 39 Alternatives 4A, 2D, and 5A, along with cumulative projects described in Appendix 3D, *Defining*
 40 *Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions*,
 41 would restrict potential property tax and assessment revenue for various local government entities
 42 in the Delta region. To the extent that these projects collectively remove land from individual
 43 entities' tax rolls, the cumulative fiscal impacts could be substantial in intensity. However, the
 44 project proponents would compensate local governments and special districts for forgone revenue.
 45 CEQA does not require a discussion of socioeconomic effects except where they would result in

1 physical changes. If an alternative is not anticipated to result in a physical change to the
 2 environment, it would not be considered to have a significant impact under CEQA (CEQA Guidelines
 3 Sections 15064(f) and 15131).

4 **Impact ECON-17: Effects on Recreational Economics as a Result of Implementing CM2–CM21**
 5 **under Alternatives 1A–2C, 3–5, and 6A–9, or Environmental Commitments under Alternatives**
 6 **4A, 2D, and 5A**

7 **NEPA Effects:** Implementation of CM2–CM21, or the Environmental Commitments under
 8 Alternatives 4A, 2D, and 5A, under the action alternatives would be anticipated to create an adverse
 9 effect on recreational resources by limiting access to facilities, restricting boat navigation and
 10 disturbing fish habitat while restoration activities are taking place. These measures may also
 11 permanently reduce the extent of upland recreation sites. However, over the 50-year permit period
 12 (or the shorter permit period for Alternatives 4A, 2D, and 5A), these components could also create
 13 beneficial effects by enhancing aquatic habitat and fish abundance, expanding the extent of
 14 navigable waterways available to boaters, and improving the quality of existing upland recreation
 15 opportunities. Similar adverse or beneficial effects could also result from the projects described in
 16 Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative, and*
 17 *Cumulative Impact Conditions*. The magnitude of these effects would be smaller under Alternatives
 18 4A, 2D, and 5A because the magnitude of habitat restoration and enhancement actions would be
 19 considerably smaller than the other action alternatives. In the case that significant adverse economic
 20 effects arise, the project’s incremental contribution could be cumulatively considerable. Therefore,
 21 the potential exists for the creation of significant cumulative adverse and beneficial effects related to
 22 recreational economics. In the case that significant adverse economic effects arise, the project’s
 23 incremental contribution could be cumulatively considerable.

24 **CEQA Conclusion:** Site preparation and earthwork activities associated with the BDCP and non-
 25 BDCP conservation and habitat restoration projects would limit opportunities for recreational
 26 activities where they are conducted in or near existing recreational areas. Noise, odors, and visual
 27 effects of construction activities would also temporarily compromise the quality of recreation in and
 28 around these areas, leading to potential economic impacts. However, over time, implementation of
 29 these projects could collectively improve the quality of existing recreational opportunities, leading
 30 to increased economic activity. This section considers only the economic effects of recreational
 31 changes brought about by conservation measure implementation. Potential physical changes to the
 32 environment relating to recreational resources are described and evaluated in Chapter 15,
 33 *Recreation*, Sections 15.3.3.2 through 5.3.3.16 and Sections 15.3.4.2 through 15.3.4.4, Impacts REC-9
 34 through REC-11.

35 **Impact ECON-18: Effects on Agricultural Economics in the Delta Region as a Result of**
 36 **Implementing CM2–CM21 under 1A–2C, 3–5, and 6A–9, or Environmental Commitments**
 37 **under Alternatives 4A, 2D, and 5A**

38 Cumulative effects on agricultural economics as a result of implementing CM2–CM21, or the
 39 Environmental Commitments under Alternatives 4A, 2D, and 5A, related to the cumulative projects
 40 described in Appendix 3D, *Defining Existing Conditions, No Action Alternative, No Project Alternative,*
 41 *and Cumulative Impact Conditions*, would be similar in kind, although not magnitude, to those
 42 described under Section 16.3.5.3, Impact ECON-6. CM2– CM21, or the Environmental Commitments
 43 under Alternatives 4A, 2D, and 5A, associated with the action alternatives, along with other
 44 conservation efforts in the Delta region, would convert land from existing agricultural uses. These

1 direct effects on agricultural land are described qualitatively in Chapter 14, *Agricultural Resources*,
 2 Section 14.3.5, Impacts AG-3 and AG-4. Effects on agricultural economics would include effects on
 3 crop production and agricultural investments resulting from restoration actions on agricultural
 4 lands. The effects would be similar in kind to those described for lands converted due to
 5 construction and operation of the conveyance features and facilities. The total acreage and crop mix
 6 of agricultural land potentially affected is not specified at this time, but when required, the project
 7 proponents would provide compensation to property owners for economic losses due to
 8 implementation of an action alternative. The magnitude of these effects would be smaller under
 9 Alternatives 4A, 2D, and 5A because the magnitude of habitat restoration and enhancement actions
 10 would be considerably smaller than under the other action alternatives.

11 **NEPA Effects:** Because implementation of CM2–CM21, or of Environmental Commitments under
 12 Alternatives 4A, 2D, and 5A, along with similar activities not associated with the action alternatives,
 13 would be anticipated to lead to reductions in crop acreage and in the value of agricultural
 14 production in the Delta region, this is considered an adverse cumulative effect. Mitigation Measure
 15 AG-1, described in Chapter 14, *Agricultural Resources*, Section 14.3.3.2, Impact AG-1, would be
 16 available to reduce Project-related effects by preserving agricultural productivity and compensating
 17 off-site.

18 **CEQA Conclusion:** Implementation of CM2–CM21, or of Environmental Commitments under
 19 Alternatives 4A, 2D, and 5A, would reduce the total value of agricultural production in the Delta
 20 region. The permanent removal of agricultural land from production is addressed in Chapter 14,
 21 *Agricultural Resources*, Section 14.3.5, Impacts AG-3 and AG-4. The reduction in the value of
 22 agricultural production is not considered an environmental impact. Significant environmental
 23 impacts would only result if the changes in regional economics cause physical impacts. Such effects
 24 are discussed in other chapters throughout this EIR/EIS. When required, the project proponents
 25 would provide compensation to property owners for economic losses due to implementation of an
 26 action alternative. While the compensation to property owners would reduce the severity of
 27 economic effects related to the loss of agricultural land, it would not constitute mitigation for any
 28 related physical impact. Measures to reduce these impacts are discussed in Chapter 14, Section
 29 14.3.3.2, Impact AG-1.

30 **Impact ECON-19: Socioeconomic Effects in the South-of-Delta Hydrologic Regions**

31 **Alternatives 1A through 5A**

32 **NEPA Effects:** The cumulative socioeconomic effects associated with the implementation of the
 33 projects, programs, and policies summarized in Table 16-69, along with operation of Alternatives
 34 1A, 1B, 1C, 2A, 2B, 2C, 2D, 3, 4, 4A, 5 and 5A could result in adverse and beneficial effects on
 35 socioeconomics in the hydrologic regions. Programs and policies that would present barriers to
 36 continued growth could limit the potential for economic and employment growth while those that
 37 would reduce water deliveries or increase regulatory burdens for agricultural operations could
 38 result in decreased production and a decline in related employment. Generally, changes in deliveries
 39 to hydrologic regions, whether created by Project-related activities or other projects, programs, or
 40 policies could result in beneficial and adverse socioeconomic effects in communities throughout the
 41 hydrologic regions. Alternatives 1A through 5A would be anticipated to generally contribute to an
 42 increase in total SWP and CVP deliveries. In hydrologic regions where water deliveries are predicted
 43 to increase when compared with the No Action Alternative, more stable agricultural activities could
 44 support employment and economic production associated with agriculture. Such changes to

1 agricultural production and population growth with its associated economic activity could also lead
2 to shifts in the character of communities in the hydrologic regions with resultant beneficial or
3 adverse effects. Likewise, growth associated with deliveries could require additional expenditures
4 for local governments while also supporting increases in revenue. Please refer to Chapter 30, *Growth*
5 *Inducement and Other Indirect Effects*, Section 30.3.2, for additional discussion.

6 **CEQA Conclusion:** Operation of water conveyance facilities under Alternatives 1A through 5A, along
7 with socioeconomic effects from other projects, programs, and policies, could affect socioeconomic
8 conditions in the hydrologic regions receiving water from the SWP and CVP. However, because these
9 cumulative impacts are social and economic in nature, rather than physical, they are not considered
10 environmental impacts under CEQA. To the extent that changes in socioeconomic conditions in the
11 hydrologic regions would lead to physical impacts, such impacts are described in Chapter 30,
12 *Growth Inducement and Other Indirect Effects*, Section 30.3.2.

13 **Alternatives 6A through 9**

14 **NEPA Effects:** The cumulative socioeconomic effects associated with the implementation of the
15 projects, programs, and policies summarized in Table 16-69, along with operation of Alternatives
16 6A, 6B, 6C, 7, 8, and 9 could result in adverse and beneficial effects on socioeconomics in the
17 hydrologic regions. Programs and policies that would present barriers to continued growth could
18 limit the potential for economic and employment growth while those that would reduce water
19 deliveries or increase regulatory burdens for agricultural operations could result in decreased
20 production and a decline in related employment. Generally, changes in deliveries to hydrologic
21 regions, whether created by Project-related activities or other projects, programs, or polices could
22 result in beneficial or adverse socioeconomic effects in communities throughout the hydrologic
23 regions. These action alternatives would generally be anticipated to contribute to a decrease in total
24 SWP and CVP deliveries. Reduced or less reliable water deliveries would result in decreased
25 agricultural production and, in turn, a reduction in both direct and indirect agricultural employment.
26 Economic and social patterns tied to predominant agricultural industrial activities and land uses
27 could erode, changing the character of agricultural communities in hydrologic regions. If M&I
28 deliveries were reduced to the extent that it would, in the long run, constrain population growth in
29 certain hydrologic regions, implementation of these action alternatives, along with other projects,
30 programs, and policies, could reinforce a socioeconomic status quo or limit potential economic and
31 employment growth in hydrologic regions. Changes to agricultural production and population
32 growth with its associated economic activity could also lead to shifts in the character of
33 communities in the hydrologic regions with resultant beneficial or adverse effects. Likewise, limited
34 growth associated with reduced deliveries could require lower expenditures for local governments
35 while also leading to reduced revenue.

36 **CEQA Conclusion:** Operation of water conveyance facilities under Alternatives 6A through 9, along
37 with socioeconomic effects from other projects, programs, and policies, could affect socioeconomic
38 conditions in the hydrologic regions receiving water from the SWP and CVP. However, because these
39 cumulative impacts are social and economic in nature, rather than physical, they are not considered
40 environmental impacts under CEQA. To the extent that changes in socioeconomic conditions in the
41 hydrologic regions would lead to physical impacts, such impacts are described in Chapter 30,
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