Section 7
Agriculture and Forestry Resources

This section addresses agriculture and forestry resources in the study area and the potential changes that could occur as a result of implementing the Delta Plan and the project alternatives. It describes the environmental setting, environmental impacts, and proposed mitigation measures. Certain topics discussed in this section, such as land cover, overlap with topics discussed in other sections of this environmental impact report (EIR); for additional information, see Section 16, Population and Housing; Section 6, Land Use and Planning; and Section 3, Water Resources.

The Delta Plan (the Proposed Project) does not propose implementation of any particular physical project; rather, it seeks to influence, either through limited policy regulation or through recommendations, other agencies to take certain actions that will lead to achieving the dual goals of Delta ecosystem protection and water supply reliability. Those actions, if taken, could lead to physical changes in the environment. This is described in more detail in part 2.1 of Section 2A, Proposed Project and Alternatives, and in Section 2B, Introduction to Resource Sections.

Projects that could directly impact farmlands, forestlands, or timber production zones (TPZ) are those that would convert land presently designated for and/or containing these uses or lead to other actions that result in such conversion. For example, projects that require a change in land use from agriculture or forestland or that propose activities that are not permitted under an adopted plan or in an agricultural land or forestland zone could result in permanent loss of farmland and forest resources. Construction- and operations-related impacts on agriculture and forestry resources could be significant, depending on various project- and site-specific factors that are presently undefined. This section identifies mitigation that could be considered by lead agencies to develop specific mitigation measures for future projects involving agriculture and forestry resources. The mitigation may reduce impacts to a less than significant level; however, depending on the specific characteristics of the project and the environment, not all mitigation measures identified would mitigate impacts to a less-than-significant level.

7.1 Study Area

The agricultural and forestry resources study area consists of the Delta and Suisun Marsh (Delta), Delta watershed, and areas outside the Delta that use water from the Delta (Figure 1-1). The Delta encompasses 737,370 acres and consists of the Primary Zone of the Delta (490,050 acres) and the Secondary Zone of the Delta (247,320 acres) (Figure 1-2). The Primary Zone includes portions of Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. Unincorporated towns in the Primary Zone include Clarksburg, Courtland, Hood, Locke, Ryde, and Walnut Grove. The Secondary Zone of the Delta consists of the land and water area within the boundaries of the Delta that is not included in the Primary Zone. The unincorporated areas of the Secondary Zone encompass portions of Alameda, Contra Costa, Sacramento,

San Joaquin, Solano, and Yolo counties and the communities of Freeport, Bethel Island, and Discovery Bay. Isleton and portions of the cities of Antioch, Brentwood, Elk Grove, Lathrop, Manteca, Oakley, Pittsburg, Rio Vista, Sacramento, Stockton, Tracy, and West Sacramento are located inside the Secondary Zone.[1]

The Suisun Marsh totals 106,570 acres in Solano County and overlaps with the boundary of the Delta by approximately 4,300 acres. Throughout this section, all discussions of the Delta Primary Zone, Delta Secondary Zone, or Suisun Marsh refer to the total agricultural acreages within the boundaries of each of these areas, respectively. References to the Delta and Suisun Marsh in this EIR are noted and account for the total area (i.e., 839,640 acres).[2] Tables throughout this section include agricultural and forestry acreages for Delta Primary Zone, Delta Secondary Zone, Delta (i.e., sum of Primary Zone and Secondary Zone), Suisun Marsh, and total primary planning area (Delta and Suisun Marsh).

The Delta watershed includes about 28,372,800 acres, exclusive of the Delta and Suisun Marsh. The Delta watershed includes the watersheds of the Sacramento, Cosumnes, Mokelumne, Calaveras, and San Joaquin rivers.

Water from the Delta watershed is used in and outside of the Delta and Delta watershed, including approximately 24,120,900 acres of agricultural and urban lands outside the Delta watershed in the San Francisco Bay Area, southern San Joaquin Valley, central coast, and Southern California.

As described in Section 2A, Proposed Project and Alternatives, projects of various types (e.g., water reliability, water quality, ecosystem restoration, flood control) could be constructed, modified, or reoperated, and other actions undertaken, in the Delta, Delta watershed, or areas located outside the Delta that use Delta water. It is unclear where actions would be located; therefore, the analysis provides a general discussion of impacts by general area. The Delta Plan policies and recommendations will have a greater impact within the Delta than elsewhere. As a result, the analysis has a greater focus on the Delta than on areas outside the Delta.

7.2 Regulatory Framework

Appendix D provides an overview of the federal and State plans, policies, and regulations relating to the land use and planning within the study area, including the Delta Protection Commission's Land Use and Resource Management Plan for the Primary Zone of the Delta and the Bay Conservation and Development Commission's San Francisco Bay Plan.

7.3 Environmental Setting

This section describes the agricultural and forestry resources setting of the Delta, Suisun Marsh, Delta watershed, and areas outside the Delta that use Delta water. It describes existing agricultural and forestry resources in the Delta and Suisun Marsh and, to a lesser extent, in the Delta watershed and areas outside the Delta that use Delta water.

[1] About 1 percent of Delta land is in Alameda County, all of which is in the Secondary Zone. This area is a small portion of total Delta acreage and contains no cities or communities. Alameda County is therefore not discussed separately in this section.

[2] 737,370 acres (Delta) + 106,570 acres (Suisun Marsh) – 4,300 acres (overlap) = 839,640 acres.

7.3.1 Major Sources of Information

Information for this section was compiled from existing published documents, including city and county general plans and land management plans. Data for the local and regional setting were compiled from publicly available data sets published by State and federal agencies, such as California Department of Conservation (DOC), California Department of Water Resources (DWR), and the U.S. Forest Service (USFS). Additional sources of information are listed in the references section.

7.3.2 Delta and Suisun Marsh

Table 6-3 and Figure 6-8 in Section 6, Land Use and Planning, identify the following four major categories of land cover in the Delta and Suisun Marsh: agriculture, natural habitat, developed and water. The acreages of developed areas are based on existing land cover. Because of inherent rounding and mapping discrepancies, the totals shown do not equal the actual total area for the Delta and Suisun Marsh.

7.3.2.1 Agriculture

7.3.2.1.1 Agricultural Land Use

Farmland Categories and Acreage

The Farmland Mapping and Monitoring Program (FMMP), which is administered by the DOC Division of Land Protection, provides a consistent data source to analyze the distribution of farmland and long-term urbanization trends based on soil type and the availability of water. Unlike existing land cover maps (Figure 6-8 and Table 6-3), FMMP data do not illustrate areas of active agriculture but can be used to analyze the potential for agricultural production. Acreages in the Delta and Suisun Marsh based on 2008 FMMP data are presented in Table 7-1. FMMP data cover the entire Delta and Suisun Marsh, and the acreages represent the total land area. The FMMP data classifies farmland into the following categories:

- Prime Farmland—Land that has the best combination of features for producing agricultural crops. Prime Farmland must have been used for production of irrigated crops at some time during the 4 years prior to the FMMP's mapping date.
- Farmland of Statewide Importance—Land, other than Prime Farmland, with a good combination of physical and chemical characteristics for producing crops. Farmland of Statewide Importance must have been used for production of irrigated crops at some time during the 4 years prior to the mapping date.
- Unique Farmland—Land that has been used to produce specific crops with high economic value but does not meet the criteria for Prime Farmland or Farmland of Statewide Importance. These lands usually are irrigated, but may include nonirrigated orchards or vineyards found in some climatic zones. Unique Farmland must have been used for crops at some time during the 4 years prior to the mapping date.

More complete information on FMMP definitions appears in Appendix G of this EIR.

Table 7-1
Farmland in the Delta and Suisun Marsh

	Delta									
	Primary Zone		Secondary Zone		Total		Suisun Marsh		Delta and Suisun Marsh Total	
Category	**Acres**	**Percent**	**Acres**	**Percent**	**Acres**	**Percent**	**Acres**	**Percent**	**Acres**	**Percent**
Agricultural Land (California Public Resources Code sections 21060.1 and 21095)										
Prime Farmland	304,800	62	95,620	38	400,420	54	560	1	400,980	48
Farmland of Statewide Importance	18,400	4	15,740	6	34,140	5	180	0	34,320	4
Unique Farmland	19,550	4	10,240	4	29,790	4	120	0	29,920	4
Subtotal	*342,750*	–	*121,610*	–	*464,360*	–	*850*	–	*465,220*	–
Other Farmland and Developed Land										
Farmland of Local Importance	21,170	4	16,320	7	37,490	5	0	0	37,490	4
Grazing Land	28,960	6	8,130	3	37,090	5	19,910	19	55,630	7
Urban and Built-Up Land	3,580	1	72,980	30	76,560	10	540	0	77,030	9
Other Land	40,710	8	22,680	9	63,390	9	60,630	57	122,260	15
Water	52,840	11	5,620	2	58,450	8	24,640	23	81,990	10
Subtotal	*147,260*	–	*125,710*	–	*272,970*	–	*105,720*	–	*374,400*	–
Total*	**490,000**	**100**	**247,320**	**100**	**737,320**	**100**	**106,570**	**100**	**839,610**	**100**

Source: DOC 2009

*Totals may vary from total area in Primary Zone, Secondary Zone, and Suisun Marsh because of rounding and mapping discrepancies.

Approximately two-thirds of the Delta and Suisun Marsh is made up of land with physical and chemical characteristics favorable to agriculture and a reliable irrigation water supply that allows for or currently produces crops (Figure 7-1). In particular, Delta peat soils make the region one of the most fertile agricultural areas in California. Approximately 4748 percent of the Delta and Suisun Marsh is Prime Farmland. Prime Farmland is distributed throughout the Delta, with more than 300,000 acres in the Primary Zone. Only 7 percent of the Delta and Suisun Marsh is Grazing Land. Much of the grazing land is located in the Suisun Marsh and northern Delta. The Suisun Marsh is mostly composed of other lands and grazing lands.

Agricultural land use changes in the Delta can be analyzed by tracking the historical designation of agricultural land in the Delta and Suisun Marsh over time. In 1984, approximately 564,160 acres of agricultural land were located in the Delta and Suisun Marsh. In 1994, just before the Delta Protection Commission's *Land Use and Resources Management Plan* was implemented, the extent of agricultural land was approximately 537,442 acres. In 2008, the extent of agricultural land was approximately 503,920 acres. Between 1984 and 1994, approximately 26,718 acres of agricultural land were lost. Between 1995 and 2008, the extent of agricultural land declined by approximately 33,522 acres.

The total acreage of agricultural lands in the Delta and Suisun Marsh declined by 5 percent from 1984 to 1996 and by 6 percent from 1994 to 2008. Urban uses made up 7 percent of the Delta and Suisun Marsh land area in 1984, increasing to about 8 percent in 1995 and 10 percent in 2008.

Figure 7-2 illustrates how land use patterns have changed over time. As shown, the amount of urban land on the periphery of the Delta near Oakley, Brentwood, Tracy, and Lathrop increased noticeably from 1984 to 2008. These figures clearly show an increase in the acreage for urban land uses (primarily outside of the Primary Zone and adjacent to the Delta or Suisun Marsh) and a corresponding decrease in agricultural lands.

Williamson Act

Much of the farmland in the Delta is enrolled in the Williamson Act Program. In 2009, approximately 411,600 acres of land (49 percent of the total Delta and Suisun Marsh) were under Williamson Act contracts in the Delta and Suisun Marsh (Table 7-2). Over 75 percent of this land is located in the Primary Zone. In addition, there are over 32,000 acres of Farmland Security Zone (FSZ) lands in the Delta. An FSZ is an area created within an agricultural preserve by a board of supervisors (board) upon request by a landowner or group of landowners. An agricultural preserve defines the boundary of an area within which a city or county will enter into Williamson Act contracts with landowners. The boundary is designated by resolution of the board or city council having jurisdiction. Agricultural preserves must generally be at least 100 acres in size. There are no FSZ lands located in the Suisun Marsh. Williamson Act and FSZ lands are shown in Figure 7-3.

7.3.2.1.2 Agricultural Production

Delta agricultural land uses that support a variety of crops, including grains, fruits, field crops, nuts, seeds, alfalfa, and vegetables. Other agricultural uses include dairies, livestock grazing, agricultural industrial uses, agricultural commercial uses, and farm-based tourism (e.g., hunting, fishing, wildlife study, educational experiences, festivals, tours, wine-tasting rooms, inns, and "pick-your-own" operations). Agricultural land uses in Suisun Marsh are mainly grazing lands with limited farmlands that support a much smaller variety of crops and agricultural uses.

Figure 7-1
Delta and Suisun Marsh Farmland in 2008
Source: DOC 2008

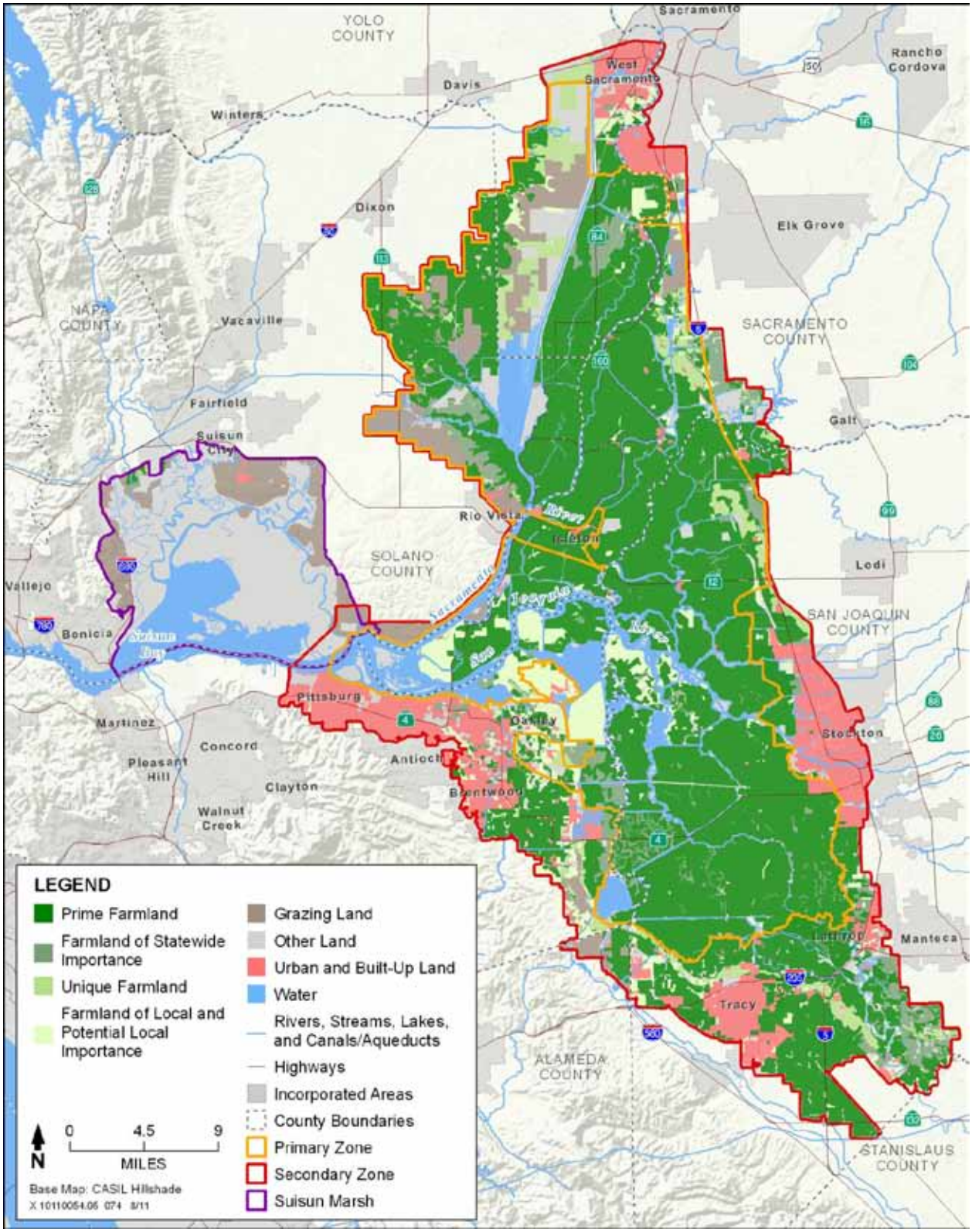


Figure 7-2
Change in Delta and Suisun Marsh Farmland between 1984 and 2008
Sources: DOC 1984; DOC 1988; DOC 1990; and DOC 2008; adapted by AECOM in 2010

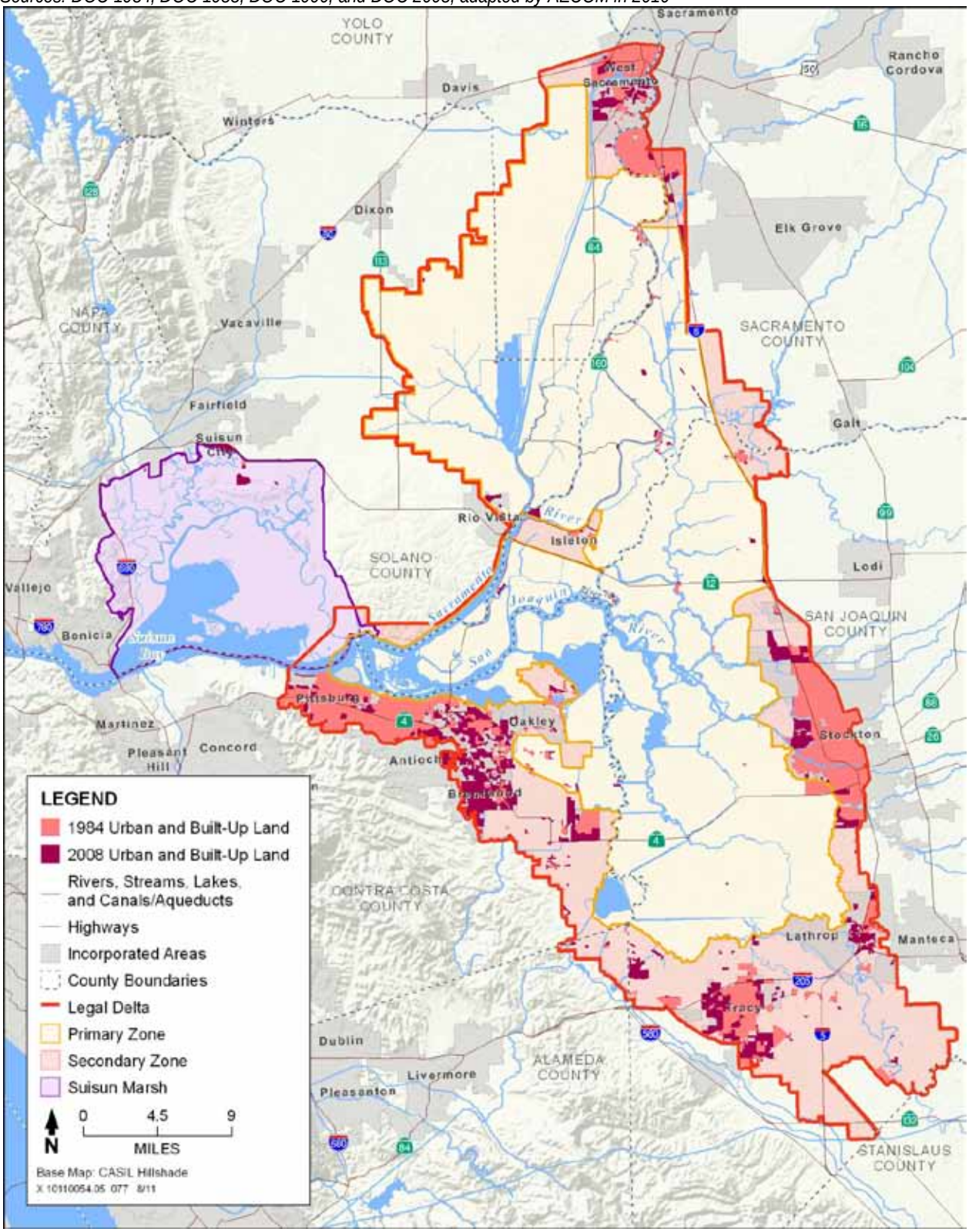


Table 7-2
Williamson Act Program Land in the Delta and Suisun Marsh in 2009

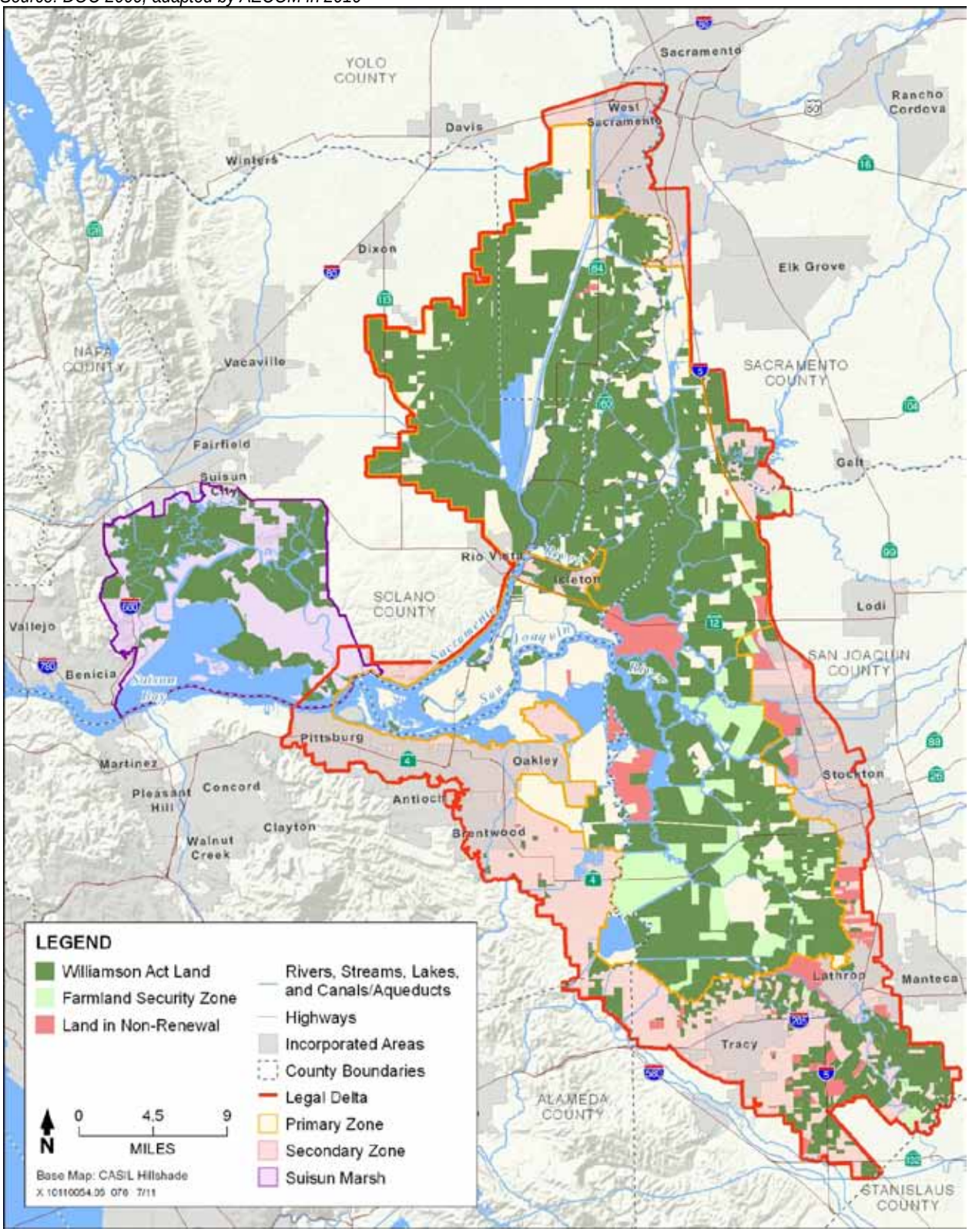
	Delta									
	Primary Zone		Secondary Zone		Total		Suisun Marsh		Delta and Suisun Marsh Total	
Category	**Acres**	**Percent***	**Acres**	**Percent***	**Acres**	**Percent***	**Acres**	**Percent***	**Acres**	**Percent***
Williamson Act Land	265,910	54	43,180	17	309,090	42	45,630	43	351,020	42
Land in Nonrenewal	13,860	3	11,690	5	25,550	3	0	0	25,550	3
Farmland Security Zone (FSZ)	29,500	6	2,530	1	32,030	4	0	0	32,030	4
Total	**309,270**	**63**	**57,400**	**23**	**366,680**	**50**	**45,630**	**43**	**411,600**	**49**

* Percent of total acreage in Primary Zone, Secondary Zone, Suisun Marsh, or Delta and Suisun Marsh Total, respectively.

Source: DOC 2009; adapted by AECOM in 2010

1

Figure 7-3
Williamson Act Farmland in the Delta and Suisun Marsh
Source: DOC 2009; adapted by AECOM in 2010



Crop Types

According to recent county agricultural commissioners' annual crop reports, more than 90 plant and animal products are produced by one or more of the Delta's five counties (Trott 2007). Common crop types include corn, alfalfa, grain and hay, rice, tomatoes, asparagus, grapes, sugar beets, pears, walnuts, almonds, apples, apricots, sunflowers, cherries, peaches, and nectarines. Livestock production in the Delta includes feed lots, dairies, and poultry farms.

Crop locations change based on rotation schedules, crop values, weather, and other factors. Over the past 25 years, the Delta has seen a significant shift to higher-value permanent crops, such as fruit trees, nuts, and vineyards (DWR 2007). As discussed in Section 4, Biological Resources, permanent planting such as orchards (4 percent) and vineyards (6 percent) made up around 10 percent of the total agricultural acres. The rest consisted of crop types (e.g., alfalfa, irrigated pasture, and other cultivated crops) that can be rotated on a regular basis. Rice (1 percent of agricultural land) is located primarily in the Yolo Bypass and eastern edge of the Delta near Stockton and Lodi.

7.3.2.2 Forest Resources

7.3.2.2.1 Forestland and Timber Resources

Both forestland and timberland resources provide a range of public, economic, and environmental benefits for the State and are managed as a valuable natural resource. California law defines forestland as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits" (Public Resources Code section 12220[g]). Timberland (i.e., nonfederally held timber resources) is a subset of forestland or forest resources based on its economic or production value. State law defines timberland as "land, other than land owned by the federal government and land designated as experimental forestland, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees" (Public Resources Code section 4526). The criterion used by USFS to determine whether forestland qualifies as timberland is whether the land is capable of growing 20 cubic feet or more of industrial wood per acre per year (CAL FIRE 2003).

USFS provides estimates for forestland acres and timberland acres by county; however, these data cannot be used to describe the specific location of forestlands on the ground in the Delta or Suisun Marsh; the data can be used only for the entire county. USFS's 2001 to 2009 estimates for the five Delta counties (Table 7-3) indicate that approximately 44,530 acres of private timberland, one-half of which is composed of western oaks, are located in the five Delta counties. Timberland represents about one-one-quarter of forestland in the five Delta counties. Federal, State, and local governments hold approximately 16 percent of total forestland resources. Western oaks make up approximately 75 percent of nontimberland forest resources, making them the most abundant forest type in the five Delta counties.

The California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) defines California's forestlands as those lands that have at least 10 percent cover of live trees as interpreted from satellite imagery. FRAP estimates vary from USFS forestland estimates. The FRAP definition of "forestland" includes not only conifer and hardwood forests but also considerable areas of woodlands, although chaparral and shrublands are excluded. FRAP has estimated forestland based solely on the 10-percent cover rule. USFS includes forestlands that were stocked (commercial plantings) in the past in its estimates (CAL FIRE 2003). FRAP data are combined and available in the California Wildlife Habitat Relationship System database. FRAP estimates a total of 3,288 acres of hardwood habitats in the Delta and Suisun Marsh.

Table 7-3
Estimated Forest Resources for Sacramento, Yolo, Solano, San Joaquin, and Contra Costa Counties

	Ownership			
Forest-type Group	**Federal**	**State and Local Government**	**Private**	**Total**
Timberland				
Elm/ash/cottonwood group	–	–	20,487	20,487
Western oak group	–	–	23,960	23,960
Exotic hardwoods group	–	–	84[a]	84[a]
Subtotal timberland	–	–	44,530	44,530
Other Forestland				
Pinyon/juniper group	6,249	–	–	6,249
Western oak group	–	21,342	85,870	107,212
Tanoak/laurel group	–	–	7,798	7,798
Nonstocked	–	–	6,085	6,085
Subtotal other forestland	6,249	21,342	93,753	127,344
Total	**6,249**	**21,342**	**144,283**	**171,875**

Source: USFS 2011

As described in greater detail in Section 4, Biological Resources, there are between 9,000 and 10,000 acres of wooded riparian habitat in the Delta. Riparian woodlands are considered forestland since they are not harvested commercially, at least legally. These areas typically are found as long, linear patches separating other terrestrial biological communities from agricultural or urban land or as low-lying, flood-prone patches near river bends, canals, or breached levees. They can be located along major waterways, drainage channels, pond margins, and oxbows and in abandoned, low-lying fields.

Before the 1800s, riparian forests were common along wide, natural river levees and in well-drained flood sediments (DWR and CCC 2008, p. 3.4-14). However, old-growth stands of riparian forest have nearly vanished as a functional part of the Delta ecosystem. Some examples exist on larger channel islands and at The Nature Conservancy's Cosumnes River Preserve (DWR and CCC 2008, p. 3.4-14). In some areas, naturally recruited "second-growth" woodlands composed of walnuts grow along narrow levees and provide important riparian woodland habitat (DWR and CCC 2008, p. 3.4-14).

7.3.2.2.2 Timber Production Zones

Based on the Forest Practices Act and the Z'berg-Warren-Keene-Collier Forest Taxation Reform Act of 1976, TPZs were established to preserve and protect timberland from conversion to other uses and avoid land use conflicts. TPZs were established in 1976 on lands for which timber production and accessory uses would be the highest and best use. The Timberland Productivity Act of 1982 later formalized the State's policy in favor of sustainable harvest, focusing on the long-term availability of timber resources. Lands zoned as TPZs must be maintained for timber production for 10 years following the zoning declaration; after 10 years, the TPZ status automatically renews each year. If a property owner petitions to have his or her land rezoned out of TPZ, the land may be required to remain in TPZ for 1 year after the rezoning declaration is made. The minimum parcel size for TPZ zoning is 160 acres, although smaller parcels may be zoned TPZ if they are covered by a joint timber management plan.

As discussed previously, commercially viable timberland is a subset of forestlands. According to a FRAP study, none of the five Delta counties had land zoned TPZ in 2000 to 2001 (CAL FIRE 2002, p. 5). In contrast, California has 5.4 million acres of TPZ land, much of which is located in the counties that have land in the Delta watershed and areas outside the Delta that use Delta water (CAL FIRE 2002, p. 5).

7.3.3 Delta Watershed

The following discussion describes major agriculture and forestry resources in the Delta watershed area. The Delta watershed extends across a broad area encompassing about 28,372,800 acres that covers approximately 27 percent of the land in the state. The patterns of land cover for agriculture, developed areas, natural habitat or open space, and water in the Delta watershed and areas outside the Delta that use Delta water are presented in Figure 6-11. This description of land cover is based on an analysis of satellite imagery verified by field data and, although similar, is not the same as existing land use. As shown, agriculture covers about 16 percent of the area.

7.3.3.1 Agriculture

As shown in Table 7-4, there are more than 2 million acres of Prime Farmland in the Delta watershed area. These lands are part of the Central Valley, which includes lands in 19 counties and stretches for 450 miles. Agriculture in the Central Valley produces 57 percent of California's agricultural products (Great Valley Center 2011) and, as shown in Figure 7-4, comprises a contiguous stretch of farmland in the core of the state. Outside of the Central Valley, land is mostly urban, built up, or other not suitable for farming.

Table 7-4
Farmland in the Delta Watershed

Category	Acres	Percent
Agricultural Land (California Public Resources Code sections 21060.1 and 21095)		
Prime Farmland	2,104,400	7
Farmland of Statewide Importance	775,500	3
Unique Farmland	742,000	3
Subtotal	*3,622,000*	*13*
Other Farmland and Developed Land		
Farmland of Local Importance	1,003,400	4
Grazing Land	6,707,800	24
Urban and Built-Up Land	716,700	3
Other Land	3,155,700	11
Water	191,400	1
Not Mapped	12,975,800	46
Subtotal	*24,750,800*	*87*
Total*	**28,372,800**	**100**

Source: DOC 2009

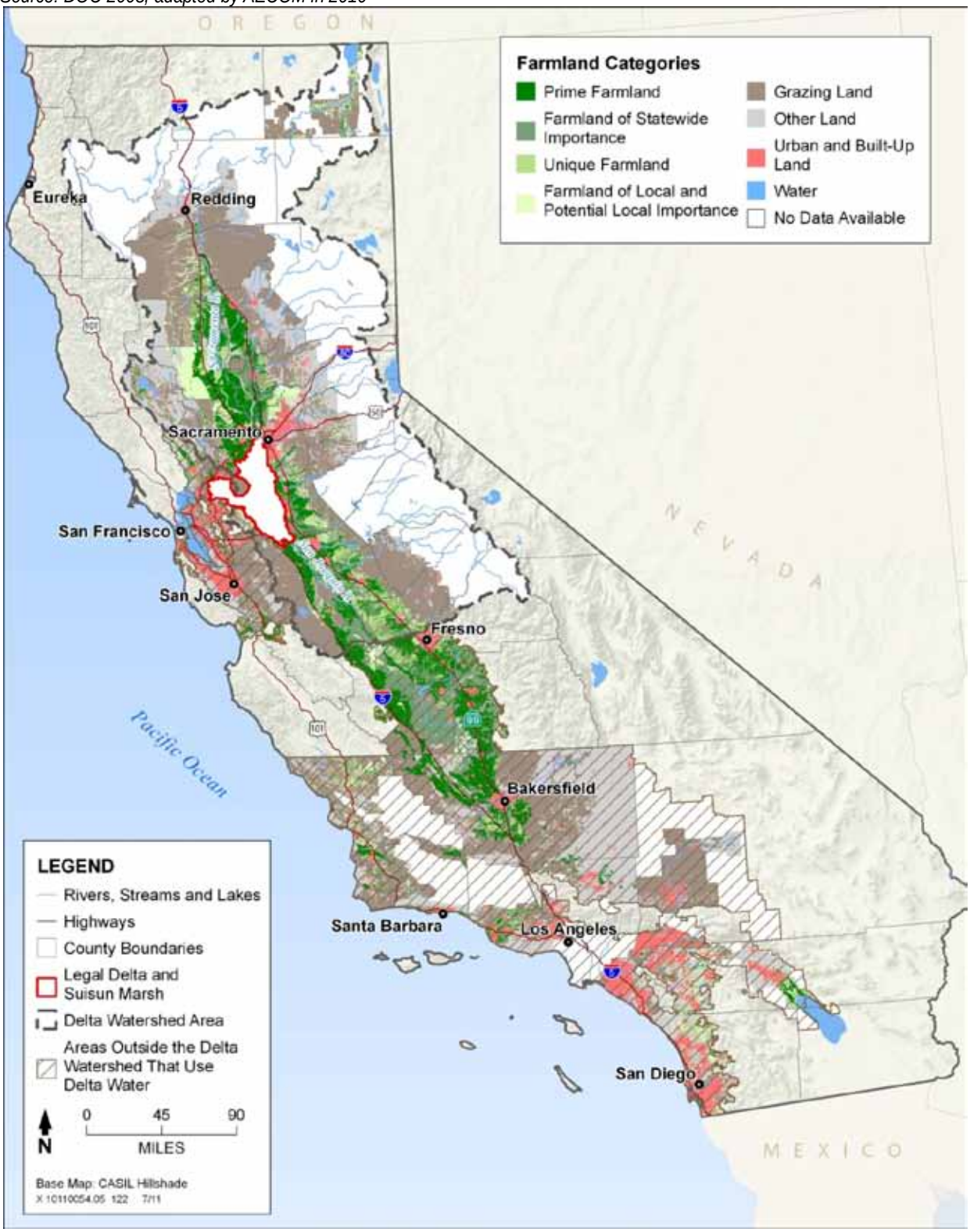
* Totals may vary from total area of Delta watershed because of rounding and mapping discrepancies.

7.3.3.1.1 Agricultural Land Use

Farmland Categories and Acreage

FMMP data are not available for several counties in the Delta watershed (i.e., Alpine, Humboldt, Lassen, Plumas, Sierra, Trinity, and Tuolumne), which results in data for only 54 percent of the Delta watershed area. However, general patterns of farmland distribution can be drawn from the available data.

Figure 7-4
Farmland in the Delta Watershed and Areas Outside the Delta That Use Delta Water
Source: DOC 2008; adapted by AECOM in 2010



Acreage in the Delta watershed area based on 2008 FMMP data is presented in Table 7-4. Approximately 16 percent of the Delta watershed area is made up of land with physical and chemical characteristics favorable to agriculture. Figure 7-4 shows the farmland in the Delta watershed and areas outside the Delta that use Delta water.

Williamson Act

About one-fifth of the farmlands in the Delta watershed are enrolled in the Williamson Act Program. Williamson Act and FSZ lands are shown in Figure 7-5 and described in Table 7-5.

Table 7-5
Williamson Act Land in the Delta Watershed in 2009

Category	Acres	Percent
Williamson Act Land	5,374,200	19
Land in nonrenewal	182,000	1
Farmland Security Zone	265,900	1
Total	**5,822,000**	**21**

Source: DOC 2009; adapted by AECOM in 2010

7.3.3.1.2 Agricultural Production

Agricultural land uses in the Delta watershed include farmlands that support a variety of crops. Based on gross value, export value, and gross acreage, some of the top crops and agricultural use in the Delta are asparagus, tomatoes, corn, wine and table grapes, alfalfa, grains, safflower, pastureland, dairy products and nuts. Agricultural industrial uses, agricultural commercial uses, and farm-based tourism (e.g., hunting, fishing, wildlife study, educational experiences, festivals, tours, wine-tasting rooms, inns, and "pick-your-own" operations) also represent substantial land uses in the Delta.

Crop Types

Common crop types include corn, alfalfa, grain and hay, rice, tomatoes, asparagus, grapes, sugar beets, pears, walnuts, almonds, apples, apricots, sunflowers, cherries, peaches, and nectarines. Livestock production in the Delta watershed includes feed lots, dairies, and poultry farms.

7.3.3.2 Forest Resources

7.3.3.2.1 Forestland and Timber Resources

Forest vegetation types, including mixed conifer forest, montane hardwood, and oak woodland, cover about 14.8 million acres of the Delta watershed, about 52 percent of the total land coverage in this area (CAL FIRE 2006).

7.3.3.2.2 Timber Production Zones

California has 5.4 million acres of land in TPZs. With the exception of about 146,000 acres in Del Norte County, all of this TPZ land is found in counties located either in the Delta watershed or in areas that use Delta water.

7.3.4 Areas Outside the Delta That Use Delta Water

The following discussion describes major agriculture and forestry resources in the areas outside the Delta that receive Delta water.

Figure 7-5
Williamson Act Land in the Delta Watershed and Areas Outside the Delta That Use Delta Water
Source: DOC 2009; adapted by AECOM in 2010

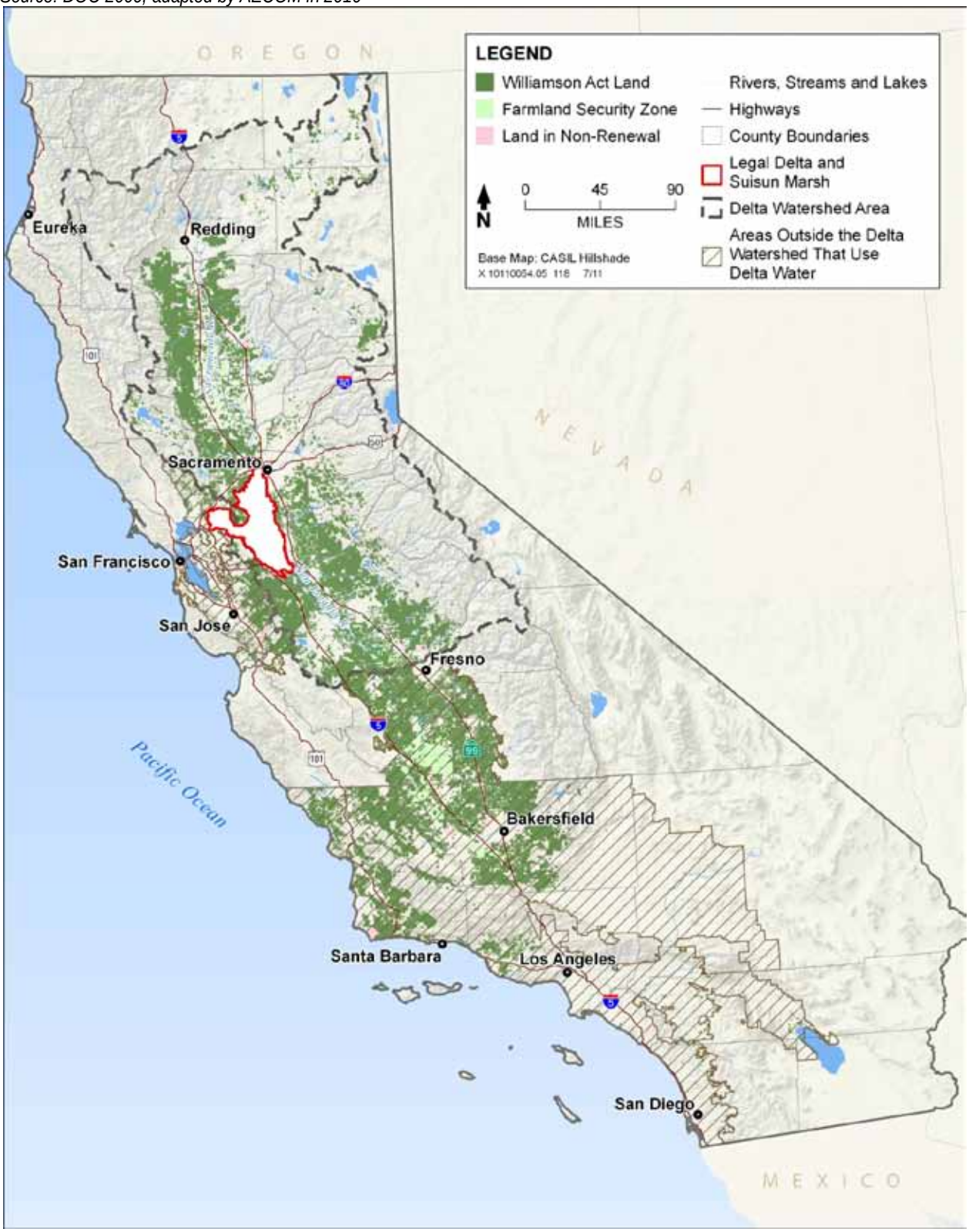


Figure 6-11 shows the patterns of land cover for agriculture, developed areas, natural habitat or open space, and water in the areas outside the Delta that use Delta water. This description of land cover is based on an analysis of satellite imagery verified by field data and, although similar, is not the same as existing land use. As shown, agricultural lands account for approximately 21 percent of the areas outside the Delta that use Delta water.

7.3.4.1 Agriculture

As shown in Table 7-6, there are more than 2 million acres of Prime Farmland in the areas outside the Delta that use Delta water. These lands are part of the Central Valley, which includes lands in 19 counties and stretches for 450 miles. Agriculture in the Central Valley produces 57 percent of California's agricultural products (Great Valley Center 2011) and, as shown in Figure 7-4, comprises a contiguous stretch of farmland in the core of the state. Outside of the Central Valley, land is mostly urban, built up, or not suitable for farming.

Table 7-6
Farmland in Areas Outside the Delta That Use Delta Water

Category	Acres	Percent
Agricultural Land (California Public Resources Code sections 21060.1 and 21095)		
Prime Farmland	2,125,100	9
Farmland of Statewide Importance	1,377,600	6
Unique Farmland	438,300	2
Subtotal	*3,941,100*	*16*
Other Farmland and Developed Land		
Farmland of Local Importance	544,300	2
Grazing Land	5,690,400	24
Urban and Built-Up Land	2,580,600	11
Other Land	5,791,500	24
Water	156,900	1
Not Mapped	5,416,200	22
Subtotal	*20,179,900*	*84*
Total*	**24,121,000**	**100**

Source: DOC 2009
*Totals may vary from total area of Delta watershed because of rounding and mapping discrepancies.

7.3.4.1.1 Agricultural Land Use

Farmland Categories and Acreage

FMMP data are not available for several counties in the areas outside the Delta that use Delta water (i.e., San Francisco County), which results in data for only 67 percent of the areas outside the Delta that use Delta water. However, general patterns of farmland distribution can be drawn from the available data.

Acreage in the areas outside the Delta that use Delta water based on 2008 FMMP data is presented in Table 7-6. Approximately 16 percent of the Delta watershed area is made up of land with physical and chemical characteristics favorable to agriculture. Figure 7-4 shows the farmland in the Delta watershed and areas outside the Delta that use Delta water.

Williamson Act

About one-quarter of the farmlands in the areas outside the Delta that use Delta water are enrolled in the Williamson Act program. Williamson Act and FSZ lands are shown in Figure 7-5 and described in Table 7-7.

Table 7-7
Williamson Act Land Outside the Delta That Used Delta Water in 2009

Category	Acres	Percent
Williamson Act Land	5,205,800	22
Land in nonrenewal	241,400	1
Farmland Security Zone	494,600	2
Total	**5,941,800**	**25**

Source: DOC 2009; adapted by AECOM in 2010

7.3.4.1.2 Agricultural Production

The broad range of agricultural production in the Delta is also reflected in the range of agricultural land uses and products in the areas outside the Delta. Within the Delta watershed, lands that rely on Delta water include farmlands that support a variety of crops, including grains, fruits, field crops, nuts, seeds, alfalfa, and vegetables. Other agricultural uses include dairies, livestock grazing, agricultural industrial uses, agricultural commercial uses, and farm-based tourism (e.g., hunting, fishing, wildlife study, educational experiences, festivals, tours, wine-tasting rooms, inns, and "pick-your-own" operations).

Crop Types

Common crop types include corn, alfalfa, grain and hay, rice, tomatoes, asparagus, grapes, sugar beets, pears, walnuts, almonds, apples, apricots, sunflowers, cherries, peaches, and nectarines. Livestock production in the Delta watershed includes feed lots, dairies, and poultry farms.

7.3.4.2 Forest Resources

7.3.4.2.1 Forestland and Timber Resources

Forest vegetation types, including mixed conifer forest, montane hardwood, and oak woodland, cover about 2.6 million acres of in areas outside the Delta that use Delta water, about 11 percent of the total land cover in these areas (CAL FIRE 2006).

7.3.4.2.2 Timber Production Zones

California has 5.4 million acres of land in TPZs. With the exception of about 146,000 acres in Del Norte County, all of this TPZ land is found in counties that are located either in the Delta watershed or in areas that use Delta water.

7.4 Impacts Analysis of Project and Alternatives

7.4.1 Assessment Methods

The Proposed Project (Delta Plan) and alternatives would not directly result in construction or operation of projects or facilities and therefore would result in no direct agriculture or forestry impacts.

The Proposed Project and alternatives could result in implementation of actions or development of projects, such as facilities or infrastructure, as described in Section 2A, Proposed Project and Alternatives. Examples of potential actions include land use changes, conversion of agricultural lands, or land fallowing. Projects may include water and wastewater treatment plants; conveyance facilities, including pumping plants; surface water or groundwater storage facilities; ecosystem restoration projects; flood control levees; or recreation facilities. Implementation of these types of actions and construction and operation of these types of facilities could result in agriculture or forestry impacts.

The precise magnitude and extent of project-specific impacts would depend on the type of action or project being evaluated, its specific location, its total size, and a variety of project- and site-specific factors that are undefined at the time of preparation of this program-level EIR. Project-specific impacts would be addressed in project-specific environmental studies conducted by the lead agency at the time the projects are proposed for approval.

At this program-level of analysis, mitigation measures have been identified for consideration by lead agencies at the time the projects are proposed for implementation. Depending upon the site-specific characteristics of the project and the environment, the mitigation measures and mitigation measures identified by the lead agencies may not be adequate to mitigate impacts to a less-than-significant level.

In this EIR, Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are collectively termed “Farmland” (California Public Resources Code sections 21060.1 and 21095), as described in Appendix D. For areas of the state where lands have not been surveyed for the classifications specified above, the term “agricultural land” is used in this EIR to mean land that meets the requirements of “prime agricultural land” as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of section 51201 of the Government Code.

The environmental analysis in this section is based on a review of FMMP maps. As part of the analysis, this EIR examines the FMMP classifications to determine the agricultural significance of lands.

7.4.2 Thresholds of Significance

Based on Appendix G of the State California Environmental Quality Act (CEQA) Guidelines, an impact related to agriculture and forestry is considered significant if the Proposed Project would do any of the following:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timber land zoned Timberland Production (as defined by Government Code section 51104(g)).

- Result in the loss of forestland or conversion of forestland to nonforest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forestland to nonforest use.

The threshold of significance listed above refers to other changes in the existing environment resulting from implementing the Proposed Project or alternatives that could indirectly result in conversion of Farmland or forestland. These indirect impacts are considered in the context of potential conversion of Farmland, potential conflicts with Williamson Act contracts that could lead to agricultural land conversion, and potential conversion of forestland for the Proposed Project or alternatives presented in the following subsections.

As individual projects are proposed, these individual projects will need to be evaluated in site-specific environmental documents prepared by the appropriate lead agencies.

7.4.3 Proposed Project

7.4.3.1 Reliable Water Supply

As described in Sections 2A and 2B, the Delta Plan does not direct the construction of specific projects, nor would projects be implemented under the direct authority of the Delta Stewardship Council. However, the Delta Plan seeks to improve water supply reliability by encouraging various actions that, if taken, could lead to completion, construction, and/or operation of projects that could provide a more reliable water supply. Such projects and their features could include the following:

- Surface water projects (water intakes, treatment and conveyance facilities, reservoirs, hydroelectric generation)
- Groundwater projects (wells, wellhead treatment, conveyance facilities)
- Ocean desalination projects (water intakes, brine outfalls, treatment and conveyance facilities)
- Recycled wastewater and stormwater projects (treatment and conveyance facilities)
- Water transfers
- Water use efficiency and conservation program implementation

The number and location of all potential projects that would be implemented are not known at this time. Three possible projects, however, are known to some degree and are named in the Delta Plan: the North of Delta Offstream Storage Investigation (aka Sites Reservoir), Los Vaqueros Reservoir Project (Phase 2), and Upper San Joaquin River Basin Storage Investigation Plan (aka Temperance Flat). DWR Bulletin 118, which is also named in the Delta Plan, presents a list of 10 recommendations for the management of groundwater but would not result in a specific project the construction or operation of which could affect agriculture or forestry resources; therefore, Bulletin 118 is not discussed further in this section.

7.4.3.1.1 Impact 7-1a: Conversion of Farmland to Nonagricultural Use

Effects of Project Construction

The Delta Plan encourages projects that would include the construction and operation of surface water and groundwater storage facilities, water intakes, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), groundwater wells, water transfers, and hydroelectric generation. Temporary effects from construction would include removal of vegetation and disturbance of soil in

facilities footprints and borrow/spoils areas. These temporary effects could become permanent where agricultural areas are cleared for buildings, facilities, paved roads and storage / staging, and other project features. These construction activities have the potential to cause permanent ground surface disturbance and affect ongoing agricultural activities. Construction of water supply projects could occur in the Delta, the Delta watershed, or areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

Construction of projects encouraged by the Delta Plan could also cause permanent landscape-scale changes at the location of new intake facilities, the forebay, borrow and spoil sites, and tunnel muck disposal areas. Construction-related activities at construction sites for surface water and groundwater storage facilities, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), groundwater and could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. Haul trucks would be used to move borrow and/or spoils and other materials. Each of these activities could potentially convert agricultural land to nonagricultural use if it occurs on or near agricultural land.

Treatment plants, surface water and groundwater storage facilities, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), and groundwater wells could be constructed throughout the Delta watershed and areas outside the Delta that use Delta water. Each of these activities could potentially convert agricultural land to nonagricultural use if it occurs on or near agricultural land.

In the Delta, potential conversion of agricultural land could occur in or near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable agricultural land protection, conversion, and mitigation requirements in the Delta would include those of these cities and counties. In the Delta watershed and areas outside the Delta that use Delta water, other local agricultural protection and mitigation requirements could also apply.

Effects of Project Operation

Projects encouraged by the Delta Plan could involve constructing storage facilities in the Delta watershed and in areas outside the Delta that use Delta water. Construction of these facilities (such as those considered under DWR's Surface Water Storage Investigation) could potentially cause a substantial conversion of agricultural land. For example, new reservoirs could permanently flood areas that currently have natural or agricultural land cover. The extent of impact would be influenced by the size of the facility footprint. Surface water storage projects in mountainous areas in the Delta watershed are less likely to significantly convert agricultural lands, but could adversely affect forestlands. (see Section 7.4.3.1.3 [Impact 7-3a] below).

Small storage reservoirs and flood control facilities, modification of existing reservoirs, regulating reservoirs, and groundwater percolation basins that might be constructed to improve water supply reliability throughout the study area would convert less agricultural land than larger facilities but could still adversely impact agricultural land locally, particularly if local these lands have specific soil conditions (such as peat soils in the Delta) that support high-value crops that cannot be readily grown elsewhere in the Delta watershed. The extent of impact would also be influenced by the size of the facility footprint.

The number and location of all potential projects that could be implemented are not known at this time. Four possible projects, however are known to some degree and are named in the Delta Plan: the North of Delta Offstream Storage Investigation (aka Sites Reservoir), Los Vaqueros Reservoir Project (Phase 2), and Upper San Joaquin River Basin Storage Investigation Plan (aka Temperance Flat). Of these named projects, the Los Vaqueros Reservoir Project has undergone project-specific environmental review (Los Vaqueros Reservoir Expansion EIS/EIR) (Reclamation et al. 2009).

The Los Vaqueros EIS/EIR provides analogous information about the impacts expected from construction of projects similar to the Los Vaqueros Project. In addition, the project-specific EIR for another surface storage project (not named in the Delta Plan)—the Calaveras Dam Replacement Project (SFPUC 2011)—provides analogous information.

Although not named in the Delta Plan, two additional projects are illustrative of the types of agriculture and forest resources impacts associated with water supply reliability projects: the Davis-Woodland Water Supply Project (City of Davis 2007), which includes a water intake in the Sacramento River, pumping plants, and conveyance and water treatment facilities, and the Lower Yuba River Accord (DWR et al. 2007), which addresses water management, including water transfers.

It is unclear at this time how implementation of the Proposed Project would result in specific activities, including the location, number, capacity, methods, and duration of construction activities and the types of facilities that would be operated. However, the Delta Plan encourages implementation of the North of Delta Offstream Storage Investigation, Los Vaqueros Reservoir Project, and Upper San Joaquin River Basin Storage Investigation Plan.

Review of these past projects provides analogous information to understand how Delta Plan–encouraged projects, for which there are no project-specific details or associated reviews, might affect agricultural resources. As these EIRs and EISs show, water reliability projects may temporarily and permanently convert farmland to nonagricultural use when the footprint of disturbance of the projects includes existing farmland. The EIRs and EISs for these projects found that the agricultural impacts associated with surface facilities were either less than significant with mitigation, because construction activities (project lay down areas, staging areas, detention ponds, borrow sites) could be restored to pre-project conditions or certain optional project elements did not require implementation to achieve the purpose of the project or significant and unavoidable because of the lack of feasible mitigation (i.e., the permanent conversion of farmland could not be replaced.

Based on these examples, it is likely that the agricultural resources impacts of projects of a similar nature encouraged by the Delta Plan could be mitigated to a less-than-significant level for short-term construction impacts, but not for more permanent conversions of farmland. For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

A detailed description of these projects is not available; however, it is possible that significant and unmitigable impacts on agricultural resources could occur for other types of projects in different settings than the projects cited above for which EIRs were prepared. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conversion of agricultural land to nonagricultural use, this potential impact is considered **significant**.

7.4.3.1.2 Impact 7-2a: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

Effects of Project Construction

The Delta Plan encourages projects that would include the construction and operation of surface water and groundwater storage facilities, water intakes, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), groundwater wells, water transfers, and hydroelectric generation Temporary effects from construction would include removal of vegetation and disturbance of soil in

facilities footprints and borrow/spoils. These temporary effects could become permanent if agricultural areas are cleared for buildings, facilities, paved roads and storage / staging, and other project features. Water supply facilities could be located in the Delta, the Delta watershed, or areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

Construction of projects encouraged by the Delta Plan could also cause permanent landscape-scale changes at the location of new intake facilities, the forebay, borrow and spoil sites, and tunnel muck disposal areas and could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. Haul trucks would be used to move borrow and/or spoils and other materials. Each of these activities could potentially be in conflict with agricultural zoning or Williamson Act contracts if water supply projects are not permitted uses under such contracts or in agricultural zones, and would remove lands from agricultural use, leading to physical impacts similar to those described in Section 7.4.3.1.1 (Impact 7-1a).

Treatment plants, surface water and groundwater storage facilities, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), and groundwater wells could be constructed throughout the Delta watershed and areas outside the Delta that use Delta water. Each of these activities could potentially conflict with Williamson Act contracts or existing zoning for agricultural use if water supply projects are not permitted uses under such contracts or in agricultural zones.

In the Delta, potential conflicts with agricultural zoning could occur near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable agricultural zoning in the Delta would include zoning adopted and enforced by these cities and counties. In the Delta watershed and areas outside the Delta that use Delta water, other local agricultural zoning regulations could also apply.

Effects of Project Operation

Projects encouraged by the Delta Plan could involve new or expanded storage facilities in the Delta watershed and in areas outside the Delta that use Delta water. Construction of these facilities (such as those considered under DWR's Surface Water Storage Investigation) could potentially conflict with agricultural zoning or Williamson Act contracts. For example, new reservoirs could permanently flood areas that currently are zoned for agricultural use or are under Williamson Act contracts, converting this land from agricultural use. Surface water storage projects in mountainous areas in the Delta watershed are less likely to significantly affect agricultural zoning but could adversely affect lands zoned for forest use or TPZ. (See Section 7.4.3.1.3 [Impact 7-3a] below.)

Small storage reservoirs and flood control facilities, modification of existing reservoirs, regulating reservoirs, and groundwater percolation basins that might be constructed to improve water supply reliability throughout the study area would have a smaller conflict with agricultural zoning or Williamson Act contracts than larger facilities because the facilities would take a smaller amount of agricultural land out of production. The extent of impact would be based on the size of the facility footprint.

The number and location of all potential projects that could be implemented are not known at this time. Four possible projects, however, are known to some degree and are named in the Delta Plan: the North of Delta Offstream Storage Investigation (aka Sites Reservoir), Los Vaqueros Reservoir Project (Phase 2), and Upper San Joaquin River Basin Storage Investigation Plan (aka Temperance Flat). Of these named projects, the Los Vaqueros Reservoir Project has undergone project-specific environmental review (Los Vaqueros Reservoir Expansion EIS/EIR) (Reclamation et al. 2009).

The Los Vaqueros EIS/EIR provides analogous information about the impacts expected from construction of projects similar to the Los Vaqueros Project. In addition, the project-specific EIR for another surface storage project (not named in the Delta Plan)—the Calaveras Dam Replacement Project (SFPUC 2011)—also provides analogous information.

Although not named in the Delta Plan, two additional projects are illustrative of the types of agriculture and forest resources impacts associated with water supply reliability projects: the Davis-Woodland Water Supply Project (City of Davis 2007), which includes a water intake in the Sacramento River, pumping plants, and conveyance and water treatment facilities, and the Lower Yuba River Accord (DWR et al. 2007), which addresses water management, including water transfers.

It is unclear at this time how implementation of the Proposed Project would result in specific activities, including the location, number, capacity, methods, and duration of construction activities and the types of facilities that would be operated. However, the Delta Plan encourages implementation of the North of Delta Offstream Storage Investigation, Los Vaqueros Reservoir Project, and Upper San Joaquin River Basin Storage Investigation Plan.

Review of these past projects provides analogous information to understand how Delta Plan–encouraged projects, for which there are no project-specific details or associated reviews, might affect agricultural resources. The EIRs and EISs for these projects did not specifically discuss agricultural zoning or Williamson Act contracts, but did find that the agricultural impacts associated with surface facilities were either less than significant with mitigation or significant and unavoidable as described above in Section 7.4.3.1.1 (mitigation can include restoring temporary impact areas to preconstruction conditions or modifying the project to avoid footprint impacts, there are circumstances that farmland could be converted permanently for no mitigation would be feasible).

Based on these examples, it is likely that the agricultural resources impacts of projects of a similar nature encouraged by the Delta Plan c could be mitigated to a less-than-significant level for short-term construction impacts, but not for more permanent conversions of farmland. For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

A detailed description of these projects is not available; however, it is possible that significant and unmitigable impacts on agricultural resources could occur. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conflict with existing agricultural zoning or Williamson Act contracts, this potential impact is considered **significant**.

7.4.3.1.3 Impact 7-3a: Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production

Effects of Project Construction

Forestland, timberland and lands zoned for timberland production are protected by State and federal laws. These laws generally are not compatible with the water supply reliability activities and projects encouraged by the Delta Plan.

The Delta Plan encourages projects that would include the construction and operation of surface water and groundwater storage facilities, water intakes, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), groundwater wells, water transfers, and hydroelectric generation. Temporary effects from construction would include removal of vegetation and disturbance of soil in

facilities footprints and borrow/spoils. These temporary effects could become permanent where areas are cleared for buildings, facilities, paved roads and storage / staging, and other project features. The facilities could be located in the Delta, the Delta watershed, or areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

Construction of projects encouraged by the Delta Plan could also cause permanent landscape-scale changes at the location of new intake facilities, the forebay, borrow and spoil sites, and tunnel muck disposal areas and could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. Haul trucks would be used to move borrow and/or spoils and other materials. Each of these activities could potentially conflict with zoning for forest or timberland or TPZ and lead to the removal of land from timber or forest use, causing physical impacts similar to those described in Section 7.4.3.1.4 (Impact 7-4a).

In the Delta, potential conflicts with forestland zoning and TPZ could occur near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable forestland and timberland zoning in the Delta would include those adopted and enforced by these cities and counties. In the Delta watershed and areas outside the Delta that use Delta water, other local forest or TPZ zoning could also apply.

Effects of Project Operations

Treatment plants, surface water and groundwater storage facilities, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), and groundwater wells could be constructed throughout the Delta watershed and areas outside the Delta that use Delta water. These activities could potentially conflict with existing zoning for forestland and timberland or TPZ if they occur in these zones. The extent of impact would also be influenced by the size of the facility footprint.

It is unclear at this time how implementation of the Proposed Project would result in specific activities, including the location, number, capacity, methods, and duration of construction activities and the types of facilities that would be operated. However, the Delta Plan encourages implementation of the North of Delta Offstream Storage Investigation, Los Vaqueros Reservoir Project, and the Upper San Joaquin River Basin Storage Investigation Plan.

Review of these past projects provides analogous information to understand how Delta Plan–encouraged projects, for which there are no project-specific details or associated reviews, might affect timberland resources or TPZ. The EIRs and EISs for these projects did not specifically find consider conflict with zoning for forestland, timberland, or TPZ to be an issue of concern.

Conclusion

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conflict with existing timber or forest zoning or TPZ, this potential impact is considered **significant**.

7.4.3.1.4 Impact 7-4a: Loss of Forestland or Conversion of Forestland to Nonforest Use

Effects of Project Construction

The USFS estimates indicate that approximately 44,530 acres of private timberland, half of which is composed of western oaks, are located in the five Delta counties. Timberland represents about one-quarter of forestland in the five Delta counties. Western oaks make up approximately 75 percent of nontimberland forest resources, making them the most abundant forest type in the five Delta counties.

It is unclear how much, if any, of this forestland is located in the Delta, although the Fire and Resource Assessment Program estimates that 3,288 acres of hardwood habitats are located in the Delta. As described in greater detail in Section 4, Biological Resources, 8,980 acres of riparian forest habitat are in the Delta. These areas typically are found as long, linear patches separating other terrestrial biological communities from agricultural or urban land or as low-lying, flood-prone patches near river bends, canals, or breached levees. They can be located along major waterways, drainage channels, pond margins, and oxbows and in abandoned, low-lying fields.

Forestlands in the Delta watershed and areas outside the Delta that receive Delta water and that are most likely to be located near future construction sites would include woodlands in the foothills near surface water storage projects, wooded riparian habitat, and along streams, and along major waterways, drainage channels, pond margins, and oxbows and in abandoned, low-lying fields.

Construction-related activities at construction sites for surface water and groundwater storage facilities, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), groundwater and wells could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. Haul trucks would be used to move borrow and/or spoils and other materials. Treatment plants, surface water and groundwater storage facilities, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), and groundwater wells could be constructed throughout the Delta, Delta watershed, and areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives. Each of these activities could potentially result in loss of forestland or convert forestland to nonforest use if it occurs on or near forestland, including oak woodland riparian forests.

Effects of Project Operation

Projects encouraged by the Delta Plan could involve constructing storage facilities in the Delta watershed and in areas outside the Delta that use Delta water. Construction of these facilities (such as those considered under DWR's Surface Water Storage Investigation) could potentially cause a substantial conversion of forestland. For example, new reservoirs could permanently flood areas that currently have riparian forest cover in the Delta or other forest cover in the Delta watershed. Surface water storage projects in forested mountain areas in the Delta watershed, in particular, could significantly convert agricultural lands but could adversely affect forestlands.

Small storage reservoirs and other water supply facilities, modification of existing reservoirs, regulating reservoirs, and groundwater percolation basins that might be constructed to improve water supply reliability throughout the study area would convert less forestland than larger facilities but could still adversely impact forest or timberland locally. The extent of impact would also be influenced by the size of the facility footprint.

It is unclear at this time how implementation of the Proposed Project would result in specific activities, including the location, number, capacity, methods, and duration of construction activities and the types of facilities that would be operated. However, the Delta Plan encourages implementation of the North of Delta Offstream Storage Investigation, Los Vaqueros Reservoir Project, and the Upper San Joaquin River Basin Storage Investigation Plan.

Review of these past projects provides analogous information to understand how Delta Plan–encouraged projects, for which there are no project-specific details or associated reviews, might affect timberland resources or TPZ. The EIRs and EISs for these projects did not specifically find conversion of forestland, timberland, or TPZ to be an issue of concern, but construction and operations-related impacts on these resources associated with surface facilities would be similar to the impacts, mitigation measures, and findings as the more general farmland conversion impacts described in Section 7.4.3.1.1 because the impact mechanisms would be the same types of footprint impacts.

Conclusion

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conversion of forestlands to nonforest use; this potential impact is considered **significant**.

7.4.3.1.5 Impact 7-5a: Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use

Effects of Project Construction

The Delta Plan encourages projects that would include the construction and operation of surface water and groundwater storage facilities, water intakes, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), groundwater wells, water transfers, and hydroelectric generation Temporary effects from construction would include removal of vegetation and disturbance of soil in facilities footprints and borrow/spoils. These temporary effects could become permanent where areas are cleared for buildings, facilities, paved roads and storage / staging, and other project features. The facilities could be located in the Delta or in areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

Construction of projects encouraged by the Delta Plan could also cause permanent landscape-scale changes at the location of new intake facilities, the forebay, borrow and spoil sites, and tunnel muck disposal areas and could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. Haul trucks would be used to move borrow and/or spoils and other materials. The facilities could be located in the Delta or in areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives. Each of these activities could potentially convert agricultural land to nonagricultural use if it occurs on forest or timberland.

In addition to direct impacts described in Sections 7.4.3.1.1 (Impact 7-1a), 7.4.3.1.2 (Impact 7-2a), 7.4.3.1.3 (Impact 7-3a), and 7.4.3.1.4 (Impact 7-4a), construction activities related to reliable water supply projects could affect nearby forest or agricultural lands because of noise, access constraints, dust, or other mechanisms that would indirectly result in conversion of these lands to other uses. These effects are discussed in other resource sections of this EIR, including Section 9, Air Quality; Section 15, Noise; and Section 19, Transportation, Traffic, and Circulation. Furthermore, disturbance and removal of existing vegetation as a part of construction activities could result in the spread of invasive species to new areas, negatively affecting the health or viability of surrounding agricultural or forest uses.

Effects of Project Operations

Treatment plants, surface water and groundwater storage facilities, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), and groundwater wells could be constructed throughout the Delta watershed and areas outside the Delta that use Delta water. These activities could potentially conflict with forest or agricultural uses if they occur on or near areas in agricultural or forest use.

In addition to direct impacts described in Sections 7.4.3.1.1 (Impact 7-1a), 7.4.3.1.2 (Impact 7-2a), 7.4.3.1.3 (Impact 7-3a), and 7.4.3.1.4 (Impact 7-4a), operation of water quality project facilities could affect nearby forest or agricultural lands because of noise, access constraints, dust, or other effects that would indirectly result in conversion of these lands to other uses. These effects are discussed in other resource sections of this EIR, including Section 9, Air Quality; Section 15, Noise; and Section 19, Transportation, Traffic, and Circulation.

Projects that are encouraged by the Delta Plan, or named in the Delta Plan, could result in reduced water deliveries to areas outside the Delta that receive Delta water. During some drier hydrologic conditions, deliveries to agricultural lands may be reduced. These reduced deliveries could increase fallowing of irrigated lands. Continuous longer term fallowing and changes in agricultural practices resulting from reduced water deliveries could eventually result in the physical conversion of agricultural land to a nonagricultural use.

The number and location of all potential projects that could be implemented are not known at this time. Four possible projects, however are known to some degree and are named in the Delta Plan: the North of Delta Offstream Storage Investigation (aka Sites Reservoir), Los Vaqueros Reservoir Project (Phase 2), Upper San Joaquin River Basin Storage Investigation Plan (aka Temperance Flat), and DWR Bulletin 118. Of these named projects, the Los Vaqueros Reservoir Project has undergone project-specific environmental review (Los Vaqueros Reservoir Expansion EIS/EIR) (Reclamation et al. 2009). DWR Bulletin 118 presents a list of 10 recommendations for the management of groundwater but does not result in a specific project the construction or operation of which could affect agriculture or forestry resources.

The Los Vaqueros EIS/EIR provides analogous information about the impacts expected from construction of projects similar to the Los Vaqueros Project. In addition, the project-specific EIR for another surface storage project (not named in the Delta Plan)—the Calaveras Dam Replacement Project (SFPUC 2011)—also provides analogous information.

Although not named in the Delta Plan, two additional projects are illustrative of the types of agriculture and forest resources impacts associated with water supply reliability projects: the Davis-Woodland Water Supply Project (City of Davis 2007), which includes a water intake in the Sacramento River, pumping plants, and conveyance and water treatment facilities, and the Lower Yuba River Accord (DWR et al. 2007), which addresses water management, including water transfers.

It is unclear at this time how implementation of the Proposed Project would result in specific activities, including the location, number, capacity, methods, and duration of construction activities and the types of facilities that would be operated. However, the Delta Plan encourages implementation of the North of Delta Offstream Storage Investigation, Los Vaqueros Reservoir Project, and the Upper San Joaquin River Basin Storage Investigation Plan.

Review of these past projects provides analogous information to understand how Delta Plan–encouraged projects, for which there are no project-specific details or associated reviews, might affect agricultural or forestry resources. The EIRs and EISs for these projects found that the agricultural impacts associated with surface facilities (project grading could change drainage patterns that reduce the amount water available to a dry land farm) could be mitigated to a less-than-significant level by restoring the land surface to pre-project conditions.

Based on these examples, it is likely that the agricultural resources impacts of projects of a similar nature encouraged by the Delta Plan could also be mitigated to a less-than-significant level. For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

A detailed description of these projects is not available; however, it is possible that significant and unmitigable impacts on agricultural resources could occur. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could indirectly result in conversion of forest or agricultural lands, this potential impact is considered **significant**.

7.4.3.2 Delta Ecosystem Restoration

There are certain synergies between agriculture and wildlife habitat that provide valuable ecological services in the Delta. Several types of agriculture, including alfalfa, pasture, and rice provide especially valuable wildlife habitat. Irrigated pastures, row crops and silage field provide habitat for small mammals; these species in turn attract predators. Some State-listed and federally listed species use agricultural wetlands (such as rice fields) and agricultural irrigation and drainage canals for foraging habitat and dispersal, in addition to its remaining natural habitats. Many growers leave areas of their fields in wetland or riparian habitat for benefit of wildlife (Trott 2007).Crop types that are not tilled or disturbed are preferable as wildlife habitat. Alfalfa can be particularly important as foraging habitat for raptor species. The drawback to active agricultural fields is that whole colonies are susceptible to destruction when crops are harvested (Solano County 2008).

Flood-irrigated crops such as rice can support a range of wildlife. Rice is usually grown in areas that previously supported natural wetlands, and many wetland-associated wildlife species use rice fields, especially waterfowl and shorebirds. Waste grain also provides food for species such as ring-necked pheasant and greater sandhill crane. Other wildlife species that use rice fields include giant garter snake, and wading birds that forage on aquatic invertebrates and small vertebrates. In particular, the practice of flooding rice fields in winter to allow rice stubble to rot, instead of burning rice stubble in fall, provides a wide variety of ducks and geese opportunities to loaf or forage in rice fields in winter.

Grain and seed crops, such as corn, wheat, and barley are annual grasses that are grown in dense stands that make it difficult for wildlife to move through these fields; most wildlife benefits are derived early in the growing period, and especially following the harvest, when waste grain is accessible to waterfowl and other birds such as sandhill cranes.

Even intensively farmed croplands can provide important habitat for numerous bird species, including tricolored blackbirds, burrowing owls and Swainson's hawks, and sandhill cranes. Tricolored blackbirds, a California species of special concern, are frequently found in open habitats, such as croplands and grassy fields, during the nonbreeding season and have been known to nest in certain silage and other grain fields such as sorghum.

Examples of integrated management of agriculture and wildlife habitat in the Delta are becoming more common. These management techniques include crop rotations that include soil-building crops or fallowing; integrated pest management to reduce pesticides; cover crops; the strategic use of permanent crops, such as pasture, to reduce soil disturbance and oxidation; and a form of conservation tillage for field and row crops that reduces energy inputs, lessens soil disturbance and oxidation, and minimizes soil compaction by reducing farm machinery passes (Trott 2007).

In analyzing the impacts of ecosystem restoration projects, it is important to consider the synergies, benefits, and potential for coexistence of ecosystems and agriculture.

As described in Sections 2A and 2B, the Delta Plan does not direct the construction of specific projects, nor would projects be implemented under the direct authority of the Delta Stewardship Council. However, the Delta Plan seeks to improve the Delta ecosystem by encouraging various actions and projects that, if taken, could lead to completion, construction, and/or operation of projects that could improve the Delta ecosystem.

Features of such projects and actions that could be implemented as part of efforts to restore the Delta ecosystem include the following:

- Floodplain restoration
- Riparian restoration

- Tidal marsh restoration
- Ecosystem stressor management (e.g., continuation of ongoing programs managing pesticide runoff, water quality, water flows)
- Invasive species management (including removal of invasive vegetation)

The number and location of all potential projects that would be implemented are not known at this time. The following restoration areas, projects, and programs, however, are known to various degrees and are named in the Delta Plan:

- Cosumnes River-Mokelumne River Confluence: North Delta Flood Control and Ecosystem Restoration Project
- Suisun Marsh Habitat Management, Preservation, and Restoration Plan (includes Hill Slough Restoration Project)
- Cache Slough Complex (includes Prospect Island Restoration Project)
- Yolo Bypass
- Lower San Joaquin River Bypass Proposal
- Water Quality Control Plan Update for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary
- Delta Conservancy Strategic Plan
- Variance for U.S. Army Corps of Engineers (USACE) Vegetation Policy
- DFG's Stage Two Actions for Nonnative Invasive Species

Of these, the North Delta Flood Control and Ecosystem Restoration Project (North Delta Flood Control and Ecosystem Restoration Project Draft EIR) (DWR 2010) and Suisun Marsh project (Suisun Marsh Habitat Management, Preservation, and Restoration Plan Draft EIS/EIR) (Reclamation et al. 2010) have undergone project-specific environmental review.

The Proposed Project encourages the State Water Resources Control Board (SWRCB) to update the Water Quality Control Plan Update for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and develop, implement, and enforce updated flow requirements for the Delta and high-priority tributaries in the Delta watershed that are necessary to achieve coequal goals. As described in Section 2A, Proposed Project and Alternatives, these actions would likely result in a more natural flow regime in the Delta and Delta tributaries and reduced export of water from the Delta. Water users in the areas outside the Delta that use Delta water would likely respond to reduced supplies by constructing facilities to improve water supply reliability and improve water quality. The impacts on agriculture and forestry resources associated with these actions would be the same as those described in Section 7.4.3.1 (Reliable Water Supply) and Section 7.4.3.3 (Water Quality Improvement) below.

The Delta Conservancy Strategic Plan is anticipated to provide a framework that would facilitate ecosystem restoration in the Delta. The general impacts associated with the ecosystem restoration that could result from that planning process are described below.

The impacts associated with obtaining a variance to the USACE Vegetation Policy are described in Section 7.4.3.4 (Flood Risk Reduction).

DFG's Stage Two Actions for Nonnative Invasive Species (DFG 2011) identifies six actions for preventing the establishment of additional nonnative invasive species and reduce their economic and ecological impacts. These actions focus on monitoring, study, and coordination, and encouragement of the continuation of these actions would not physically change existing conditions.

7.4.3.2.1 Impact 7-1b: Conversion of Farmland to Nonagricultural Use

Effects of Project Construction

Projects encouraged by the Delta Plan including the projects identified in Section 7.4.3.2, would include the construction of ecosystem restoration areas, including floodplain, riparian, and wetland restoration areas, along with management of stressors and invasive species, and modification of levees and associated infrastructure.

Temporary effects from construction would include removal of existing vegetation and disturbance of soil in restoration area footprints and borrow/spoils areas. These temporary effects could become permanent where areas are cleared for replanting or restoration of nonagricultural habitats, such as tidal marsh, riparian corridors, and grassland. Ecosystem restoration projects would primarily be located in the Delta but could be located in the Delta watershed.

Construction could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, and backhoes. Haul trucks would be used to move borrow and/or spoils and other materials. Each of these activities could potentially convert agricultural land to nonagricultural use if it occurs on or near agricultural land.

Effects of Project Operation

Restoration would result in permanent landscape-scale changes in the Delta by introducing habitat types such as tidal marsh, riparian corridors, and grassland to areas that are currently dominated by agricultural fields. These potential changes would remove farmland from agricultural use. The extent of impact would also be influenced by the size of the footprint for individual projects.

The Delta Plan encourages implementation of several ecosystem restoration projects, including the Cosumnes River-Mokelumne River Confluence: North Delta Flood Control and Ecosystem Restoration Project, Suisun Marsh Habitat Management, Preservation, and Restoration Plan, Cache Slough Complex Project, Yolo Bypass Project, and the Lower San Joaquin River Bypass Proposal. It is not known at this time what specific activities would occur that could affect agricultural resources. Two of the named projects have undergone project-level environmental reviews.

Documents reviewed for potential impacts included the North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010), which analyzes proposed flood management and ecosystem restoration projects in the Delta, and the Suisun Marsh Habitat Management, Preservation, and Restoration Plan (Reclamation et al. 2010), which addressed ecosystem restoration in the Suisun Marsh. These documents found that the agricultural impacts were either less than significant or could be mitigated to a less-than-significant level by modifying optional elements of the project to avoid farmland conversion while still achieving the project's objective. However, very little of the land affected by the North Delta project or Suisun Marsh plan is in agricultural use, and the findings of these EIRs might not reflect impacts of projects in other areas of the Delta and the Delta watershed that are in agricultural use.

It is likely that the agricultural resources impacts of projects encouraged by the Delta Plan could be mitigated to a less-than-significant level for short-term construction impacts, but not for more permanent conversions of farmland; for example when a project cannot be redesigned to avoid farmland conversion. For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

A detailed description of these projects is not available; however, it is possible that significant and unmitigable impacts on agricultural resources could occur. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because temporary construction-related impacts could occur, and because substantial permanent changes to the landscapes could convert farmland, the potential impacts of named projects and projects encouraged by the Delta Plan are considered **significant**.

7.4.3.2.2 Impact 7-2b: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

Effects of Project Construction

The Delta Plan encourages projects, including the projects identified in Section 7.4.3.2, that would include the construction and operation of ecological restoration areas. Temporary effects from construction would include removal of vegetation and disturbance of soil in project footprints and borrow/spoils. These temporary effects could become permanent where areas are cleared for replanting or restoration of nonagricultural habitats, such as tidal marsh, riparian corridors, and grassland. Construction of projects encouraged by the Delta Plan could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, and backhoes. Haul trucks would be used to move borrow and/or spoils and other materials. The restoration areas could be located in the Delta, or in the Delta watershed. Each of these activities could conflict with agricultural zoning or Williamson Act contracts if restoration projects are not permitted uses under such contracts or in agricultural zones, and these conflicts could lead to the conversion of lands from agricultural use indirectly causing physical impacts similar to those described in Section 7.4.3.2.1 (Impact 7-1b).

In the Delta, potential conflicts with agricultural zoning could occur near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable agricultural zoning in the Delta would include zoning adopted and enforced by these cities and counties. In the Delta watershed, other local agricultural zoning regulations could also apply.

Effects of Project Operation

Ongoing operation of restoration projects could conflict with agricultural zoning or Williamson Act contracts if restoration projects are not permitted uses under such contracts or in agricultural zones, and these conflicts could lead to the conversion of lands from agricultural use. The extent of impact would be influenced by the size of the footprint for individual projects.

The Delta Plan encourages implementation of several ecosystem restoration projects, including the Cosumnes River-Mokelumne River Confluence: North Delta Flood Control and Ecosystem Restoration Project; Suisun Marsh Habitat Management, Preservation, and Restoration Plan; Cache Slough Complex Project; Yolo Bypass Project; and Lower San Joaquin River Bypass Proposal. It is not known at this time what specific activities would occur that could affect agricultural resources.

Documents reviewed for potential impacts included the North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010), which analyzes proposed flood management and ecosystem restoration projects in the Delta, and the Suisun Marsh Habitat Management, Preservation, and Restoration Plan (Reclamation et al. 2010), which addressed ecosystem restoration in the Suisun Marsh. The EIRs and EISs for these projects did not specifically discuss agricultural zoning or Williamson Act contracts, but did find that the agricultural impacts associated with restoration were either less than

significant or less than significant with mitigation as described above in Section 7.4.3.2.1 (modifying the project to avoid footprint impacts).However, very little of the land affected by the North Delta project or Suisun Marsh plan is in agricultural use, and the findings of these EIRs might not reflect impacts of projects in other areas of the Delta and the Delta watershed that are in agricultural use.

Conclusion

A detailed description of these projects is not available; however, it is possible that significant and unavoidable impacts on agricultural resources could occur for other types of projects in different settings than the project described above for which EIRs were prepared. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because temporary construction-related impacts could occur, and because substantial changes to the landscapes could conflict with agricultural zoning or Williamson Act contracts, the potential impacts of projects encouraged by the Delta Plan are considered **significant**.

7.4.3.2.3 Impact 7-3b: Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production

Effects of Project Construction

Forestland, timberland or timberland zoned for timberland production are protected by State and federal laws which may be compatible with ecological restoration objectives.

The Delta Plan encourages projects, including the projects identified in Section 7.4.3.2, that would include the construction and operation of ecological restoration areas. Temporary effects from construction would include removal of vegetation and disturbance of soil in restoration area footprints and borrow/spoils sites. These temporary effects could become permanent where areas are cleared for replanting or restoration of nonagricultural habitats, such as tidal marsh, riparian corridors, and grassland. Construction of projects encouraged by the Delta Plan could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, and backhoes. Haul trucks would be used to move borrow and/or spoils and other materials. Restoration projects could be located in the Delta or in the Delta watershed. If these activities occurred on lands zoned for forest or timberland use, they could conflict with zoning requirements and potentially lead to conversion of land to nonforest use, causing physical impacts similar to those described in Section 7.4.3.2.4 (Impact 7-4b).

In the Delta, potential conflicts with forest or timber zoning could occur near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable forest and timberland zoning in the Delta would include those adopted and enforced by these cities and counties. In the Delta watershed, other local forest zoning or TPZ regulations could also apply.

Effects of Project Operations

Ongoing operation of restoration projects could conflict with forest or timberland zoning if restoration projects create nonforest habitats or other uses that are not permitted in these zones. The physical effect of this conflict would be the conversion of forestlands. The extent of impact would be influenced by the size of the restoration area footprint.

The Delta Plan encourages implementation of several ecosystem restoration projects, including the Cosumnes River-Mokelumne River Confluence: North Delta Flood Control and Ecosystem Restoration Project; Suisun Marsh Habitat Management, Preservation, and Restoration Plan; Cache Slough Complex Project; Yolo Bypass Project; and the Lower San Joaquin River Bypass Proposal. It is not known at this time what specific activities would occur that could affect agricultural and forestry resources.

Review of these past projects provides analogous information to understand how Delta Plan–encouraged projects, for which there are no project-specific details or associated reviews, might affect timberland resources or TPZ. The EIRs and EISs for these projects did not specifically find conflict with zoning for forestland, timberland, or TPZ to be an issue of concern.

Conclusion

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because temporary construction-related impacts could occur, and because substantial changes to the landscapes could conflict with forest zoning or TPZ, the potential impacts of projects encouraged by the Delta Plan are considered **significant**.

7.4.3.2.4 Impact 7-4b: Loss of Forestland or Conversion of Forestland to Nonforest Use

Effects of Project Construction

The USFS estimates indicate that approximately 44,530 acres of private timberland, half of which is composed of western oaks, are located in the five Delta counties. Timberland represents about one-quarter of forestland in the five Delta counties. Western oaks make up approximately 75 percent of nontimberland forest resources, making them the most abundant forest type in the five Delta counties. It is unclear how much, if any, of this forestland is located in the Delta, although the Fire and Resource Assessment Program estimates that 3,288 acres of hardwood habitats are located in the Delta. As described in greater detail in Section 4, Biological Resources, 8,980 acres of riparian forest habitat are in the Delta. These areas typically are found as long, linear patches separating other terrestrial biological communities from agricultural or urban land or as low-lying, flood-prone patches near river bends, canals, or breached levees. They can be located along major waterways, drainage channels, pond margins, and oxbows and in abandoned, low-lying fields.

The Delta Plan encourages projects, including the projects identified in Section 7.4.3.2, that would include the construction and operation of ecological restoration areas. Temporary effects from construction would include removal of vegetation and disturbance of soil in restoration area footprints and borrow/spoils sites. These temporary effects could become permanent where areas are cleared for replanting or restoration of nonagricultural habitats, such as tidal marsh, riparian corridors, and grassland. Construction of projects encouraged by the Delta Plan could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, and backhoes. Haul trucks would be used to move borrow and/or spoils and other materials. Restoration projects could be located in the Delta, or in the Delta watershed. If these activities occurred on forest or timberland, they could convert these lands to nonforest use.

Effects of Project Operation

Ongoing operation of restoration projects in areas that are currently in forest or timber cover could cause conversion of forest or timberlands to other uses. The extent of impact would be influenced by the size of the footprint for individual restoration projects.

The Delta Plan encourages implementation of several ecosystem restoration projects, including the Cosumnes River-Mokelumne River Confluence: North Delta Flood Control and Ecosystem Restoration Project; Suisun Marsh Habitat Management, Preservation, and Restoration Plan; Cache Slough Complex Project; Yolo Bypass Project; and the Lower San Joaquin River Bypass Proposal. It is not known at this time what specific activities would occur that could affect agricultural and forestry resources.

Review of these past projects provides analogous information to understand how Delta Plan–encouraged projects, for which there are no project-specific details or associated reviews, might affect timberland resources or TPZ. The EIRs and EISs for these projects did not specifically find conversion of forestland, timberland, or TPZ to be an issue of concern, but construction and operations-related impacts on these resources associated with surface facilities would be similar to the impacts, mitigation measures, and findings as the more general farmland conversion impacts described in Section 7.4.3.2.1 because the impact mechanisms would be the same types of footprint impacts.

Conclusion

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because substantial permanent changes to the landscapes could convert forestland to nonforest use, the potential impacts of projects encouraged by the Delta Plan are considered **significant**.

7.4.3.2.5 Impact 7-5b: Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use

Effects of Project Construction

The Delta Plan encourages projects, including the projects identified in Section 7.4.3.2, that would include the construction and operation of ecological restoration areas. Temporary effects from construction would include removal of vegetation and disturbance of soil in restoration area footprints and borrow/spoils sites. These temporary effects could become permanent where areas are cleared for replanting or restoration of nonagricultural habitats, such as tidal marsh, riparian corridors, and grassland. Construction of projects encouraged by the Delta Plan could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, and backhoes. Haul trucks would be used to move borrow and/or spoils and other materials.

In addition to direct impacts described in Sections 7.4.3.2.1 (Impact 7-1b), 7.4.3.2.2 (Impact 7-2b), 7.4.3.2.3 (Impact 7-3b), and 7.4.3.2.4 (Impact 7-4b), construction activities related to Delta ecosystem restoration projects could affect nearby forest or agricultural lands because of noise, access constraints, dust, or other effects that would indirectly result in conversion of these lands to other uses. These effects are discussed in other resource sections of this EIR, including Section 9, Air Quality; Section 15, Noise; and Section 19, Transportation, Traffic, and Circulation. Furthermore, disturbance and removal of existing vegetation as a part of construction activities could result in the spread of invasive species to new areas, negatively affecting the health or viability of surrounding agricultural or forest uses.

Effects of Project Operations

In addition to direct impacts described in Sections 7.4.3.2.1 (Impact 7-1b), 7.4.3.2.2 (Impact 7-2b), 7.4.3.2.3 (Impact 7-3b), and 7.4.3.2.4 (Impact 7-4b), ongoing operational activities related to Delta ecosystem restoration projects could affect nearby forest or agricultural lands because of noise, access constraints, dust, or other effects that would indirectly result in conversion of these lands to other uses. These effects are discussed in other resource sections of this EIR, including Section 9, Air Quality; Section 15, Noise; and Section 19, Transportation, Traffic, and Circulation. The extent of impact would be influenced by the size of the footprint for individual projects.

The Delta Plan encourages implementation of several ecosystem restoration projects, including the Cosumnes River-Mokelumne River Confluence: North Delta Flood Control and Ecosystem Restoration Project; Suisun Marsh Habitat Management, Preservation, and Restoration Plan; Cache Slough Complex Project; Yolo Bypass Project; and Lower San Joaquin River Bypass Proposal. It is not known at this time what specific activities would occur that could affect agricultural and forestry resources.

Documents reviewed for potential impacts included the North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010), which analyzes proposed flood management and ecosystem restoration projects in the Delta, and the Suisun Marsh Habitat Management, Preservation, and Restoration Plan (Reclamation et al. 2010), did not evaluate possible effects that the projects would have on offsite agricultural or timberland uses, but did address ecosystem restoration in the Suisun Marsh. These documents found that the on-site agricultural impacts were either less than significant or could be mitigated to a less-than-significant level.

Based on these examples, it is likely that the agricultural resources impacts of projects encouraged by the Delta Plan could be mitigated to a less-than-significant level. For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

A detailed description of these projects is not available; however, it is possible that significant and unmitigable impacts on agricultural resources could occur. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because temporary construction-related impacts could occur, and because substantial changes to the landscapes could indirectly result in conversion of agricultural land or forestland, the potential impacts of projects encouraged by the Delta Plan are considered **significant**.

7.4.3.3 Water Quality Improvement

As described in Sections 2A and 2B, the Delta Plan does not direct the construction of specific projects, nor would projects be implemented under the direct authority of the Delta Stewardship Council. However, the Delta Plan seeks to improve water quality by encouraging various actions and projects that, if taken, could lead to completion, construction, and/or operation of projects that could improve water quality.

Features of such actions and projects that could be implemented as part of efforts to improve water quality include the following:

- Water treatment plants
- Conveyance facilities (pipelines, pumping plants)
- Wastewater treatment and recycle facilities
- Municipal stormwater treatment facilities
- Agricultural runoff treatment (eliminate, capture and treat/reuse)
- Wellhead treatment facilities
- Wells (withdrawal, recharge, and monitoring)

The number and location of all potential actions and projects that would be implemented are not known at this time. Various projects, however, are known to some degree and are named in the Delta Plan:

- North Bay Aqueduct Alternative Intake Project
- Central Valley Drinking Water Policy
- Central Valley Pesticide Total Maximum Daily Load and Basin Plan Amendment for diazinon and chlorpyrifos (regulatory processes, research, and monitoring)
- Central Valley Pesticide Total Maximum Daily Load and Basin Plan Amendment for pyrethroids (regulatory processes, research, and monitoring)

- Total Maximum Daily Load and Basin Plan Amendments for selenium and methylmercury (regulatory processes, research, and monitoring)
- Water Quality Control Plan Update for the San Francisco Bay/ Sacramento-San Joaquin Delta Estuary (water flow objectives update)
- SWRCB/Central Valley Regional Water Quality Control Board Strategic Workplan
- Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS)

Of these named projects/actions, only the North Bay Aqueduct Project would involve construction and/or operation of facilities that could have agriculture or forestry resources impacts. The remaining seven are programs, policies, or studies that would not result in a specific project the construction or operation of which could have agriculture or forestry resources impacts; therefore, these programs, policies, and studies are not discussed further in this section.

7.4.3.3.1 Impact 7-1c: Conversion of Farmland to Nonagricultural Use

Effects of Project Construction

Construction-related activities at construction sites for water quality improvement projects, including projects identified in Section 7.4.3.3 and water treatment plants, pipelines, wastewater treatment plants, stormwater treatment facilities, and agricultural runoff treatment could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta, the Delta watershed, and areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives. Each of these activities could potentially convert agricultural land to nonagricultural use if it occurs on or near agricultural land.

In the Delta, potential conversion of agricultural land could occur in or near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable agricultural land protection, conversion, and mitigation requirements in the Delta would include those of these cities and counties. In the Delta watershed, and areas outside the Delta that use Delta water, other local agricultural protection and mitigation requirements could also apply.

Effects of Project Operation

Projects encouraged by the Delta Plan could include water treatment plants, pipelines, wastewater treatment plants, stormwater treatment facilities, and agricultural runoff treatment. The facilities would be located in the Delta, the Delta watershed, and areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives. Operation of these facilities could result in the permanent conversion of agricultural land. The extent of impact would be influenced by the size of the footprint for individual projects and facilities.

It is unclear at this time how implementation of the Proposed Project would result in specific activities, including the location, number, methods, and duration of construction activities and the type of facilities that would be operated. The Delta Plan encourages implementation of the North Bay Aqueduct Alternative Intake Project. The new alternative intake structure would be located on the Sacramento River in a rural area of Sacramento or Yolo County and the new pipeline would extend from the new intake structure to the existing North Bay Regional Water Treatment Plant. The diversion/intake structure and water conveyance pipeline are similar to the Davis-Woodland Water Supply Project.

Documents reviewed for potential impacts included EIRs and EISs for the Davis-Woodland Water Supply Project (City of Davis 2007), which includes a water intake in the Sacramento River, pumping plants, conveyance, and water treatment facilities;, and the Grasslands Bypass project (Reclamation and San Luis & Delta-Mendota Water Authority 2008). The Davis-Woodland Water Supply Project identified a significant and unavoidable impact related to conversion of agricultural land.

Review of these past projects provides analogous information to understand how Delta Plan–encouraged projects, for which there are no project-specific details or associated reviews, might affect agricultural resources. As these EIRs and EISs show, water quality improvement projects may temporarily and permanently convert farmland to nonagricultural use when the footprint of disturbance of the projects includes farmland. The EIRs and EISs for these projects found that the agricultural impacts associated with water quality facilities were either less than significant with mitigation, because water conveyance could be installed below the root zone or significant and unavoidable because of the lack of feasible mitigation (i.e., the permanent conversion of farmland could not be replaced).

For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

A detailed description of named projects and projects encouraged by the Delta Plan is not available, and it is possible that significant impacts on agriculture or forestry resources might be encountered that cannot be mitigated. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conversion of agricultural land to nonagricultural use, this potential impact is considered **significant**.

7.4.3.3.2 Impact 7-2c: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

Effects of Project Construction

Construction-related activities at construction sites for water quality improvement projects, including projects identified in Section 7.4.3.3 and water treatment plants, pipelines, wastewater treatment plants, stormwater treatment facilities, and agricultural runoff treatment could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta, the Delta watershed, and areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives. Each of these activities could potentially conflict with agricultural zoning or Williamson Act contract terms and lead to the conversion of land from agricultural use, causing physical impacts similar to those described in Section 7.4.3.3.1 (Impact 7-1c).

In the Delta, potential conflicts with agricultural zoning could occur near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable agricultural zoning in the Delta would include zoning adopted and enforced by these cities and counties. In the Delta watershed, and areas outside the Delta that use Delta water, other local agricultural zoning requirements could also apply.

Effects of Project Operation

Projects encouraged by the Delta Plan could include water treatment plants, pipelines, wastewater treatment plants, stormwater treatment facilities, and agricultural runoff treatment. The facilities would be located in the Delta, the Delta watershed, and areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives. Operation of these facilities could conflict with agricultural zoning or Williamson Act contracts and lead to the conversion of land from agricultural use. The extent of impact would be influenced by the size of the footprint for individual projects and facilities.

It is unclear at this time how implementation of the Proposed Project would result in specific activities, including the location, number, methods, and duration of construction activities and the type of facilities that would be operated. The Delta Plan encourages implementation of the North Bay Aqueduct Alternative Intake Project. The new alternative intake structure would be located on the Sacramento River in a rural area of Sacramento or Yolo County and the new pipeline would extend from the new intake structure to the existing North Bay Regional Water Treatment Plant. The diversion/intake structure and water conveyance pipeline are similar to the Davis-Woodland Water Supply Project.

Documents reviewed for potential impacts included EIRs and EISs for the Davis-Woodland Water Supply Project (City of Davis 2007), which includes a water intake in the Sacramento River, pumping plants, conveyance, and water treatment facilities;, and the Grasslands Bypass project (Reclamation and San Luis & Delta-Mendota Water Authority 2008). The Davis-Woodland Water Supply Project identified a significant and unavoidable impact related to conversion of agricultural land. The EIRs and EISs for these projects did not specifically discuss agricultural zoning or Williamson Act contracts, but did find that the agricultural impacts associated with surface facilities were either less than significant with mitigation or significant and unavoidable as described above in Section 7.4.3.3.1 (mitigation can include modifying the project to avoid the root zone or no mitigation would be feasible).

For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

A detailed description of named projects and projects encouraged by the Delta Plan is not available, and it is possible that significant impacts on agriculture or forestry resources might be encountered that cannot be mitigated. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conflict with existing agricultural zoning or Williamson Act contracts, this potential impact is considered **significant**.

7.4.3.3.3 Impact 7-3c: Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production

Effects of Project Construction

It is unclear at this time how implementation of the Proposed Project would result in specific activities, including the location, number, methods, and duration of construction activities and the type of facilities that would be operated. The Delta Plan encourages implementation of the North Bay Aqueduct Alternative Intake Project. The new alternative intake structure would be located on the Sacramento River in a rural area of Sacramento or Yolo County and the new pipeline would extend from the new intake structure to the existing North Bay Regional Water Treatment Plant.

Construction-related activities at construction sites for water quality improvement projects, including projects identified in Section 7.4.3.3 and water treatment plants, pipelines, wastewater treatment plants, stormwater treatment facilities, and agricultural runoff treatment could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. Temporary effects from construction would include removal of vegetation and disturbance of soil in facilities footprints and borrow/spoils. These temporary effects could become permanent where areas are cleared for buildings, facilities, paved roads and storage / staging, and other project features. The facilities could be located in the Delta, in the Delta watershed, or in areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

In the Delta, potential conflicts with forestland zoning could occur near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable forestland and timberland zoning in the Delta would include those adopted and enforced by these cities and counties. In the Delta watershed, and areas outside the Delta that use Delta water, other local forest zoning or TPZ requirements could also apply.

Effects of Project Operations

Projects encouraged by the Delta Plan could include water treatment plants, pipelines, wastewater treatment plants, stormwater treatment facilities, and agricultural runoff treatment. The facilities would be located in the Delta, the Delta watershed, and areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives. Operation of each of these facility types could potentially conflict with existing zoning for forestland and timberland or TPZ if they occur in these zones, and lead to the conversion of these lands from forest use, causing physical impacts similar to those described in Section 7.4.3.3.4 (Impact 7-4c). The extent of impact would be influenced by the size of the footprint for individual projects and facilities.

Conclusion

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conflict with existing timber or forest zoning or TPZ, this potential impact is considered **significant**.

7.4.3.3.4 Impact 7-4c: Loss of Forestland or Conversion of Forestland to Nonforest Use

Effects of Project Construction

It is unclear at this time how implementation of the Proposed Project, including those projects identified in Section 7.4.3.3, would result in specific activities, including the location, number, methods, and duration of construction activities and the type of facilities that would be operated. The Delta Plan encourages implementation of the North Bay Aqueduct Alternative Intake Project. The new alternative intake structure would be located on the Sacramento River in a rural area of Sacramento or Yolo County and the new pipeline would extend from the new intake structure to the existing North Bay Regional Water Treatment Plant.

The USFS estimates indicate that approximately 44,530 acres of private timberland, half of which is composed of western oaks, are located in the five Delta counties. Timberland represents about one quarter of forestland in the five Delta counties. Western oaks make up approximately 75 percent of nontimberland forest resources, making them the most abundant forest type in the five Delta counties. It is unclear how much, if any, of this forestland is located in the Delta, although the Fire and Resource Assessment Program estimates that 3,288 acres of hardwood habitats are located in the Delta.

As described in greater detail in Section 4, Biological Resources, there are 8,980 acres of riparian forest habitat in the Delta. These areas typically are found as long, linear patches separating other terrestrial biological communities from agricultural or urban land or as low-lying, flood-prone patches near river bends, canals, or breached levees. They can be located along major waterways, drainage channels, pond margins, and oxbows and in abandoned, low-lying fields. Forestlands in the Delta watershed and areas outside the Delta that receive Delta water and that are most likely to be located near future construction sites would include woodlands in the foothills, and wooded riparian habitat along streams and major waterways, drainage channels, pond margins, and oxbows and in abandoned, low-lying fields.

Construction-related activities at construction sites for water quality improvement projects, including water treatment plants, desalination plants, pipelines, wastewater treatment plants, stormwater treatment facilities, and agricultural runoff treatment could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. Temporary effects from construction would include removal of vegetation and disturbance of soil in facilities footprints and borrow/spoils. These temporary effects could become permanent where areas are cleared for buildings, facilities, paved roads and storage/staging, and other project features. The facilities could be located in the Delta, in the Delta watershed, or in areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

Effects of Project Operation

Projects encouraged by the Delta Plan could include water treatment plants, pipelines, wastewater treatment plants, stormwater treatment facilities, and agricultural runoff treatment. The facilities would be located in the Delta, the Delta watershed, and areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives. Operation of these facilities could permanently remove lands from forest or timberland use. The extent of impact would be influenced by the size of the footprint for individual projects and facilities.

Conclusion

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conversion of forestlands to nonforest use, this potential impact is considered **significant**.

7.4.3.3.5 Impact 7-5c: Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use

Effects of Project Construction

Construction-related activities at construction sites for water quality improvement projects, including those identified in Section 7.4.3.3 and water treatment plants, pipelines, wastewater treatment plants, stormwater treatment facilities, and agricultural runoff treatment could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. Temporary effects from construction would include removal of vegetation and disturbance of soil in facilities footprints and borrow/spoils. These temporary effects could become permanent where areas are cleared for buildings, facilities, paved roads and storage / staging, and other project features. The facilities could be located in the Delta, in the Delta watershed, or in areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

In addition to direct impacts described in Sections 7.4.3.3.1 (Impact 7-1c), 7.4.3.3.2 (Impact 7-2c), 7.4.3.3.3 (Impact 7-3c), and 7.4.3.3.4 (Impact 7-4c), construction activities related to water quality projects could affect nearby forest or agricultural lands because of noise, access constraints, dust, or other effects that would indirectly result in conversion of these lands to other uses. These effects are discussed

in other resource sections of this EIR, including Section 9, Air Quality; Section 15, Noise; and Section 19, Transportation, Traffic, and Circulation. Furthermore, disturbance and removal of existing vegetation as a part of construction activities could result in the spread of invasive species to new areas, negatively affecting the health or viability of surrounding agricultural or forest uses.

Effects of Project Operations

Projects encouraged by the Delta Plan could include water treatment plants, pipelines, wastewater treatment plants, stormwater treatment facilities, and agricultural runoff treatment. The facilities would be located in the Delta, the Delta watershed, and areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

In addition to direct impacts described in Sections 7.4.3.3.1 (Impact 7-1c), 7.4.3.3.2 (Impact 7-2c), 7.4.3.3.3 (Impact 7-3c), and 7.4.3.3.4 (Impact 7-4c), operation of water quality project facilities could affect nearby forest or agricultural lands because of noise, access constraints, dust, or other effects that would indirectly result in conversion of these lands to other uses. These effects are discussed in other resource sections of this EIR, including Section 9, Air Quality; Section 15, Noise; and Section 19, Transportation, Traffic, and Circulation. The extent of impact would be influenced by the size of the footprint for individual projects and facilities.

It is unclear at this time how implementation of the Proposed Project would result in specific activities, including the location, number, methods, and duration of construction activities and the type of facilities that would be operated. The Delta Plan encourages implementation of the North Bay Aqueduct Alternative Intake Project. The new alternative intake structure would be located on the Sacramento River in a rural area of Sacramento or Yolo County and the new pipeline would extend from the new intake structure to the existing North Bay Regional Water Treatment Plant. The diversion/intake structure and water conveyance pipeline are similar to the Davis-Woodland Water Supply Project.

Documents reviewed for potential impacts included EIRs and EISs for the Davis-Woodland Water Supply Project (City of Davis 2007), which includes a water intake in the Sacramento River, pumping plants, conveyance, and water treatment facilities;, and the Grasslands Bypass Project (Reclamation and San Luis & Delta-Mendota Water Authority 2008). These EIRs did not evaluate possible effects that the projects would have on offsite agricultural or timberland uses, but did address water quality improvement impacts on on-site agricultural resources. The Davis-Woodland Water Supply Project identified a significant and unavoidable impact related to conversion of agricultural land.

For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

Detailed descriptions of named projects and projects encouraged by the Delta Plan are not currently available; however, it is possible that significant impacts on agriculture or forestry resources might be encountered that cannot be mitigated. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could indirectly result in conversion of forest or agricultural lands, this potential impact is considered **significant**.

7.4.3.4 Flood Risk Reduction

As described in Sections 2A and 2B, the Delta Plan does not direct the construction of specific projects, nor would projects be implemented under the direct authority of the Delta Stewardship Council. However, the Delta Plan seeks to reduce the risk of floods in the Delta by encouraging various actions that, if taken, could lead to completion, construction, and/or operation of projects that could reduce flood risks in the Delta. Such projects and their features could include the following:

- Setback levees
- Floodplain expansion
- Levee maintenance
- Levee modification
- Dredging
- Stockpiling of rock for flood emergencies
- Subsidence reversal
- Reservoir reoperation

The number and location of all potential projects that would be implemented are not known at this time. One possible project, however, is known to some degree and is named in the Delta Plan: the Sacramento Deep Water Ship Channel and Stockton Deep Water Ship Channel Dredging (the United States Army Corps of Engineer's *Delta Dredged Sediment Long-Term Management Strategy* included in Appendix C, Attachment C-7 of this EIR). The Proposed Project also names DWR's A Framework for Department of Water Resources Investments in Delta Integrated Flood Management, which could, upon completion, provide guidance on the prioritization flood protection investments. The DWR framework is a program, not an activity that would result in agriculture or forestry resources impacts; therefore, it is not discussed further in this section.

7.4.3.4.1 Impact 7-1d: Conversion of Farmland to Nonagricultural Use

Effects of Project Construction

Construction-related activities at construction sites for flood risk reduction projects, including expansion and modification of levees, construction of setback levees, dredging (including land-based staging and placement of dredged material), and operable barriers along the levees, could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta and the Delta watershed. Each of these activities could potentially convert agricultural land to nonagricultural use if it occurs on or near agricultural land.

In the Delta, potential conversion of agricultural land could occur in or near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable agricultural land protection, conversion, and mitigation requirements in the Delta would include those of these cities and counties. In the Delta watershed, other local agricultural protection requirements could also apply.

Effects of Project Operation

Implementing the Proposed Project could increase investments in levee improvements in the Delta. The improvements could primarily be to existing levees and typically would not alter their basic shape and configuration, except for the use of setback levees. Setback levees could extend the levee footprint and width into the landside of an area and increase riparian habitat on the waterside of the levee. Operation of these facilities could convert agricultural land. The extent of impact would be influenced by the size of the facility footprint.

It is not known at this time what specific flood risk reduction projects would occur. A variety of levee improvements, modification, and maintenance, including construction of setback levees, could be part of projects encouraged by the Delta Plan.

Documents reviewed for potential impacts from flood control projects included the North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010), which analyzes proposed flood management and ecosystem restoration projects in the Delta. This EIR found that agricultural resources impacts were either less than significant or less than significant with mitigation, as described in Section 7.4.3.1.1 (mitigation measures could include modifying the project to eliminate optional project elements to avoid the permanent conversion of farmland).

Based on this example, it is likely that some agricultural resources impacts of named projects and projects encouraged by the Delta Plan could be mitigated to a less-than-significant level, for example when flood risk reduction actions include the construction of setback levees in the agricultural areas of the Delta and they would be located on farmland. For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

Detailed descriptions of named projects and projects encouraged by the Delta Plan are not currently available; however, it is possible that significant impacts on agricultural resources might be encountered that cannot be mitigated. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conversion of agricultural land to nonagricultural use, this potential impact is considered **significant**.

7.4.3.4.2 Impact 7-2d: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

Effects of Project Construction

Construction-related activities at construction sites for flood risk reduction projects, including expansion and modification of levees, construction of setback levees, dredging (including land-based staging and placement of dredged material), and operable barriers along the levees, could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta and the Delta watershed. Each of these activities could potentially convert agricultural land under Williamson Act contracts to nonagricultural use (causing physical impacts similar to those described in Section 7.4.3.4.1 [Impact 7-1d]) or conflict with existing zoning for agricultural use if water supply projects are not permitted uses under such contracts or in agricultural zones.

In the Delta, potential conflicts with agricultural zoning could occur near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable agricultural zoning in the Delta would include zoning adopted and enforced by these cities and counties. In the Delta watershed, other local agricultural zoning requirements could also apply.

Effects of Project Operation

Implementing the Proposed Project could increase investments in levee improvements in the Delta. The improvements could primarily be to existing levees and typically would not alter their basic shape and configuration, except for the use of setback levees. Setback levees could extend the levee footprint and width into the landside of an area and increase riparian habitat on the waterside of the levee. Operation of these facilities could preclude agricultural land uses and conflict with agricultural zoning requirements or Williamson Act contracts. The extent of impact would be influenced by the size of the facility footprint.

It is not known at this time what specific flood risk reduction projects would occur. A variety of levee improvements, modification, and maintenance, including construction of setback levees, could be part of projects encouraged by the Delta Plan.

Documents reviewed for potential impacts from flood control projects included the North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010), which analyzes proposed flood management and ecosystem restoration projects in the Delta. The EIR did not specifically discuss agricultural zoning or Williamson Act contracts, but did find that the agricultural impacts associated with restoration was less than significant with the implementation of mitigation as described above in Section 7.4.3.1.1 (modifying the project to avoid footprint impacts). Based on this example, it is likely that some agricultural resources impacts of named projects and projects encouraged by the Delta Plan could be mitigated to a less-than-significant level. For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the project is of a similar nature and similar setting were implemented.

Conclusion

Detailed descriptions of named projects and projects encouraged by the Delta Plan are not currently available; however, it is possible that significant impacts on agricultural resources might be encountered that cannot be mitigated. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conflict with existing agricultural zoning or Williamson Act contracts, this potential impact is considered **significant**.

7.4.3.4.3 Impact 7-3d: Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production

Effects of Project Construction

Forestland, timberland or timberland zoned for timberland production are protected by State and federal laws. These laws generally are not compatible with the flood risk reduction activities and projects encouraged by the Delta Plan.

Construction-related activities at construction sites for flood risk reduction projects, including expansion and modification of levees, construction of setback levees, dredging (including land-based staging and placement of dredged material), and operable barriers along the levees, could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta and the Delta watershed. Each of these activities could potentially conflict with zoning for forest or timberland or TPZ and result in the conversion of land from forest use, causing physical impacts similar to those described in Section 7.4.3.4.4 (Impact 7-4d).

In the Delta, potential conflicts with forestland zoning and TPZ could occur near the cities of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley and in Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties. Applicable forestland and timberland zoning in the Delta would include those adopted and enforced by these cities and counties. In the Delta watershed, other local forest zoning or TPZ requirements could also apply.

Effects of Project Operations

Implementing the Proposed Project could increase investments in levee improvements in the Delta. The improvements could primarily be to existing levees and typically would not alter their basic shape and configuration, except for the use of setback levees. Setback levees could extend the levee footprint and width into the landside of an area and increase riparian habitat on the waterside of the levee. Operation of these facilities could potentially conflict with existing zoning for forestland and timberland or TPZ if they occur in these zones and lead to the conversion of land from forest use. The extent of impact would be influenced by the size of the facility footprint.

It is likely that some forestland and timberland resources or TPZ conversion impacts of named projects and projects encouraged by the Delta Plan could be mitigated to a less-than-significant level. This could be achieved by modifying a project to avoid land zoned for forestland or timberland production, For situations that are ecosystem restoration projects or have the opportunity to include ecosystem restoration as an element of a project (e.g. levee degradation for floodplain expansion), an ecological restoration plan could be prepared that is consistent with the existing forestland or timberlands zoning provisions. The details of many of the aspects of these projects, however, are not currently known, and it is possible that significant impacts on forestland and timberland resources or TPZ conversion might be encountered that cannot be mitigated.

It is not known at this time what specific flood risk reduction projects would occur. A variety of levee improvements, modification, and maintenance, including construction of setback levees, could be part of projects encouraged by the Delta Plan.

Conclusion

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conflict with existing timber or forest zoning or TPZ, this potential impact is considered **significant**.

7.4.3.4.4 Impact 7-4d: Loss of Forestland or Conversion of Forestland to Nonforest Use

Effects of Project Construction

The USFS estimates indicate that approximately 44,530 acres of private timberland, half of which is composed of western oaks, are located in the five Delta counties. Timberland represents about one quarter of forestland in the five Delta counties. Western oaks make up approximately 75 percent of nontimberland forest resources, making them the most abundant forest type in the five Delta counties. It is unclear how much, if any, of this forestland is located in the Delta, although the Fire and Resource Assessment Program estimates that 3,288 acres of hardwood habitats are located in the Delta.

As described in greater detail in Section 4, Biological Resources, 8,980 acres of riparian forest habitat are in the Delta. These areas typically are found as long, linear patches separating other terrestrial biological communities from agricultural or urban land or as low-lying, flood-prone patches near river bends, canals, or breached levees. They can be located along major waterways, drainage channels, pond margins, and

oxbows and in abandoned, low-lying fields. Forestlands in the Delta watershed that are most likely to be located near future construction sites would include woodlands in the foothills, wooded riparian habitat, and along streams, and along major waterways, drainage channels, pond margins, and oxbows and in abandoned, low-lying fields.

Construction-related activities at construction sites for flood risk reduction projects, including expansion and modification of levees, construction of setback levees, dredging (including land-based staging and placement of dredged material), and operable barriers along the levees, could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta and the Delta watershed. Each of these activities could potentially result in loss of forestland or convert forestland to nonforest use if it occurs on or near forestland, including oak woodland riparian forests.

Effects of Project Operation

Implementing the Proposed Project could increase investments in levee improvements in the Delta. The improvements could primarily be to existing levees and typically would not alter their basic shape and configuration, except for the use of setback levees. Setback levees could extend the levee footprint and width into the landside of an area and increase riparian habitat on the waterside of the levee. Operation of these facilities could convert forestland or timberland to nonforest use. The extent of impact would be influenced by the size of the facility footprint.

It is likely that some forestland or timberland resources impacts of named projects and projects encouraged by the Delta Plan could be mitigated to a less-than-significant level. As described above in Section 7.4.3.4.3, these mitigation measures could include avoidance through redesign or the inclusion of an ecological restoration plan that is consistent with the provisions of the existing forestland or timberland code. The details of many of the aspects of these projects, however, are not currently known, and it is possible that significant impacts on forestland or timberland resources might be encountered that cannot be mitigated.

It is not known at this time what specific flood risk reduction projects would occur. A variety of levee improvements, modification, and maintenance, including construction of setback levees, could be part of projects encouraged by the Delta Plan.

Conclusion

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conversion of forestlands to nonforest use, this potential impact is considered **significant**.

7.4.3.4.5 Impact 7-5d: Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use

Effects of Project Construction

Construction-related activities at construction sites for flood risk reduction projects, including expansion and modification of levees, construction of setback levees, dredging (including land-based staging and placement of dredged material), and operable barriers along the levees, could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta and the Delta watershed.

In addition to direct impacts described in Sections 7.4.3.4.1 (Impact 7-1d), 7.4.3.4.2 (Impact 7-2d), 7.4.3.4.3 (Impact 7-3d), and 7.4.3.4.4 (Impact 7-4d), construction activities related to flood risk reduction projects could affect nearby forest or agricultural lands because of noise, access constraints, dust, or other effects that would indirectly result in conversion of these lands to other uses. These effects are discussed in other resource sections of this EIR, including Section 9, Air Quality; Section 15, Noise; and Section 19, Transportation, Traffic, and Circulation. Furthermore, disturbance and removal of existing vegetation as a part of construction activities could result in the spread of invasive species to new areas, negatively affecting the health or viability of surrounding agricultural or forest uses.

Effects of Project Operations

Implementing the Proposed Project could increase investments in levee improvements in the Delta. The improvements could primarily be to existing levees and typically would not alter their basic shape and configuration, except for the use of setback levees. Setback levees could extend the levee footprint and width into the landside of an area and increase riparian habitat on the waterside of the levee.

In addition to direct impacts described in Sections 7.4.3.4.1 (Impact 7-1d), 7.4.3.4.2 (Impact 7-2d), 7.4.3.4.3 (Impact 7-3d), and 7.4.3.4.4 (Impact 7-4d), operation of water quality project facilities could affect nearby forest or agricultural lands because of noise, access constraints, dust, or other effects that would indirectly result in conversion of these lands to other uses. These effects are discussed in other resource sections of this EIR, including Section 9, Air Quality; Section 15, Noise; and Section 19, Transportation, Traffic, and Circulation. The extent of impact would be influenced by the size of the facility footprint.

It is not known at this time what specific flood risk reduction projects would occur. However, the Delta Plan encourages implementation of the Sacramento Deep Water Ship Channel and Stockton Deep Water Ship Channel Dredging Project, which has not undergone project-specific environmental review. An analogous project that involves hydraulic dredging similar to this ship channel project is the North Delta Flood Control and Ecosystem Restoration Project. In addition to dredging projects, a variety of levee improvements, modification, and maintenance, including construction of setback levees, could be part of projects encouraged by the Delta Plan.

Documents reviewed for potential impacts from flood control projects included the North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010), which analyzes proposed flood management and ecosystem restoration projects in the Delta. These EIRs did not evaluate possible effects that the projects would have on offsite agricultural or timberland uses, but did address water quality improvement impacts on on-site agricultural resources. This EIR found that agricultural resources impacts were less than significant with mitigation (avoided by eliminating optional elements of the project that could impact farmland).

Based on this example, it is likely that some agricultural resources impacts of named projects and projects encouraged by the Delta Plan could be mitigated to a less-than-significant level.

For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

Detailed descriptions of named projects and projects encouraged by the Delta Plan are not currently available; however, it is possible that significant impacts on agricultural resources might be encountered that cannot be mitigated. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could indirectly result in conversion of forest or agricultural lands, this potential impact is considered **significant**.

7.4.3.5 Protection and Enhancement of Delta as an Evolving Place

As described in Sections 2A and 2B, the Delta Plan does not direct the construction of specific projects, nor would projects be implemented under the direct authority of the Delta Stewardship Council. However, the Delta Plan seeks to protect and enhance the Delta as an evolving place by encouraging various actions and projects that, if taken, could lead to completion, construction, and/or operation of associated projects. Features of such actions and could include the following:

- Gateways, bike lanes, parks, trails, and marinas and facilities to support wildlife viewing, angling, and hunting opportunities
- Additional retail and restaurants in legacy towns to support tourism

The number and location of all potential projects that would be implemented is not currently known. However, four possible projects are known to some degree and are named in the Delta Plan: new State parks at Barker Slough, at Elkhorn Basin, and in the southern Delta and the Economic Stability Plan. The Economic Stability Plan is not an activity that would generate agriculture or forestry resources impacts; therefore, it is not discussed further in this section.

7.4.3.5.1 Impact 7-1e: Conversion of Farmland to Nonagricultural Use

Effects of Project Construction

Construction-related activities at construction sites for Delta enhancement projects, including those identified in Section 7.4.3.5, could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta and the Delta watershed. Each of these activities could potentially convert agricultural land to nonagricultural use if it occurs on or near agricultural land.

The potential for conversion of agricultural land could occur throughout the Delta and in or near cities bordering the Delta, such as of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley.

Effects of Project Operation

Gateways, bike lanes, trails, parks, marinas, and other facilities could be established in the Delta to protect and enhance it as an evolving place. These facilities could adversely impact agricultural land locally, particularly if these lands have specific soil conditions (such as peat soils in the Delta) that support high-value crops that cannot be readily grown elsewhere in the Delta watershed by converting such land to nonagricultural use. The extent of impact would also be influenced by the size of the facility footprint.

It is not known at this time what types or where construction of specific Delta as evolving place type projects that could expose sensitive receptors to excessive construction noise would occur. However, the Delta Plan encourages implementation of State parks at Barker Slough, at Elkhorn Basin, and in the southern Delta. Documents reviewed for potential impacts included EIRs for the Bidwell–Sacramento River State Park Habitat Restoration and Outdoor Recreation Facilities Development Project (The Nature

Conservancy and California Department of Parks and Recreation 2008) and the Draft Programmatic EIR for the San Luis Rey River Park Master Plan (San Diego County Department of Parks and Recreation 2008), which are illustrative of some of the types of impacts associated with park and environmental enhancement projects. Although the Bidwell-Sacramento River project found impacts to be less than significant, the San Luis Rey River Park project found significant and unavoidable impacts related to conversion of farmland to nonagricultural use, because the park itself was sited on farmland. An alternate site was evaluated, but the lead agency selected the San Luis Rey River Park site based on the merits of the project.

For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

Detailed descriptions of named projects and projects encouraged by the Delta Plan are not currently available; however, it is possible that significant impacts on agricultural resources might be encountered that cannot be mitigated. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conversion of agricultural land to nonagricultural use, this potential impact is considered **significant**.

7.4.3.5.2 Impact 7-2e: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

Effects of Project Construction

Construction-related activities at construction sites for Delta enhancement projects, including those identified in Section 7.4.3.5, could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta and the Delta watershed. Each of these activities could potentially be in conflict with agricultural zoning or Williamson Act contracts if water supply projects are not permitted uses under such contracts or in agricultural zones. This conflict could result in conversion of agricultural land, causing physical impacts similar to those described in Section 7.4.3.5.1 (Impact 7-1e).

The potential for conversion of agricultural land could occur throughout the Delta and in or near cities bordering the Delta, such as of Sacramento, Elk Grove, Isleton, West Sacramento, Rio Vista, Fairfield, Benicia, Suisun City, Stockton, Lathrop, Manteca, Tracy, Pittsburg, Antioch, Brentwood, and Oakley.

Effects of Project Operation

Gateways, bike lanes, trails, parks, marinas, and other facilities could be established in the Delta to protect and enhance it as an evolving place. These facilities could conflict with agricultural zoning or Williamson Act contracts and lead to the conversion of land from agricultural use. The extent of impact would be influenced by the size of the facility footprint.

It is not known at this time what types or where construction of specific Delta as evolving place type projects that could expose sensitive receptors to excessive construction noise would occur. However, the Delta Plan encourages implementation of State parks at Barker Slough, at Elkhorn Basin, and in the southern Delta. Documents reviewed for potential impacts included EIRs for the Bidwell–Sacramento River State Park Habitat Restoration and Outdoor Recreation Facilities Development Project (The Nature Conservancy and California Department of Parks and Recreation 2008) and the Draft Programmatic EIR for the San Luis Rey River Park Master Plan (San Diego County Department of Parks and Recreation 2008), which are illustrative of some of the types of impacts associated with park and environmental enhancement projects.

While the specific impacts of named projects and projects encouraged by the Delta Plan, if they go forward, are yet to be determined, projects recently evaluated under CEQA with characteristics similar to those described provide perspective on the significance of these types on agriculture resources impacts and the likelihood that they can be mitigated. EIRs prepared for several of the enumerated projects and other, similar projects illustrate many of the likely impacts. These documents found impacts related to Williamson Act conflict to be less than significant and did not require mitigation. Based on these examples, it is likely that the agriculture resources impacts of named projects and projects encouraged by the Delta Plan could be mitigated to a less-than-significant level, by avoiding sites that are zoned for agriculture or are preserved in a Williamson Act contract. The San Luis Rey River EIR did find that the agricultural impacts associated with the new park was significant and unavoidable as described above in Section 7.4.3.5.1.

For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

Detailed descriptions of named projects and projects encouraged by the Delta Plan are not currently available; however, it is possible that significant impacts on agricultural resources might be encountered that cannot be mitigated. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conflict with existing agricultural zoning or Williamson Act contracts, this potential impact is considered **significant**.

7.4.3.5.3 Impact 7-3e: Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production

Gateways, bike lanes, trails, parks, marinas, and other facilities could be established in the Delta to protect and enhance it as an evolving place. Operation of these facilities could potentially lead to the conversion of land to nonforest use. However, as of 2001, none of the five Delta counties had land zoned TPZ, so there would be no conflict with forest or timber zoning.

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because there is no existing timber or forest zoning or TPZ in the Delta counties in which activities enhancing the Delta as an evolving place would occur, there would be **no impact** at the program level. Future project-specific analyses may develop adequate information to arrive at a different conclusion; however, for purposes of this program-level analysis, there is no available information to indicate that another finding is warranted or supported by substantial evidence.

7.4.3.5.4 Impact 7-4e: Loss of Forestland or Conversion of Forestland to Nonforest Use

Effects of Project Construction

The USFS estimates indicate that approximately 44,530 acres of private timberland, half of which is composed of western oaks, are located in the five Delta counties. Timberland represents about one quarter of forestland in the five Delta counties. Western oaks make up approximately 75 percent of nontimberland forest resources, making them the most abundant forest type in the five Delta counties. It is unclear how much, if any, of this forestland is located in the Delta, although the Fire and Resource Assessment Program estimates that 3,288 acres of hardwood habitats are located in the Delta.

As described in greater detail in Section 4, Biological Resources, 8,980 acres of riparian forest habitat are in the Delta. These areas typically occur in long, linear patches separating other terrestrial biological communities from agricultural or urban land or as low-lying, flood-prone patches near river bends, canals,

or breached levees. They can be located along major waterways, drainage channels, pond margins, and oxbows and in abandoned, low-lying fields. Forestlands in the Delta watershed that are most likely to be located near future construction sites would include woodlands in the foothills, and wooded riparian habitat along streams, along major waterways, drainage channels, pond margins, and oxbows and in abandoned, low-lying fields.

Construction-related activities at construction sites for Delta enhancement projects, including those identified in Section 7.4.3.5, could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta and the Delta watershed. Each of these activities could potentially result in loss of forestland or convert forestland to nonforest use if it occurs on or near forestland, including oak woodland riparian forests.

Effects of Project Operation

Gateways, bike lanes, trails, parks, marinas, and other facilities could be established in the Delta to protect and enhance it as an evolving place. Depending on their location, operation of these facilities could convert forestland to nonforest use. The extent of impact would be influenced by the size of the facility footprint.

It is not known at this time what types or where specific Delta as evolving place type projects that could convert forestland to nonforest use would occur. However, the Delta Plan encourages implementation of State parks at Barker Slough, at Elkhorn Basin, and in the southern Delta. Some wooded or riparian forest areas could be affected by these projects, depending on the location of new roads, buildings, and other developed recreational facilities associated with these parks.

Conclusion

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could result in conversion of forestlands to nonforest use, this potential impact is considered **significant**.

7.4.3.5.5 Impact 7-5e: Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use

Effects of Project Construction

Construction-related activities at construction sites for Delta enhancement projects, including those identified in Section 7.4.3.5, could require the use of heavy equipment, such as excavators, graders, scrapers, bulldozers, backhoes, and concrete mixing and pumping trucks. The facilities would be located in the Delta and the Delta watershed.

In addition to direct impacts described in Sections 7.4.3.5.1 (Impact 7-1e), 7.4.3.5.2 (Impact 7-2e), 7.4.3.5.3 (Impact 7-3e), and 7.4.3.5.4 (Impact 7-4e), construction activities related to projects that protect and enhance the Delta as an evolving place could affect nearby forest or agricultural lands because of noise, access constraints, dust, or other effects that would indirectly result in conversion of these lands to other uses. These effects are discussed in other resource sections of this EIR, including Section 9, Air Quality; Section 15, Noise; and Section 19, Transportation, Traffic, and Circulation. Furthermore, disturbance and removal of existing vegetation as a part of construction activities could result in the spread of invasive species to new areas, negatively affecting the health or viability of surrounding agricultural or forest uses.

Effects of Project Operations

Gateways, bike lanes, trails, parks, marinas, and other facilities could be established in the Delta to protect and enhance it as an evolving place. Depending on their location, operation of these facilities could lead to the conversion of agricultural land to nonagricultural use or forestland to nonforest use. The extent of impact would be influenced by the size of the facility footprint and any additional development induced by these facilities.

In addition to direct impacts described in Sections 7.4.3.5.1 (Impact 7-1e), 7.4.3.5.2 (Impact 7-2e), 7.4.3.5.3 (Impact 7-3e), and 7.4.3.5.4 (Impact 7-4e), operation of Delta enhancement projects could affect nearby forest or agricultural lands because of noise, access constraints, dust, introduction of invasive species, or other effects that would indirectly result in conversion of these lands to other uses. These effects are discussed in other resource sections of this EIR, including Section 9, Air Quality; Section 15, Noise; and Section 19, Transportation, Traffic, and Circulation. The extent of impact would be influenced by the size of the facility footprint.

It is not known at this time what types or where specific Delta as evolving place type projects that could convert agricultural lands to other uses would occur. However, the Delta Plan encourages implementation of State parks at Barker Slough, at Elkhorn Basin, and in the southern Delta. Documents reviewed for potential impacts included EIRs for the Bidwell–Sacramento River State Park Habitat Restoration and Outdoor Recreation Facilities Development Project (The Nature Conservancy and California Department of Parks and Recreation 2008) and the Draft Programmatic EIR for the San Luis Rey River Park Master Plan (San Diego County Department of Parks and Recreation 2008), which are illustrative of some of the types of impacts associated with park and environmental enhancement projects. Although the Bidwell-Sacramento River project found impacts to be less than significant, the San Luis Rey River Park project found significant and unavoidable impacts related to conversion of farmland to nonagricultural use.

For other named projects where an environmental impact analysis has not been prepared, it is expected that this impact analysis provides a reasonable analysis of potential effects that would occur if the projects of a similar nature and similar setting were implemented.

Conclusion

A detailed description of these projects is not available; however, it is possible that significant impacts on agricultural resources might be encountered that cannot be mitigated. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because named projects and projects encouraged by the Delta Plan could indirectly result in conversion of forest or agricultural lands, this potential impact is considered **significant**.

7.4.3.6 Mitigation Measures

Any covered action that would have one or more of the significant environmental impacts listed above shall incorporate the following features and/or requirements related to such impacts (e.g., preserving Farmland in perpetuity to reduce impacts related to conversion of Farmland to nonagricultural uses).

With regard to covered actions implemented under the Delta Plan, these mitigation measures will reduce the impacts of the Proposed Project. Project-level analysis by the agency proposing the covered action will determine whether the measures are sufficient to reduce those impacts to a less-than-significant level. Generally speaking, many of these measures are commonly employed to minimize the severity of an impact and in many cases would reduce impacts to a less-than-significant level, as discussed below in more detail.

With regard to actions taken by other agencies on the basis of Delta Plan recommendations (i.e., activities that are not covered actions), the implementation and enforcement of these measures would be within the responsibility and jurisdiction of public agencies other than the Delta Stewardship Council. Those agencies can and should adopt these measures as part of their approval of such actions, but the Delta Stewardship Council does not have the authority to require their adoption. Therefore, significant impacts of noncovered actions could remain **significant and unavoidable**.

How mitigation measures in this EIR relate to covered and noncovered actions is discussed in more detail in Section 2B, Introduction to Resource Sections.

7.4.3.6.1 Mitigation Measure 7-1

The following mitigation measures would reduce the effects of Impact 7-1a through e, Conversion of Farmland to Nonagricultural Uses, and Impact 7-5a through e, Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use:

- Design proposed projects to minimize, to the greatest extent feasible, the loss of the highest valued agricultural land.
- Preserve in perpetuity other Farmland through acquisition of an agricultural conservation easement, or contributing funds to a land trust or other entity qualified to preserve Farmland in perpetuity (at a ratio of 1:1 to compensate for permanent loss).
- Redesign project features to minimize fragmenting or isolating Farmland. Where a project involves acquiring land or easements, ensure that the remaining nonproject area is of a size sufficient to allow economically viable farming operations. The project proponents shall be responsible for acquiring easements, making lot line adjustments, and merging affected land parcels into units suitable for continued commercial agricultural management.
- Reconnect utilities or infrastructure that serve agricultural uses if these are disturbed by project construction. If a project temporarily or permanently cuts off roadway access or removes utility lines, irrigation features, or other infrastructure, the project proponents shall be responsible for restoring access as necessary to ensure that economically viable farming operations are not interrupted.
- Manage project operations to minimize the introduction of invasive species or weeds that may affect agricultural production on adjacent agricultural land. Where a project has the potential to introduce sensitive species or habitats or have other spill-over effects on nearby agricultural lands, the project proponents shall be responsible for acquiring easements on nearby agricultural land and/or financially compensating for indirect effects on nearby agricultural land. Easements (e.g., flowage easements) shall be required for temporary or intermittent interruption in farming activities (e.g., because of seasonal flooding or groundwater seepage). Acquisition or compensation would be required for permanent or significant loss of economically viable operations.

- Establish buffer areas between projects and adjacent agricultural land that are sufficient to protect and maintain land capability and agricultural operation flexibility. Design buffers to protect the feasibility of ongoing agricultural operations and reduce the effects of construction- or operation-related activities on adjacent or nearby properties. The buffer shall also serve to protect ecological restoration areas from noise, dust, and the application of agricultural chemicals. The width of the buffer shall be determined on a project-by-project basis to account for variations in prevailing winds, crop types, agricultural practices, ecological restoration, or infrastructure. Buffers can function as drainage swales, trails, roads, linear parkways, or other uses compatible with ongoing agricultural operations.

These mitigation measures are commonly employed on a variety of projects. In many cases, they reduce significant agricultural resources impacts to less-than-significant levels. Implementation of these mitigation measures would reduce the significance of agricultural conversion impacts by redesigning projects to minimize fragmentation of Farmland, preserving Farmland through acquisition of easements, and using buffers and control of invasive species to protect agricultural uses. In cases where substantial areas of lands would still be converted from agricultural use, these related impacts would remain **significant**.

7.4.3.6.2 Mitigation Measure 7-2

The following mitigation measures would reduce the effects of Impact 7-2a through e, Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract:

- Select a site or redesign a project to avoid land protected by agricultural zoning or a Williamson Act contract. Where feasible, project proponents should take into account agricultural value when selecting a project site, preferring nonprotected sites to protected sites and lower value sites (as quantified by the LESA model) to higher value and Williamson Act–protected lands.

- Limit ecological restoration activities to those activities consistent with Williamson Act contracts. A broad range of agriculture and open space activities are allowed on Williamson Act–protected land. Project proponents should evaluate compatibility of an action with the restrictions of the Williamson Act. If feasible, proponents would design projects to ensure that proposed ecological restoration activities are consistent with Williamson Act provisions.

These mitigation measures are commonly employed on a variety of projects. In many cases, they reduce significant agricultural resources impacts to less-than-significant levels. Implementation of these mitigation measures would reduce the significance of agricultural conversion impacts related to zoning or Williamson Act incompatibility by redesigning projects to minimize fragmentation of agricultural and limiting restoration activities to those that are consistent with zoning or Williamson Act contracts. In cases where substantial areas of incompatibility would exist, and lands would still be converted from agricultural use, these related impacts would remain **significant**.

7.4.3.6.3 Mitigation Measure 7-3

The following mitigation measures would reduce the effects of Impact 7-3a through e, Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production:

- Avoid land protected as forestland and timberland through site selection and/or project design. Where feasible, project proponents should take into account the value of the forest, not only in terms of direct products such as wood but also as part of the watershed ecosystem, when selecting a project site. Wherever possible, nonprotected sites should be preferred and selected instead of protected sites.

- Limit ecological restoration activities to those activities consistent with existing forestland and timberland zoning. If feasible, proponents should design projects to ensure that proposed ecological restoration activities are consistent with existing forestland or timberlands zoning provisions.

These mitigation measures are commonly employed on a variety of projects. In many cases, they reduce significant forest resources impacts to less-than-significant levels. Implementation of these mitigation measures would reduce the significance of forestland conversion impacts related to zoning or TPZ incompatibility by redesigning projects to avoid high-value forest areas and limiting restoration activities to those that are consistent with zoning or TPZ requirements. In cases where substantial areas of incompatibility would exist, and lands would still be converted from forest use, these related impacts would remain **significant**.

7.4.3.6.4 Mitigation Measure 7-4

The following mitigation measures would reduce the effects of Impact 7-4a through e, Loss of Forestland or Conversion of Forestland to Nonforest Use, and Impact 7-5a through e, Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use:

- Preserve in perpetuity other forestland through a conservation easement or by acquiring lands or contributing funds to a land trust or other agency (at a ratio of 1:1 to compensate for permanent loss).
- Avoid land protected as forestland and timberland through site selection and/or project design. Where feasible, project proponents should take into account the value of the forest, not only in terms of direct products such as wood, but also as part of the watershed ecosystem, when selecting a project site. When possible, unprotected sites should be preferred and selected instead of protected sites.
- Limit ecological restoration activities to those activities consistent with existing forestland and timberland zoning. If feasible, proponents should design projects to ensure that proposed ecological restoration activities are consistent with existing forestland or timberlands zoning provisions.
- When removal of existing forestland or timberlands is required as part of an action, proponents must acquire the property at fair market value.

These mitigation measures are commonly employed on a variety of projects. In many cases, they reduce significant agricultural and forestry resources impacts to less-than-significant levels. Implementation of these mitigation measures would reduce the significance of agricultural and forestland conversion impacts by redesigning projects to avoid and minimize fragmentation of Farmland and forestland, preserving Farmland and forestland through acquisition of easements, and limiting restoration activities to those consistent with existing zoning. In cases where substantial areas of lands would still be converted from agricultural or forest use, these related impacts would remain **significant**.

7.4.4 No Project Alternative

As described in Section 2A, Proposed Project and Alternatives, the No Project Alternative is based on the continuation of existing plans and policies and the continued operation of existing facilities into the future and permitted and funded projects. Seven ongoing projects have been identified as part of the No Project Alternative. The list of projects included in the No Project Alternative is presented in Table 2-2.

The significance of agriculture and forestry resources impacts is associated with the effects of construction on agricultural land and forestland, including conversion of these lands to nonagricultural or nonforest use. These effects can occur through direct conversion or through indirect conversion (for example, adjacent or nearby uses increasing the land value or causing conflicts that lead to conversion of agricultural land or forestland to other uses. With the No Project Alternative, project construction at the seven specific project sites is expected to be completed within the next 2–5 years.

To the extent that the specific projects would occur in areas of agricultural soils, areas zoned for agriculture or under Williamson Act contracts, TPZ areas, or areas zoned for forest use, conversion of the project footprint during construction of these facilities could have significant impacts. After construction is completed, operation of nonagricultural or nonforest uses could make this conversion permanent.

With the No Project Alternative, the Delta Plan would not be in place to encourage various other projects to move forward. To the extent that the absence of the Delta Plan prevents those projects from moving forward, there could be fewer construction-related impacts in the near and long term. Because agriculture and forestry resources impacts are related to the location of construction in areas of agricultural or forest use, the No Project Alternative could result in significant construction-related agriculture or forestry resources impacts like those of the Proposed Project.

The No Project Alternative is expected to have fewer agriculture and forestry resources impacts than the Proposed Project in the near term because there would be less construction and fewer changes in land use and therefore the reduced possibility of temporary or permanent conversion of agricultural land or forestland. Therefore, the No Project Alternative would have **fewer** occurrences of agriculture and forestry resources impacts when compared to the Proposed Project; however these occurrences may be **significant** depending on site-specific conditions.

7.4.5 Alternative 1A

Under Alternative 1A, the construction and operation of surface water projects (water intakes, treatment and conveyance facilities, and reservoirs) would be the same as under the Proposed Project. As described in Section 2A, Proposed Project and Alternatives, there would be fewer groundwater projects (wells, wellhead treatment, conveyance facilities), ocean desalination projects, recycled wastewater and stormwater projects (treatment and conveyance facilities), and water transfers compared with the Proposed Project. Water use efficiency and conservation programs also would be reduced compared to the Proposed Project.

Projects to restore the Delta ecosystem would be reduced in comparison to the Proposed Project. Implementation of flow objectives would not affect agricultural or forestry resources. Ecosystem stressor management activities and invasive species management (including removal of invasive vegetation) would be the same as described for the Proposed Project.

Projects and actions to improve water quality would be the same as under the Proposed Project. Flood risk reduction projects also would be the same as under the Proposed Project, except that there would be less emphasis on levee maintenance and modification of levees that protect agricultural land and more emphasis on levees that protect water supply corridors, which could result in an overall reduction in these activities. Projects to protect and enhance the Delta as an evolving place would be the same as for the Proposed Project.

7.4.5.1.1 Impact 7-1: Conversion of Farmland to Nonagricultural Use

The same type of agricultural land conversion impacts would occur under Alternative 1A as described under the Proposed Project.

Under this alternative, there would be fewer of the projects described in Sections 7.4.3.1 (Reliable Water Supply), 7.4.3.2 (Delta Ecosystem Restoration), and 7.4.3.4 (Flood Risk Reduction). Because fewer water supply, Delta ecosystem restoration, and flood risk reduction projects would occur under this alternative compared to the Proposed Project, there would be a smaller area of potential physical effect and, therefore, a reduced likelihood of farmland conversion under Alternative 1A.

Alternative 1A would have the same number and type of projects described for the Proposed Project in Sections 7.4.3.3 (Water Quality Improvement) and 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). Therefore, there would be a similar area of potential physical effect and therefore a similar likelihood of farmland conversion under Alternative 1A for these types of projects.

Overall, significant impacts related to conversion of farmland under Alternative 1A would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conversion of farmland under Alternative 1A would be **significant**.

7.4.5.1.2 Impact 7-2: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

The same type of potential conflicts with existing agricultural zoning or Williamson Act contracts would occur under Alternative 1A as described under the Proposed Project.

Under this alternative, there would be fewer of the projects described in Sections 7.4.3.1 (Reliable Water Supply), 7.4.3.2 (Delta Ecosystem Restoration), and 7.4.3.4 (Flood Risk Reduction). Because fewer water supply, Delta ecosystem restoration, and flood risk reduction projects would occur under this alternative compared to the Proposed Project, there would be a smaller area of potential physical effect and, therefore, a reduced likelihood of conflict with agricultural zoning or Williamson Act contracts under Alternative 1A.

Alternative 1A would have the same number and type of projects described for the Proposed Project in Sections 7.4.3.3 (Water Quality Improvement) and 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). Therefore, there would be a similar area of potential physical effect and therefore a similar likelihood of conflict with agricultural zoning or Williamson Act contracts under Alternative 1A for these types of projects.

Overall, significant impacts related to conflicts with existing agricultural zoning or Williamson Act contracts under Alternative 1A would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conflicts with existing agricultural zoning or Williamson Act contracts under Alternative 1A would be **significant**.

7.4.5.1.3 Impact 7-3: Loss of Forestland or Conversion of Forestland to Nonforest Uses

The same type of forestland conversion impacts would occur under Alternative 1A as described under the Proposed Project.

Under this alternative, there would be fewer of the projects described in Sections 7.4.3.1 (Reliable Water Supply), 7.4.3.2 (Delta Ecosystem Restoration), and 7.4.3.4 (Flood Risk Reduction). Because fewer water supply, Delta ecosystem restoration, and flood risk reduction projects would occur under this alternative compared to the Proposed Project, there would be a smaller area of potential physical effect and, therefore, a reduced likelihood of loss or conversion of forestland under Alternative 1A.

Alternative 1A would have the same number and type of projects described for the Proposed Project in Sections 7.4.3.3 (Water Quality Improvement) and 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). Therefore there would be a similar area of potential physical effect and therefore a similar likelihood of loss or conversion of forestland under Alternative 1A for these types of projects.

Overall, significant impacts related to loss of forestland or conversion of forestland to nonforest uses under Alternative 1A would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to loss of forestland or conversion of forestland to nonforest uses under Alternative 1A would be **significant**.

7.4.5.1.4 Impact 7-4: Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production

The same type of potential conflicts with existing forestland and timberland zoning would occur under Alternative 1A as described under the Proposed Project.

Under this alternative, there would be fewer of the projects described in Sections 7.4.3.1 (Reliable Water Supply), 7.4.3.2 (Delta Ecosystem Restoration), and 7.4.3.4 (Flood Risk Reduction). Because fewer water supply, Delta ecosystem restoration, and flood risk reduction projects would occur under this alternative compared to the Proposed Project, there would be a smaller area of potential physical effect and, therefore, a reduced likelihood of conflict with timber or forest zoning under Alternative 1A.

Alternative 1A would have the same number and type of projects described for the Proposed Project in Sections 7.4.3.3 (Water Quality Improvement) and 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). Therefore, would be a similar area of potential physical effect and therefore a similar likelihood of conflict with timber or forest zoning under Alternative 1A for these types of projects.

Overall, significant impacts related to conflicts with existing forestland and timberland zoning under Alternative 1A would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conflicts with existing forestland and timberland zoning under Alternative 1A would be **significant**.

7.4.5.1.5 Impact 7-5: Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use

The same type of indirect agricultural land and forestland conversion impacts would occur under Alternative 1A as described under the Proposed Project.

Under this alternative, there would be fewer of the projects described in Sections 7.4.3.1 (Reliable Water Supply), 7.4.3.2 (Delta Ecosystem Restoration), and 7.4.3.4 (Flood Risk Reduction). Because fewer water supply, Delta ecosystem restoration, and flood risk reduction projects would occur under this alternative compared to the Proposed Project, there would be a smaller area of potential physical effect and, therefore, a reduced likelihood of indirect agricultural land or timberland conversion under Alternative 1A.

Alternative 1A would have the same number and type of projects described for the Proposed Project in Sections 7.4.3.3 (Water Quality Improvement) and 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). Therefore, there would be a similar area of potential physical effect and therefore a similar likelihood of indirect agricultural land or timberland conversion under Alternative 1A for these types of projects.

Overall, significant impacts related to indirect conversion of agricultural land and forestland under Alternative 1A would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to indirect conversion of agricultural land and forestland under Alternative 1A would be **significant**.

7.4.5.2 Mitigation Measures

Mitigation measures for Alternative 1A would be the same as those described in Sections 7.4.3.6.1 (Mitigation Measure 7-1), 7.4.3.6.2 (Mitigation Measure 7-2), 7.4.3.6.3 (Mitigation Measure 7-3), and 7.4.3.6.4 (Mitigation Measure 7-4) for the Proposed Project. Because it is not known whether the mitigation measures listed above would reduce Impacts 7-1, 7-2, 7-3, 7-4, and 7-5 to a less-than-significant level for Alternative 1A, these potential impacts are considered **significant and unavoidable**.

7.4.6 Alternative 1B

Under Alternative 1B, the construction and operation of surface water projects (water intakes, treatment and conveyance facilities, and reservoirs) would be the same as under the Proposed Project. As described in Section 2A, Proposed Project and Alternatives, there would be fewer groundwater projects (wells, wellhead treatment, conveyance facilities), recycled wastewater and stormwater projects (treatment and conveyance facilities), and water transfers compared with the Proposed Project. Water use efficiency and conservation programs also would be reduced relative to the Proposed Project. There would be no ocean desalination projects.

Projects to restore the Delta ecosystem would be reduced in extent relative to the Proposed Project and would not emphasize restoration of floodplains in the lower San Joaquin River. Implementation of flow objectives would not be accelerated or include public trust considerations. Ecosystem stressor management activities and invasive species management (including removal of invasive vegetation) would be increased relative to the Proposed Project, but a variance to the USACE Levee Vegetation Policy would not be pursued. In addition, Alternative 1B would not require conformance with the habitat types and elevation maps presented in the Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions (DFG 2011).

Water quality improvement projects, including water treatment plants, conveyance facilities, and wells and wellhead treatment facilities, would be less emphasized relative to the Proposed Project, and greater emphasis would be placed on the construction and operation of wastewater treatment and recycle facilities and municipal stormwater treatment facilities.

Flood risk reduction would place greater emphasis on levee modification/maintenance and dredging than under the Proposed Project, but there would be no setback levees or subsidence reversal projects. Floodplain expansion projects would be fewer or less extensive, and use of reservoir reoperation would be reduced. Actions to protect and enhance the Delta as an evolving place would be consistent with the Economic Sustainability Plan, but the locations for new parks, as encouraged by the Proposed Project, would not be emphasized.

7.4.6.1.1 Impact 7-1: Conversion of Farmland to Nonagricultural Use

The same type of agricultural land conversion impacts would occur under Alternative 1B as described under the Proposed Project.

This alternative would have fewer reliable water supply projects (as described in Section 7.4.3.1), ecosystem restoration projects (as described in Section 7.4.3.2), and Delta enhancement projects (as described in Section 7.4.3.5). Because this alternative would have fewer of these types of projects compared to the Proposed Project, there would be a smaller geographic area affected by new facilities and uses and, therefore, a reduced likelihood of farmland conversion.

Although some types of water quality projects (as described in Section 7.4.3.3) would be more likely under this alternative, there would be less emphasis on water treatment plants and conveyance facilities. Hence, it is uncertain how these changes in emphasis would affect the overall footprint in comparison to the Proposed Project.

Similarly, although there would be more of some types of flood risk reduction projects (as described in Section 7.4.3.4), Alternative 1B would have fewer setback levees and floodplain expansion projects Hence, it is uncertain how these changes in emphasis would affect the overall footprint in comparison to the Proposed Project.

Overall, significant impacts related to conversion of farmland under Alternative 1B would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conversion of farmland under Alternative 1B would be **significant**.

7.4.6.1.2 Impact 7-2: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

The same type of potential conflicts with existing agricultural zoning or Williamson Act contracts would occur under Alternative 1B as described under the Proposed Project.

This alternative would have fewer reliable water supply projects (as described in Section 7.4.3.1), ecosystem restoration projects (as described in Section 7.4.3.2), and Delta enhancement projects (as described in Section 7.4.3.5). Because this alternative would have fewer of these types of projects compared to the Proposed Project, there would be a smaller geographic area affected by new facilities and uses and, therefore, a reduced likelihood of conflict with agricultural zoning or Williamson Act contracts.

Although some types of water quality projects (as described in Section 7.4.3.3) would be more likely under this alternative, there would be less emphasis on water treatment plants and conveyance facilities. Hence, it is uncertain how these changes in emphasis would affect the overall footprint in comparison to the Proposed Project.

Similarly, although there would be more of some types of flood risk reduction projects (as described in Section 7.4.3.4), Alternative 1B would have fewer setback levees and floodplain expansion projects. Hence, it is uncertain how these changes in emphasis would affect the overall footprint in comparison to the Proposed Project.

Overall, significant impacts related to conflicts with existing agricultural zoning or Williamson Act contracts under Alternative 1B would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conflicts with existing agricultural zoning or Williamson Act contracts under Alternative 1B would be **significant**.

7.4.6.1.3 Impact 7-3: Loss of Forestland or Conversion of Forestland to Nonforest Uses

The same type of forestland conversion impacts would occur under Alternative 1B as described under the Proposed Project.

This alternative would have fewer reliable water supply projects (as described in Section 7.4.3.1), ecosystem restoration projects (as described in Section 7.4.3.2), and Delta enhancement projects (as described in Section 7.4.3.5). Because this alternative would have fewer of these types of projects compared to the Proposed Project, there would be a smaller geographic area affected by new facilities and uses and, therefore, a reduced likelihood of loss or conversion of forestland.

Although some types of water quality projects (as described in Section 7.4.3.3) would be more likely under this alternative, there would be less emphasis on water treatment plants and conveyance facilities. Hence, it is uncertain how these changes in emphasis would affect the overall footprint in comparison to the Proposed Project.

Similarly, although there would be more of some types of flood risk reduction projects (as described in Section 7.4.3.4), Alternative 1B would have fewer setback levees and floodplain expansion projects. Hence, it is uncertain how these changes in emphasis would affect the overall footprint in comparison to the Proposed Project.

Overall, significant impacts related to loss of forestland or conversion of forestland to nonforest uses under Alternative 1B would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to loss of forestland or conversion of forestland to nonforest uses under Alternative 1B would be **significant**.

7.4.6.1.4 Impact 7-4: Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production

The same type of potential conflicts with existing forestland and timberland zoning impacts would occur under Alternative 1B as described under the Proposed Project.

This alternative would have fewer reliable water supply projects (as described in Section 7.4.3.1), ecosystem restoration projects (as described in Section 7.4.3.2), and Delta enhancement projects (as described in Section 7.4.3.5). Because this alternative would have fewer of these types of projects compared to the Proposed Project, there would be a smaller geographic area affected by new facilities and uses and, therefore, a reduced likelihood of conflict with timber or forest zoning.

Although some types of water quality projects (as described in Section 7.4.3.3) would be more likely under this alternative, there would be less emphasis on water treatment plants and conveyance facilities. Hence, it is uncertain how these changes in emphasis would affect the overall footprint in comparison to the Proposed Project.

Similarly, although there would be more of some types of flood risk reduction projects (as described in Section 7.4.3.4), Alternative 1B would have fewer setback levees and floodplain expansion projects. Hence, it is uncertain how these changes in emphasis would affect the overall footprint in comparison to the Proposed Project.

Overall, significant impacts related to conflicts with existing forestland and timberland zoning under Alternative 1B would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conflicts with existing forestland and timberland zoning under Alternative 1B would be **significant**.

7.4.6.1.5 Impact 7-5: Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use

The same type of indirect agricultural land and forestland conversion impacts would occur under Alternative 1B as described under the Proposed Project.

This alternative would have fewer reliable water supply projects (as described in Section 7.4.3.1), ecosystem restoration projects (as described in Section 7.4.3.2), and Delta enhancement projects (as described in Section 7.4.3.5). Because this alternative would have fewer of these types of projects compared to the Proposed Project, there would be a smaller geographic area affected by new facilities and uses and therefore, a reduced likelihood of indirect agricultural or forest conversion.

Although some types of water quality projects (as described in Section 7.4.3.3) would be more likely under this alternative, there would be less emphasis on water treatment plants and conveyance facilities. Hence, it is uncertain how these changes in emphasis would affect the overall footprint in comparison to the Proposed Project.

Similarly, although there would be more of some types of flood risk reduction projects (as described in Section 7.4.3.4), Alternative 1B would have fewer setback levees and floodplain expansion projects. Hence, it is uncertain how these changes in emphasis would affect the overall footprint in comparison to the Proposed Project.

Overall, significant impacts related to indirect conversion of agricultural land and forestland under Alternative 1B would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to indirect conversion of agricultural land and forestland under Alternative 1B would be **significant**.

7.4.6.2 Mitigation Measures

Mitigation measures for Alternative 1B would be the same as those described in Sections 7.4.3.6.1 (Mitigation Measure 7-1), 7.4.3.6.2 (Mitigation Measure 7-2), 7.4.3.6.3 (Mitigation Measure 7-3), and 7.4.3.6.4 (Mitigation Measure 7-4) for the Proposed Project. Because it is not known whether the mitigation measures listed above would reduce Impacts 7-1, 7-2, 7-3, 7-4, and 7-5 to a less-than-significant level for Alternative 1B, these potential impacts are considered **significant and unavoidable**.

7.4.7 Alternative 2

As described in Section 2A, Proposed Project and Alternatives, Alternative 2 would place greater emphasis on groundwater, ocean desalination, water transfers, water use efficiency and conservation, and recycled water projects, and less emphasis on surface water projects. The surface storage reservoirs considered under the DWR Surface Water Storage Investigation would not be encouraged; instead, surface storage in the Tulare Basin would be emphasized. Ecosystem restoration projects similar to but less extensive than those encouraged by the Proposed Project would be emphasized without the requirement to conform to the Ecosystem Restoration Program (ERP) habitat types and elevation map. Alternative 2 would emphasize the development of flow objectives that take into consideration updated flow criteria that support a more natural flow regime, water rights, and greater protection of public trust resources.

Actions to improve water quality would be similar to or greater than those under the Proposed Project, especially the treatment of wastewater and agricultural runoff. Actions to reduce flood risk under Alternative 2 would emphasize floodplain expansion and reservoir reoperation rather than levee construction and modification. The stockpiling of rock and encouragement of subsidence reversal projects would be the same as under the Proposed Project, as would actions to protect and enhance the Delta as an evolving place.

7.4.7.1.1 Impact 7-1: Conversion of Farmland to Nonagricultural Use

The same type of agricultural land conversion impacts would occur under Alternative 2 as described under the Proposed Project, although some types of water supply projects described in Section 7.4.3.1 (including desalination projects, water transfers, and water efficiency and conservation projects) would be more likely under this alternative. Alternative 2 would have no major water storage facilities, with the Tulare Lake Basin emphasized instead of facilities associated with the Surface Water Storage Investigation. The development of surface storage in the Tulare Lake Basin could result in the inundation of up to about 320,000 acres of agricultural land considered Farmland of Statewide Importance. In

addition, Alternative 2 would encourage the retirement or fallowing of about 380,000 acres of agricultural land within the San Luis Drainage Area, and possible periodic fallowing of additional agricultural land as a result of restrictions on the total amount of water to be exported from the Delta.

This alternative would influence about the same amount of habitat restoration (described in Section 7.4.3.2), although there would be greater emphasis on floodplain restoration. Thus, the level of farmland conversion resulting from ecosystem would be about the same as the Proposed Project.

Alternative 2 would have more water quality projects (as described in Section 7.4.3.3), resulting in a larger area potentially affected by new facilities and therefore a greater likelihood of farmland conversion.

Although some types of flood risk reduction projects (described in Section 7.4.3.4), including floodplain expansion projects, would be more likely under Alternative 2, there would be fewer levee improvements compared to the Proposed Project, and it is uncertain how these changes in emphasis would affect the overall footprint of improvements in Alternative 2 in comparison to the Proposed Project.

This alternative would have the same number and type of Delta enhancement projects as described for the Proposed Project in Section 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). There would be a similar area of potential physical effect and therefore a similar likelihood of farmland conversion for this topic area.

Overall, significant impacts related to conversion of farmland under Alternative 2 would be **greater than** under the Proposed Project because of the conversion of farmland primarily in the San Joaquin Valley.

As compared to existing conditions, the impacts related to conversion of farmland under Alternative 2 would be **significant**.

7.4.7.1.2 Impact 7-2: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

The same type of potential conflicts with existing agricultural zoning or Williamson Act contracts from construction and operations would occur under Alternative 2 as described under the Proposed Project.

Although some types of water supply projects described in Section 7.4.3.1 (including desalination projects, water transfers, and water efficiency and conservation projects) would be more likely under this alternative, Alternative 2 would have no major water storage facilities, with the Tulare Basin emphasized instead of facilities associated with the Surface Water Storage Investigation. Because there would be fewer surface water projects, the overall footprint of possible disturbance areas would be smaller than for the Proposed Project, resulting in a lower likelihood of conflict with agricultural zoning or Williamson Act contracts.

This alternative would have less extensive ecosystem restoration projects (described in Section 7.4.3.2), resulting in a smaller footprint and therefore a reduced likelihood of conflict with agricultural zoning or Williamson Act contracts.

Alternative 2 would have more water quality projects (as described in Section 7.4.3.3), resulting in a larger area potentially affected by new facilities and therefore a greater likelihood of conflict with agricultural zoning or Williamson Act contracts.

Although some types of flood risk reduction projects (described in Section 7.4.3.4), including floodplain expansion projects, would be more likely under Alternative 2, there would be fewer levee improvements compared to the Proposed Project, and it is uncertain how these changes in emphasis would affect the overall footprint of improvements in Alternative 2 in comparison to the Proposed Project.

This alternative would have the same number and type of Delta enhancement projects as described for the Proposed Project in Section 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). There would be a similar area of potential physical effect and therefore a similar likelihood of conflict with agricultural zoning or Williamson Act contracts for this topic area.

Overall, significant impacts related to conflicts with existing agricultural zoning or Williamson Act contracts under Alternative 2 would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conflicts with existing agricultural zoning or Williamson Act contracts under Alternative 2 would be **significant**.

7.4.7.1.3 Impact 7-3: Loss of Forestland or Conversion of Forestland to Nonforest Uses

The same type of forestland conversion impacts from construction and operations would occur under Alternative 2 as described under the Proposed Project.

Although some types of water supply projects described in Section 7.4.3.1 (including desalination projects, water transfers, and water efficiency and conservation projects) would be more likely under this alternative, Alternative 2 would have no major water storage facilities, with the Tulare Basin emphasized instead of facilities associated with the Surface Water Storage Investigation. Because there would be fewer surface water projects, the overall footprint of possible disturbance areas would be smaller than for the Proposed Project, resulting in a lower likelihood of forestland conversion.

This alternative would have less extensive ecosystem restoration projects (described in Section 7.4.3.2), resulting in a smaller footprint and therefore a reduced likelihood of forestland conversion.

Alternative 2 would have more water quality projects (as described in Section 7.4.3.3), resulting in a larger area potentially affected by new facilities and therefore a greater likelihood of forestland conversion.

Although some types of flood risk reduction projects (described in Section 7.4.3.4), including floodplain expansion projects, would be more likely under Alternative 2, there would be fewer levee improvements compared to the Proposed Project, and it is uncertain how these changes in emphasis would affect the overall footprint of improvements in Alternative 2 in comparison to the Proposed Project.

This alternative would have the same number and type of Delta enhancement projects as described for the Proposed Project in Section 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). There would be a similar area of potential physical effect and therefore a similar likelihood of forestland conversion for this topic area.

Overall, significant impacts related to loss of forestland or conversion of forestland to nonforest uses under Alternative 2 would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to loss of forestland or conversion of forestland to nonforest uses under Alternative 2 would be **significant**.

7.4.7.1.4 Impact 7-4: Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production

The same type of potential conflicts with existing forestland and timberland zoning impacts would occur under Alternative 2 as described under the Proposed Project.

Although some types of water supply projects described in Section 7.4.3.1 (including desalination projects, water transfers, and water efficiency and conservation projects) would be more likely under this alternative, Alternative 2 would have no major water storage facilities, with the Tulare Basin emphasized instead of facilities associated with the Surface Water Storage Investigation. Because there would be fewer surface water projects, the overall footprint of possible disturbance areas would be smaller than for the Proposed Project, resulting in a lower likelihood of conflict with forest or timber zoning.

This alternative would have less extensive ecosystem restoration projects (described in Section 7.4.3.2), resulting in a smaller footprint and therefore a reduced likelihood of conflict with forest or timber zoning.

Alternative 2 would have more water quality projects (as described in Section 7.4.3.3), resulting in a larger area potentially affected by new facilities and therefore a greater likelihood of conflict with forest or timber zoning.

Although some types of flood risk reduction projects (described in Section 7.4.3.4), including floodplain expansion projects, would be more likely under Alternative 2, there would be fewer levee improvements compared to the Proposed Project, and it is uncertain how these changes in emphasis would affect the overall footprint of improvements in Alternative 2 in comparison to the Proposed Project.

This alternative would have the same number and type of Delta enhancement projects as described for the Proposed Project in Section 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). There would be no impacts on TPZ because none occurs in the Delta.

Overall, significant impacts related to conflicts with existing forestland and timberland zoning under Alternative 2 would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conflicts with existing forestland and timberland zoning under Alternative 2 would be **significant**.

7.4.7.1.5 Impact 7-5: Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use

The same type of indirect agricultural land and forestland conversion impacts would occur under Alternative 2 as described under the Proposed Project.

Although some types of water supply projects described in Section 7.4.3.1 (including desalination projects, water transfers, and water efficiency and conservation projects) would be more likely under this alternative, Alternative 2 would have no major water storage facilities, with the Tulare Basin emphasized instead of facilities associated with the Surface Water Storage Investigation. Because there would be fewer surface water projects, the overall footprint of possible disturbance areas would be smaller than for the Proposed Project, resulting in a lower likelihood of indirect agricultural land or forestland conversion.

This alternative would have less extensive ecosystem restoration projects (described in Section 7.4.3.2), resulting in a smaller footprint and therefore a reduced likelihood of indirect agricultural land or forestland conversion.

Alternative 2 would have more water quality projects (as described in Section 7.4.3.3), resulting in a larger area potentially affected by new facilities and therefore a greater likelihood of indirect agricultural land or forestland conversion.

Although some types of flood risk reduction projects (described in Section 7.4.3.4), including floodplain expansion projects, would be more likely under Alternative 2, there would be fewer levee improvements compared to the Proposed Project, and it is uncertain how these changes in emphasis would affect the overall footprint of improvements in Alternative 2 in comparison to the Proposed Project.

This alternative would have the same number and type of Delta enhancement projects as described for the Proposed Project in Section 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). There would be a similar area of potential physical effect and therefore a similar likelihood of indirect agricultural land or forestland conversion for this topic area.

Overall, significant impacts related to indirect conversion of agricultural land and forestland under Alternative 2 would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to indirect conversion of agricultural land and forestland under Alternative 2 would be **significant**.

7.4.7.2 Mitigation Measures

Mitigation measures for Alternative 2 would be the same as those described in Sections 7.4.3.6.1 (Mitigation Measure 7-1), 7.4.3.6.2 (Mitigation Measure 7-2), 7.4.3.6.3 (Mitigation Measure 7-3), and 7.4.3.6.4 (Mitigation Measure 7-4) for the Proposed Project. Because it is not known whether the mitigation measures listed above would reduce Impacts 7-1, 7-2, 7-3, 7-4, and 7-5 to a less-than-significant level for Alternative 2, these potential impacts are considered **significant and unavoidable**.

7.4.8 Alternative 3

As described in Section 2A, Proposed Project and Alternatives, the water supply reliability projects and actions under Alternative 3 would be similar to those of the Proposed Project, although there would be less emphasis on surface water projects. Ecosystem restoration (floodplain restoration, riparian restoration, tidal marsh restoration, and floodplain expansion) would be reduced compared to the Proposed Project, and restoration on publicly owned lands, especially in Suisun Marsh and the Yolo Bypass, would be emphasized. There would be more ecosystem stressor management actions (e.g., programs for water quality, water flows) and more management for nonnative invasive species. Water quality improvements would be the same as for the Proposed Project.

Actions under Alternative 3 to reduce flood risk would not include setback levees or subsidence reversal, but would result in greater levee modification/maintenance and dredging compared to the Proposed Project. Reservoir reoperation and rock stockpiling would be the same as for the Proposed Project, as would activities to protect and enhance the Delta as an evolving place.

7.4.8.1.1 Impact 7-1: Conversion of Farmland to Nonagricultural Use

The same type of agricultural land conversion impacts would occur under Alternative 3 as described under the Proposed Project.

This alternative would have less extensive ecosystem restoration projects (described in Section 7.4.3.2), resulting in a smaller affected-area footprint and, therefore, a reduced likelihood of farmland conversion.

Although some types of flood risk reduction projects (described in Section 7.4.3.4), including modification of levees, would be more likely under Alternative 3, there would be no setback levees or subsidence reversal. Hence, it is uncertain how these changes in emphasis would affect the overall footprint (and thus impact) in comparison to the Proposed Project.

This alternative would have the same number and type of projects as described for the Proposed Project in Sections 7.4.3.1 (Reliable Water Supply), 7.4.3.3 (Water Quality Improvement), and 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). There would be a similar area of potential physical effect and, therefore, a similar likelihood of farmland conversion for these types of projects.

Overall, significant impacts related to conversion of farmland under Alternative 3 would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conversion of farmland under Alternative 3 would be **significant**.

7.4.8.1.2 Impact 7-2: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

The same type of potential conflicts with existing agricultural zoning or Williamson Act contracts from construction and operations would occur under Alternative 3 as described under the Proposed Project.

This alternative would have less extensive ecosystem restoration projects (described in Section 7.4.3.2), resulting in a smaller affected-area footprint and, therefore, a reduced likelihood of conflict with agricultural zoning or Williamson Act contracts.

Although some types of flood risk reduction projects (described in Section 7.4.3.4), including modification of levees, would be more likely under Alternative 3, there would be no setback levees or subsidence reversal. Hence, it is uncertain how these changes in emphasis would affect the overall footprint (and thus impact) in comparison to the Proposed Project.

This alternative would have the same number and type of projects described for the Proposed Project in Sections 7.4.3.1 (Reliable Water Supply), 7.4.3.3 (Water Quality Improvement), and 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). There would be a similar area of potential physical effect and, therefore, a similar likelihood of conflict with agricultural zoning or Williamson Act contracts for these types of projects.

Overall, significant impacts related to conflicts with existing agricultural zoning or Williamson Act contracts under Alternative 3 would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conflicts with existing agricultural zoning or Williamson Act contracts under Alternative 3 would be **significant**.

7.4.8.1.3 Impact 7-3: Loss of Forestland or Conversion of Forestland to Nonforest Uses

The same type of forestland conversion impacts from construction and operations would occur under Alternative 3 as described under the Proposed Project.

This alternative would have less extensive ecosystem restoration projects (described in Section 7.4.3.2), resulting in a smaller affected-area footprint and, therefore, a reduced likelihood of loss or conversion of forestland.

Although some types of flood risk reduction projects (described in Section 7.4.3.4), including modification of levees, would be more likely under Alternative 3, there would be no setback levees or subsidence reversal. Hence, it is uncertain how these changes in emphasis would affect the overall footprint (and thus impact) in comparison to the Proposed Project.

This alternative would have the same number and type of projects described for the Proposed Project in Sections 7.4.3.1 (Reliable Water Supply), 7.4.3.3 (Water Quality Improvement), and 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). There would be a similar area of potential physical effect and, therefore, a similar likelihood of loss or conversion of forestland for these types of projects.

Overall, significant impacts related to loss of forestland or conversion of forestland to nonforest uses under Alternative 3 would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to loss of forestland or conversion of forestland to nonforest uses under Alternative 3 would be **significant**.

7.4.8.1.4 Impact 7-4: Conflict with Existing Zoning for, or Cause Rezoning of, Forestland, Timberland, or Timberland Zoned for Timberland Production

The same type of potential conflicts with existing forestland and timberland zoning impacts would occur under Alternative 3 as described under the Proposed Project.

This alternative would have less extensive ecosystem restoration projects (described in Section 7.4.3.2), resulting in a smaller affected-area footprint and, therefore, a reduced likelihood of conflict with forest or timber zoning.

Although some types of flood risk reduction projects (described in Section 7.4.3.4), including modification of levees, would be more likely under Alternative 3, there would be no setback levees or subsidence reversal. Hence, it is uncertain how these changes in emphasis would affect the overall footprint (and thus impact) in comparison to the Proposed Project.

This alternative would have the same number and type of projects described for the Proposed Project in Sections 7.4.3.1 (Reliable Water Supply), 7.4.3.3 (Water Quality Improvement), and 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). There would be a similar area of potential physical effect and, therefore, a similar likelihood of conflict with forest or timber zoning for these types of project.

Overall, significant impacts related to conflicts with existing forestland and timberland zoning under Alternative 3 would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to conflicts with existing forestland and timberland zoning under Alternative 3 would be **significant**.

7.4.8.1.5 Impact 7-5: Involve Other Changes in the Existing Environment That, Because of Their Location or Nature, Could Result in Conversion of Farmland to Nonagricultural Use or Conversion of Forestland to Nonforest Use

The same type of indirect agricultural land and forestland conversion impacts would occur under Alternative 3 as described under the Proposed Project.

This alternative would have less extensive ecosystem restoration projects (described in Section 7.4.3.2), resulting in a smaller affected-area footprint and, therefore, a reduced likelihood of indirect agricultural land or forestland conversion.

Although some types of flood risk reduction projects (described in Section 7.4.3.4), including modification of levees, would be more likely under Alternative 3, there would be no setback levees or subsidence reversal. Hence, it is uncertain how these changes in emphasis would affect the overall footprint (and thus impact) in comparison to the Proposed Project.

This alternative would have the same number and type of projects described for the Proposed Project in Sections 7.4.3.1 (Reliable Water Supply), 7.4.3.3 (Water Quality Improvement), and 7.4.3.5 (Protection and Enhancement of Delta as an Evolving Place). There would be a similar area of potential physical effect and, therefore, a similar likelihood of indirect agricultural land or forestland conversion for these types of projects.

Overall, significant impacts related to indirect conversion of agricultural land and forestland under Alternative 3 would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to indirect conversion of agricultural land and forestland under Alternative 3 would be **significant**.

7.4.8.2 Mitigation Measures

Mitigation measures for Alternative 3 would be the same as those described in Sections 7.4.3.6.1 (Mitigation Measure 7-1), 7.4.3.6.2 (Mitigation Measure 7-2), 7.4.3.6.3 (Mitigation Measure 7-3), and 7.4.3.6.4 (Mitigation Measure 7-4) for the Proposed Project. Because it is not known whether the mitigation measures listed above would reduce Impacts 7-1, 7-2, 7-3, 7-4, and 7-5 to a less-than-significant level for Alternative 3, these potential impacts are considered **significant and unavoidable**.

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