

Chapter 11

Agricultural Resources

Affected Environment

Methods and Assumptions

The study area for the following discussion includes Sacramento, San Joaquin, Amador, and Calaveras counties (see Figures 2-1, 2-2, and 2-3). Primary information was gathered from numerous sources. The estimates of acreage of various types of farmland (e.g., Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Local Farmland) within the alignment corridors are based on the California Department of Conservation (CDC) Important Farmland maps for Sacramento, San Joaquin, and Amador counties. There is no CDC Important Farmland map for Calaveras County, so farmland information for that county was obtained from the Calaveras County General Plan and the Calaveras County Agricultural Commissioner's office. The location and extent of crop types are based on the California DWR land use maps. Crop yields and values are based on Sacramento, San Joaquin, Amador, Calaveras, Kings, and Fresno County annual crop reports. The analysis of farmland conversion impacts was performed by calculating farmland acreage within each alignment corridor, calculating corresponding crop yields and values that would be lost because of pipeline construction, and comparing the results with study area totals.

The number of properties currently under Williamson Act contracts was estimated by review of available maps and data provided by Sacramento, San Joaquin, Amador, and Calaveras Counties. The Williamson Act applies only to privately owned lands. Because nearly all land that would be affected within Amador and Calaveras counties is publicly owned, the Williamson Act would not be applicable to these lands.

Freeport Intake Facility to Mokelumne Aqueducts

Agricultural Production

The value of agricultural production for the entire two counties in the Freeport intake facility to the Mokelumne Aqueducts study area is summarized in

Table 11-1. Portions of these counties would be traversed by the project alternatives.

Table 11-1. Estimated Value of Agricultural Production in Sacramento and San Joaquin Counties: 2001

County	Gross Value (\$)
Sacramento	294,960,000
San Joaquin	1,389,307,000
Totals	\$1,684,267,000

Source: Sacramento County Department of Agriculture 2002.
San Joaquin County Department of Agriculture 2002.

Prime Farmland

Prime farmland is defined as land with the best combination of physical and chemical characteristics able to sustain long-term production of agricultural crops (California Department of Conservation 2000a). Prime farmland within the study area is located in southeastern Sacramento County and northeastern San Joaquin County. Prime farmland summaries for the year 2000 for the two counties are presented below.

Sacramento County

In 2000, the County of Sacramento contained an estimated 116,116 acres of Prime Farmland, making up 29.3% of its total agricultural land acreage, a decline of 1% from 1998. The estimated 116,116 acres of Prime Farmland make up 18.3% of Sacramento County's total land base. This acreage also is down approximately 1% from 1998 (California Department of Conservation 2002). Prime farmland exists in parts of Sacramento County that would be traversed by pipeline segments or potentially occupied by the Zone 40 Surface WTP (Tables 11-2 and 11-3). Note that only those pipeline segments that would potentially affect farmland are listed in Table 11-2.

San Joaquin County

In 2000, San Joaquin County contained an estimated 423,158 acres of Prime Farmland, comprising 54.2% of its total agricultural land acreage. This represents a 0.5% decrease from 1998. The 423,158 acres of Prime Farmland estimated in 2000 make up 46% of its total land base, a decline of 0.6% from 1998 (California Department of Conservation 2002). Prime farmland exists

Table 11-2. Pipeline Segments Mileage Paralleling or Crossing Prime or Important, State, Local, and Unique Farmland

Segment ¹	Alternatives Affected	Length of Segment (miles)	Prime	Statewide	Unique	Local	Williamson Act Lands (Miles)	Crop Type Paralleled or Crossed
A	2 to 6	0.23	0	0	0	0	0.0	Urban Uses
C	2, 3	2.60	0	0	0	0.2	0.0	Urban Uses
D	2, 3	0.27	0	0	0	0	0.0	Urban Uses
E	2, 3	0.85	0	0	0	0.35	0.0	Urban Uses
H	2 to 6	1.32	0	0	0	0.25	0	Urban Uses, Native Vegetation
I	2 to 6	2.00	0	0.4	0	0.825	0	Urban Uses, Native Vegetation, Pasture, Truck Crops
J	2, 4	1.01	0	0	0	0.225	0	Urban Uses, Native Vegetation,
K	2, 4	4.93	0	0.6	0.45	1.8	2	Urban Uses, , Native Vegetation, Pasture, Truck Crops, Water
L	3, 5	1.03	0.25	0	0	0.65	0	Urban Uses, , Native Vegetation, Pasture, Water
M	3, 5	0.98	0	0	0	0.25	0	Urban Uses, , Native Vegetation, Pasture
N	3, 5	2.82	0	0.45	0	0.85	2	Urban Uses, Pasture, Native Vegetation, Vineyards, Water
O	3, 5	0.15	0	0.05	0.1	0	0.13	Native Vegetation, Pasture
R	4, 5, 6	1.99	0.9	0.9	0	0.1	0	Native Vegetation, Pasture, Water
S	4, 5, 6	0.92	0	0	0	0.625	0	Urban Uses, Native Vegetation
Option 1	4, 5, 6 (option)	2.47	1.400	0.475	0	0.7	0	Native Vegetation, Water Bodies, Pasture, Urban Uses, Water
Option 2	2 to 5 (option)	0.50	0	0	0	0	0	Urban Uses

Segment ¹	Alternatives Affected	Length of Segment (miles)	Prime	Statewide	Unique	Local	Williamson Act Lands (Miles)	Crop Type Paralleled or Crossed
V	2 to 5	2.89	0	0	0.55	1.1	1	Orchards, Native Vegetation, Semi-Agricultural
W	2 to 5	9.68	0.85	1.65	2.04	3.09	7.8	Orchards, Native Vegetation, Vineyards, Pasture, Field Crops, Semi-Agricultural, Truck Crops, Urban Uses
X	2 to 5	5.91	0.2	0	0	0.5	3.95	Pasture, Native Vegetation, Water Bodies, Urban Uses
Option 3	2 to 5 (option)	7.90	0.9	0.12	3.28	0	6.72	Orchards, Vineyards, Native Vegetation, Riparian Vegetation

Sources: CDC, 1998–2001; California Department of Water Resources, 1996–2000.

Note:

¹ Segments listed in this table are only those segments that may be or would be potentially outside roadway rights-of-way and hence could affect Prime, Important, or Unique Farmlands and Williamson Act lands. Inclusion of segments in Table 11-2 was based on land use assumptions provided by Jones & Stokes in November 2002.

Table 11-3. Project Facility Areas Located on Prime or Important, State, Local, and Unique Farmland

Facilities	Alternatives Affected	Area of Facility	Prime	Statewide	Unique	Local	Williamson Act Lands (Acres)	Crop Type
Zone 40 Surface WTP siting area	2 to 6	80–100 acres ¹	35	360	80	847.5	0	Native Vegetation, Pasture, Urban Uses, Truck Crop, Water
Freeport Intake Facility and On-Site Settling Basins	2 to 6	10 acres	0	0	0	0	0	Urban Uses, Riparian Vegetation
Optional Terminal Facility Settling Basins, Grant Line option	3, 5	16 acres	0	1.06	2.14	0	16	Pasture
Optional Terminal Facility Settling Basins, Florin Rd. option	2, 4	16 acres	0	16	0	0	16	Pasture
Canal Pumping Plant	2 to 5	3.2 acres	0	0	0	0	3.2	Native Vegetation
Aqueduct Pumping Plant and Pretreatment Facility, Camanche site	2 to 5	25 acres	0	0	0	0	0	Native Vegetation
Aqueduct Pumping Plant and Pretreatment Facility, optional Brandt site	2 to 5	25 acres	0	0	0	0	25	Native Vegetation
Inundation Area of Enlarged Pardee Reservoir	6		0	0	0	0	0	Native Vegetation

Sources: CDC, 1998–2001; California Department of Water Resources, 1996–2000.

Note:

¹ Although the Zone 40 Surface WTP would only occupy about 80–100 acres, its location within the siting area (bounded by Elder Creek, Gerber, Bradshaw, and Excelsior roads) has not yet been selected. Acreages of prime, important, and unique lands are for the entire siting area. The actual area affected by the WTP would be less than the acreages listed.

in parts of San Joaquin County that would be traversed by pipeline segments (Tables 11-2 and 11-3).

Important and Unique Farmland

CDC-designated Farmland of Statewide Importance, Farmland of Local Importance, Unique Farmland, and grazing land also occur within the study area. Although these lands do not qualify as Prime Farmland, they are used for production of the state's major crops, such as fruits and vegetables, or are lands that currently support confined and/or grazing livestock. These lands may or may not be irrigated.

Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland exist in parts of Sacramento and San Joaquin Counties that would be traversed by pipeline segments or potentially occupied by project facilities (Tables 11-2 and 11-3).

Williamson Act Lands

The California Land Conservation Act (Williamson Act) enables counties and cities to designate agricultural preserves (Williamson Act lands) and offer preferential taxation to private agricultural landowners based on the income-producing value of their property in agricultural use, rather than on the property's assessed market value. In return for the preferential tax rate, the landowner is required to sign a contract with the county or city agreeing not to develop the land for a minimum 10-year period. Contracts are automatically renewed annually unless a party to the contract files for nonrenewal or petitions for cancellation.

Permissible land uses under Williamson Act contracts are governed by Government Code Section 51238.1. Each city and county has the discretion to determine land uses that are or are not compatible with Williamson Act contracts, provided these uses are not prohibited under the Act. Pipelines are not prohibited under the Act.

The County of Sacramento has adopted a standard list of compatible uses in Williamson Act contracted parcels as Exhibit B of the County's Resolution Establishing Agricultural Preserve. This list includes "gas, electric, water, and communication utility facilities." Water pipelines are considered a water facility. However, specific contracts could have differing lists of compatible land uses (Lindsay pers. comm.).

San Joaquin County also has adopted a list of compatible land uses, including Utility Services (San Joaquin County Zoning Code, Chapter 9-1810). Pipelines are one of the compatible Utility Services (Martin pers. comm.).

Enlarge Pardee Reservoir

Agricultural Production in Amador and Calaveras Counties

The value of agricultural production for the two counties in the Pardee Reservoir area is summarized in Table 11-4.

Table 11-4. Estimated Value of Agricultural Production in Amador and Calaveras Counties: 2001

County	Gross Value (\$)
Amador	27,168,500
Calaveras	26,453,000
Total:	\$63,621,520

Sources: Amador County Department of Agriculture 2002.
Calaveras County Department of Agriculture 2002.

Prime Farmland

Prime farmland summaries for Amador and Calaveras Counties are presented below.

Amador County

In 2000, Amador County contained an estimated 3,873 acres of Prime Farmland, making up 1.9% of its total 202,356 agricultural acres. This estimated Prime Farmland acreage makes up an estimated 1.3% of Amador County's total land base. (California Department of Conservation 2002). No Prime Farmland exists in the area of Amador County that potentially would be affected by the enlargement of Pardee Reservoir.

Calaveras County

The CDC does not have Prime Farmland estimates for Calaveras County.

Important and Unique Farmland

No Farmland of Statewide Importance, Farmland of Local Importance, or Unique Farmland exists within the area potentially affected by the enlargement of Pardee

Reservoir. The potentially affected area around the reservoir is native vegetation grazing land.

Williamson Act Lands

There are 95,425 acres of land under Williamson Act contracts in Amador County, about 47% of the county's agricultural lands. Of the 245,116 total farmland acres in Calaveras County, approximately 53% is in Williamson Act Agricultural Preserves (Calaveras County Department of Agriculture 2002). Because the Williamson Act pertains only to privately owned property and most lands adjacent to Pardee Reservoir are publicly owned, few lands in Calaveras or Amador Counties adjacent to Pardee Reservoir are eligible for Williamson Act designation. No lands enrolled in the Williamson Act program would be affected by the enlargement of Pardee Reservoir.

South-of-Delta Agricultural Lands

Agricultural Production in Kings and Fresno Counties

The value of agricultural production for two counties representative of south-of-Delta agricultural lands where secondary impacts may occur is summarized in Table 11-5.

Table 11-5. Estimated Value of Agricultural Production in Kings and Fresno Counties: 2002

County	Gross Value (\$)
Kings	951,950,000
Fresno	3,215,185,000
Total:	\$4,167,135,000

Sources: California Agricultural Statistics Service 2002.

Farmland

In 2002, Kings County contained an estimated 749,100 acres of farmland, and Fresno County contained an estimated 1,204,358 acres of farmland (neither estimate includes grazing land).

Environmental Consequences

Methods and Assumptions

The impact evaluation assumes a 130-foot-wide right-of-way consisting of an 80-foot-wide permanent operation corridor and a 50-foot-wide temporary construction corridor for all pipeline alignments. While there are some pipeline segments that would not require a full 130-foot-wide right-of-way (the FSCC segments in particular), that width is used consistently for purposes of this analysis. The analysis also assumes that all agricultural land within the permanent operation corridors would *not* return to agricultural production, but agricultural land uses would be reestablished in the temporary 50-foot-wide construction corridors, as described in the Agricultural Land Restoration Plan outlined in the Project Description for this project (see Chapter 2 of this document). Certain agricultural uses, including nonirrigated crops and pasture, would likely be able to resume within permanent pipeline rights-of-way following construction; however, the evaluation method used in this analysis provides a worst-case estimate of the amount of agricultural land permanently converted. Short-term withdrawal from agricultural use of lands in the temporary construction corridor is identified but not considered a significant impact because it would revert back to agricultural use within one growing season.

The impacts analysis also includes an evaluation of impacts on agricultural lands associated with the canal pumping plant, the aqueduct pumping plant and pretreatment facility, power transmission facilities, and pipeline construction staging areas. In addition, the impacts on agricultural lands associated with the Zone 40 Surface WTP site area are included in this analysis. Conversion of agricultural land as a result of construction of the various project facilities is considered permanent. The pipeline construction staging areas would be small and would be restored to their original uses following construction. Thus, they would not contribute to long-term impacts on agricultural production or loss of Prime Farmland. Although the exact number and locations of construction staging areas have not yet been determined, these areas are accounted for in this conservative analysis.

The number of properties and total mileage traversed by project alternatives on lands currently under Williamson Act contracts is estimated by review of available maps, data provided by Sacramento and San Joaquin counties, and data provided by the CDC.

The segments and mileage figures in Table 11-2 and used for the impacts analysis reflect only those segments that parallel farmland and include the following assumptions:

- Alignments following roadways without adequate amounts of unpaved rights-of-way would be constructed within the paved roadway or along its shoulder to the extent feasible. It is likely that private land (using temporary

easements and, in limited cases, permanent easements) will be used in some instances for construction and/or long-term maintenance/access purposes.

- Alignments following parcel boundaries or existing and anticipated rights-of-way would be constructed in a manner that minimizes long-term impacts on private property. Temporary and/or permanent easements will be used for construction and/or long term maintenance and access purposes.

Significance Criteria

The criteria used for determining the significance of an impact on agricultural resources are based on Appendix G of the CEQA Guidelines (Environmental Checklist), Sacramento County's specific adopted criteria of significance, and professional standards and practices. Impacts on agricultural resources may be considered significant if implementation of an alternative would:

- convert a substantial amount of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (collectively "Farmland"), as shown on CDC maps, to nonagricultural use;
- conflict with existing zoning for agricultural use or convert a substantial amount of land under a Williamson Act contract; or
- involve other changes in the existing environment, which, because of their location or nature, could result in substantial conversion of farmland to nonagricultural use or substantial loss of production value of specific crops relative to the total production value in the study area.

Sacramento County has adopted a significance threshold of conversion of over 50 acres of Prime Farmland or Farmland of Statewide Importance to nonagricultural uses (Policy CO-55 in the Conservation Element of the General Plan). Therefore, a 50-acre threshold is used in determining the level of significance for these categories of farmland within any single county.

Less-than-Significant Impacts

Alternative 1

Alternative 1 would have no construction-related or operation-related impacts on farmland or crop production associated with construction of FRWP facilities within any of the affected counties.

Alternatives 2–5

Alternatives 2 through 5 differ only in the pipeline alignments from the intake facility to the FSC. Project construction and operation for Alternatives 2

through 5 are very similar. Impacts related to agricultural resources for each alternative differ only slightly from each other; therefore, the results for Alternatives 2 through 5 are presented together but are representative of each individual alternative, unless otherwise noted.

Impact 11-1: Loss of Agricultural Production

The permanent conversion of agricultural land for Alternatives 2–5 would be approximately 55.9 to 73.4 acres for the pipeline alignments from the intake facility to the Mokelumne Aqueducts. Associated annual losses in annual production value would be approximately \$63,000–\$118,000 (see Table 11-6). The temporary loss of production because of construction activities occurring within the 50-foot-wide construction corridor would be 35–46 acres in the alignment from the intake facility to the Mokelumne Aqueducts. Associated temporary (1-year) losses in production value would be approximately \$39,250–\$73,800. The other project facilities could permanently convert up to 132 additional acres, most of which would occur if the Zone 40 Surface WTP were located on agricultural lands. This would represent an annual loss of approximately \$5,000 in agricultural production. The estimated total acreage of agricultural land removed from production represents less than 0.06% of the total agricultural land under production in the study area, and the loss of production from these lands would represent less than 0.02% of the total value of agricultural production in the study area (Table 11-6). The impact of permanent loss of a small percentage of the agricultural production would be less than significant. No mitigation is required.

Along the pipeline alignments, several pipeline segments would cross or affect nearby vineyards. Temporary construction-period impacts related to dust/air quality could result in conflicts with these vineyards. These impacts would be temporary and relatively short-term. In addition, FRWA would adhere to the environmental commitments concerning dust suppression (refer to Environmental Commitments section of Chapter 2). Therefore this impact would be less than significant. No mitigation is required.

Impact 11-2: Nonrenewal or Termination of Williamson Act Contracts

About 414 to 416 acres of land under Williamson Act contracts would be affected under Alternatives 2 through 5, as shown in Table 11-7. Of these affected lands, about 331.8 of these acres are in San Joaquin County, with the remaining affected acres in Sacramento County. The figures represent about 0.06% of the total 540,925 acres of land under the Williamson Act contracts in San Joaquin County and about 0.24% of the total 176,285 acres of land under the Williamson Act contracts in Sacramento County. In Sacramento County, there would be a permanent loss of approximately 58–59.2 acres in the 80-foot-wide operations corridor and an additional temporary loss of 24.2–25 acres during construction. Of the 414–416 acres affected in San Joaquin County, there would

Table 11-6. Estimated Harvest Acreage and Production Values within the Alignment Corridors: Alternatives 2–6 and Facilities (Part 1 of 5)

	Alternative 2: Sacramento County (Freeport to County Line) ^a			Alternative 3: Sacramento County (Freeport to County Line)			Alternative 4: Sacramento County (Freeport to County Line)			Alternative 5: Sacramento County (Freeport to County Line)		
Crop Type	Perm. 80-Foot Ops Corridor	Temporary Construction	Total	Perm. 80-Foot Ops Corridor	Temporary Construction	Total	Perm. 80-Foot Ops Corridor	Temporary Construction	Total	Perm. 80-Foot Ops Corridor	Temporary Construction	Total
Vineyards												
Acres	0	0	0	2.91	1.82	4.73	0	0	0	2.91	1.82	4.73
Value	\$0	\$0	\$0	\$10,752	\$6,720	\$17,472	\$0	\$0	\$0	\$10,752	\$6,720	\$17,472
Pasture/Range												
Acres	10.18	6.36	16.55	16.48	10.3	26.79	13.58	8.48	22.06	19.88	12.42	32.3
Value	\$488	\$305	\$794	\$791	\$494	\$1,285	\$651	\$407	\$1,058	954	596	\$1,550
Orchards ^b												
Acres	0	0	0	0	0	0	0	0	0	0	0	0
Value	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Acres	10.18	6.36	16.55	19.39	12.12	31.52	13.58	8.48	22.06	22.79	14.24	37.03
Total Value (\$ per Alternative	488	305	794	11,543	7,214	18,757	651	407	1,058	11,706	7,316	19,022

Notes:

a This table describes only those alignments that would potentially affect agricultural lands, i.e., those alignments assumed to be outside of roadways and public rights-of-way, as listed in Table 11-2.

b Orchards totals are comprised of all fruit and nut tree crops minus vineyards. Orchards value (\$2,700/acre) was calculated by averaging the value of all fruit and nut tree crops minus vineyards.

Sources: 2001 Agricultural Reports for Sacramento, San Joaquin, Amador, and Calaveras Counties; California Dept. of Water Resources Land Use/Land Cover map, 1996-2000.

Table 11-6. Estimated Harvest Acreage and Production Values within the Alignment Corridors: Alternatives 2–6 and Facilities (Part 2 of 5)

	Alternatives 2 through 5: San Joaquin County (County Line to Mokelumne Aqueducts)			Alternative 6: Sacramento County (Freeport to Zone 40 Surface WTP)			Alternative 6: Amador and Calaveras Counties (Pardee Reservoir)
Crop Type	Perm. 80-Foot Ops Corridor	Temporary Construction	Total	Perm. 80-Foot Ops Corridor	Temporary Construction	Total	Total
Vineyards							
Acres	5.92-6.30	3.70-3.94	9.61-10.24	0	0	0	0
Value	\$17,242-18,373	\$10,776- 11,483	\$28,019- 29,856	\$0	\$0	\$0	\$0
Pasture/Range							
Acres	1.65-32.19	1.03-20.12	2.68-52.32	5.82	3.64	9.45	1,225
Value	\$46-901	\$28-563	\$75-1,464	\$279	\$174	\$453	\$14,087
Orchards							
Acres	12.12-38.21	7.58-23.88	19.7-62.08	0	0	0	0
Value ^b	\$31,830- 100,329	\$19,893- 62,705	\$51,724- 163,034	\$0	\$0	\$0	\$0
Total Acres	45.77-50.62	28.61-31.64	74.38- 82.25	5.82	3.64	9.45	1,225
Total Value (\$) Per Alt.	51,105-117,617	31,940- 73,511	83,045- 191,129	297	174	453	14,087

Table 11-6. Estimated Harvest Acreage and Production Values within the Alignment Corridors: Alternatives 2–6 and Facilities (Part 3 of 5)

	Zone 40 Surface WTP: Sacramento County (Alternatives 2-6)		Terminal Settling Basins, Grant Line option: Sacramento County (Alternatives 3 and 5)		Terminal Settling Basins, Florin Rd. option: Sacramento County (Alternatives 2 and 4)	
Crop Type	Perm. 80-Foot Ops Corridor	Total	Perm. 80-Foot Ops Corridor	Total	Perm. 80-Foot Ops Corridor	Total
Vineyards						
Acres	0	0	0	0	0	0
Value	\$0	\$0	\$0	\$0	\$0	\$0
Pasture/Range						
Acres	100	100	16	16	16	16
Value	\$4,800	\$4,800	\$768	\$768	\$768	\$768
Orchards						
Acres	0	0	0	0	0	0
Value ^b	\$0	\$0	\$0	\$0	\$0	\$0
Total Acres	100	100	16	16	16	16
Total Value per Facility	\$4,800	\$4,800	\$768	\$768	\$768	\$768

Table 11-6. Estimated Harvest Average and Production Values within Alignment Corridors: Alternatives 2–6 and Facilities (Part 4 of 5)

Total Harvest Acreage and Production of Alternatives 2 through 6 with Facilities including all Counties										
		Alternative 2 (WTP and Florin Rd Terminal Settling Basin)			Alternative 3 (WTP and Grant Line Terminal Settling Basin)			Alternative 4 (WTP and Florin Rd. Terminal Settling Basin)		
Crop Type		Perm. 80-Foot Ops Corridor	Temporary Construction	Total	Perm. 80-Foot Ops Corridor	Temporary Construction	Total	Perm. 80-Foot Ops Corridor	Temporary Construction	Total
Vineyards	Acres:	5.92-6.30	3.70-3.94	9.61-10.24	8.83-9.21	5.52-5.76	14.34-14.97	5.92-6.30	3.70-3.94	9.61-10.24
	Value:	\$17,242.67-18,373.33	\$10,776.67-11,483.33	\$28,019.33-29,856.67	\$27,994.67-29,125.33	\$17,496.67-18,203.33	\$45,491.33-47,328.67	\$17,242.67-18,373.33	\$10,776.67-11,483.33	\$28,019.33-29,856.67
Pasture/Range	Acres:	127.83-158.37	7.39-26.48	135.23-184.87	134.13-164.67	11.33-30.42	145.47-195.11	131.23-161.77	9.51-28.6	140.74-190.37
	Value:	\$6,102.89-6,958.16	\$334.30-868.84	\$6,437.19-7,827.00	\$86,180.76-7,260.70	\$523.40-1057.94	\$6,928.83-8,318.64	\$6,265.80-7,121.07	\$436.12-970.66	\$6,701.92-8,091.73
Orchards	Acres:	12.12-38.21	7.58-23.88	19.7-62.08	12.12-38.21	7.58-23.88	19.7-62.08	12.12-38.21	7.58-23.88	19.7-62.08
	Values:	\$31,830.30-100,329.12	\$19,893.94-62,705.70	\$51,724.24-163,034.81	\$31,830.30-100,329.12	\$19,893.94-62,705.70	\$51,724.24-163,034.81	\$31,830.30-100,329.12	\$19,893.94-62,705.70	\$51,724.24-163,034.81
Total	Acres:	145.87-202.88	18.67-54.3	164.54-257.19	155.08-212.09	24.43-60.06	179.51-272.16	149.27-206.28	20.79-56.42	170.05-262.69
	Values:	\$55,175.86-125,660.61	\$31,004.91-75,057.87	\$86,180.76-200,718.48	\$146,005.73-136,715.15	\$1,966.97-81,966.97	\$104,144.40-218,682.12	\$55,338.77-125,823.52	\$75,159.69-31,106.73-	\$86,445.49-200,983.21

Table 11-6. Estimated Harvest Average and Production Values within Alignment Corridors: Alternatives 2–6 and Facilities (Part 5 of 5)

Total Harvest Acreage and Production of Alternatives 2 through 6 with Facilities including all Counties							
		Alternative 5 (WTP and Grant Line Terminal Settling Basin)			Alternative 6 (WTP)		
Crop Type		Perm. 80-Foot Ops Corridor	Temporary Construction	Total	Perm. 80-Foot Ops Corridor	Temporary Construction	Total
Vineyards	Acres: Values:	8.83-9.21 \$27,994.67- 29,125.33	5.52-5.76 \$17,496.67- 18,203.33	14.34-14.97 \$45,491.33- 47,328.67	0 \$0	0 \$0	0 \$0
Pasture/Range	Acres: Values:	137.53-168.07 \$6,568.34-7,423.61	13.45-32.54 \$625.21- 1,159.75	150.98-200.62 \$7,193.56- 8,583.37	1330.85 \$19,166.27	3.64 \$174.55	1334.49 \$19,340.82
Orchards	Acres: Values:	12.12-38.21 \$31,830.30- 100,329.12	7.58-23.88 \$19,893.94- 62,705.70	19.70-62.08 \$51,724.24- 163,034.81	0 \$0	0 \$0	0 \$0
Total	Acres: Values:	158.48-215.49 \$66,393.31- 136,878.06	26.55-62.18 \$38,015.82- 82,068.78	185.02-277.67 \$104,409.13- 218,946.85	1330.85 \$19166.27	3.64 \$174.55	1334.49 \$19,340.82

be a permanent loss of approximately 213.8 acres within the 80-foot-wide operations corridor and temporary loss of about 118 acres within the 50-foot-wide construction corridor. This impact is less than significant. No mitigation is required.

Table 11-7. Williamson Act Lands: Alternatives 2–6

County	Alternative	Miles Traversed	Acreage in Permanent 80-Foot Operational Corridor	Acreage in Temporary Construction Corridor	Total Acreage Affected
Sacramento	2 and 4	4	58	24.2	82.2
	3 and 5	4.13	59.2	25	84.2
	6	2	19.4	12.1	31.5
San Joaquin	2–5	19.47	213.8	118	331.8
Amador	6	NA	0	0	0
Calaveras	6	NA	0		0
Countywide Totals of Williamson Act Lands:					
Sacramento	176,285		Amador	95,425	
San Joaquin	540,925		Calaveras	133,635	

Sources: California Department of Conservation 2000a, 2002.
NA = Not applicable.

Impact 11-3: Reduction in Agricultural Productivity within the San Joaquin Valley

As described in Chapter 3, “Hydrology, Water Supply, and Power,” and Sections 3.4 and 3.5 of the Modeling Technical Appendix (Volume 3 of this EIR/EIS), the hydrologic modeling for the FRWP alternatives indicates that CVP agricultural contractors south of the Delta (primarily within the San Joaquin Valley) may experience slight reductions in water deliveries as a result of implementation of the FRWP alternatives. The modeling indicates that these reductions are expected to average approximately 2,900 af per year during all years, and approximately 5,600 af per year during the dry period (defined as the 1928–1934 historical drought period) years. During these periods, average annual deliveries to CVP south-of-Delta agricultural contractors are approximately 1,080,000 af per year (average years), and 310,000 af per year (dry years). These reductions represent a -0.3% and -1.8% change in deliveries, respectively. No change in deliveries is expected for other CVP contractors.

Average annual deliveries to SWP contractors are expected to be slightly reduced (approximately 2,800 af per year total). However, during the dry period, average annual deliveries are expected to increase by approximately 11,000 af per year.

During these periods, total SWP deliveries are approximately 2,950,000 af per year (average years) and 1,950,000 per year (dry years). These changes represent a -0.1% and +0.1% change, respectively.

Westlands Water District is by far the largest CVP agricultural contractor south of the Delta. Recent information provided by Westlands Water District in comments on the SMUD Water Assignment Draft EIR (Rubin pers. comm.) indicates that the average quantity of water needed to produce a crop on land within the district is 2.5 af/acre. Therefore, according to Westlands' comments, for every 1,000 af of water supply reduction, 400 acres of land are removed from agricultural production. Westlands also provided information indicating that the average annual crop value is \$1,720 per acre within the district.

Under a very conservative assumption that any reductions in CVP deliveries would lead directly to a proportional decrease in the acreage of land put to agricultural use, the FRWP alternatives may result in a reduction of approximately 15,000 acres during dry years, and 7,500 acres on the average. This represents less than 4% of land within Westlands Water District. However, this is an extremely conservative assumption that does not reflect actual responses to any minor reductions in deliveries. Individual water users would have independent responses to changes in water supply. The range of responses could include not planting crops on a portion of land, changing crop patterns, increasing irrigation efficiencies or accepting reduced yields, acquiring water from other sources, water conservation, and increased groundwater pumping. It is important to note that CVP supplies are supplemental and are not the sole source of water used in Westlands Water District. Landowners within the district also use groundwater as part of their normal operations.

This fact is illustrated by information in Westlands Water District 2000/2001 annual report. Although there is a relationship between Westlands' CVP allocation and the amount of land fallowed, the relationship is not direct and is influenced by a number of other equally important factors. For example, Westlands' CVP allocation in 1995/1996 was 100%, or more than 1,000,000 af. In 2000/2001, the CVP allocation was reduced to approximately 700,000 af, a reduction of 300,000 af. Based on the information above, this reduction in supplies would have led to an increase in fallowed acreage of 120,000 acres. According to Westlands' annual report, however, the amount of land fallowed in 1995/1996 (100% CVP allocation) was approximately 45,000 acres, whereas approximately 51,000 acres were fallowed in 2000/2001 (65% CVP allocation). Additionally, in 1988/1989 and 1989/1990, when CVP allocations to Westlands were roughly 100%, the amount of fallowed acreage averaged approximately 55,000 acres. This information clearly demonstrates the lack of a direct relationship between minor changes in CVP allocations and agricultural production.

Any potential effects of a reduction in SWP deliveries on agricultural production would be much less than described above. The average annual reduction of 3,000 af is very small and would be distributed among all SWP contractors, and SWP deliveries would actually be increased on the average during dry years. In

addition, as discussed above, the specific responses of water users to any reductions in deliveries are not predictable and could vary widely.

Based on the information presented above, this potential impact is speculative. To the extent this issue can be meaningfully analyzed, there would be no significant impact. No further analysis is required.

Alternative 6

As described in Chapter 2, “Project Description,” Alternative 6 consists of enlarging Pardee Reservoir and conveying water from the Sacramento River. Alternative 6 includes the following project components: enlarge Pardee Reservoir (which includes additional components), intake facility, pipeline from intake facility to the Zone 40 Surface WTP, and the Zone 40 Surface WTP. Though slightly different in size, the Freeport intake facility, pipeline from the intake facility to the Zone 40 Surface WTP, and the Zone 40 Surface WTP project components are the same as those that make up Alternative 5. Therefore, several of the impacts associated with Alternative 5 (described above) are also associated with Alternative 6 and are restated below. Additionally, impacts associated with the enlarge Pardee Reservoir component of this alternative are described below.

Impact 11-4: Loss of Agricultural Production

The total acreage of agricultural land permanently removed from service under Alternative 6 would be 1,230.8 acres, with associated losses in annual production value of about \$14,366. Almost all of this land would be grazing land surrounding Pardee Reservoir. The temporary loss of production because of construction activities occurring within the 50-foot-wide construction corridor would be 3.64 acres, with associated temporary losses in annual production value of \$174. The estimated total acreage of agricultural land removed from production represents about 0.18% of the total agricultural land under production in the study area, and the loss of production from these lands would represent less than 0.01% of the total value of agricultural production in the study area (Table 11-6). This impact is less than significant. No mitigation is required.

Impact 11-5: Nonrenewal or Termination of Williamson Act Contracts

About 31.5 acres of lands under Williamson Act contracts would be affected under Alternative 6 (Table 11-7), all in Sacramento County. These figures represent less than 0.02% of the total 176,285 acres of lands under Williamson Act contracts in Sacramento County.

Of the 31.5 acres affected in Sacramento County, there would be a permanent loss of about 19.4 acres in the 80-foot-wide operations corridors and an additional temporary loss of about 12.1 acres during construction. This impact is less than significant. No mitigation is required.

Impact 11-6: Reduction in Agricultural Productivity within the San Joaquin Valley

As described in Chapter 3, “Hydrology, Water Supply, and Power,” and Sections 3.4 and 3.5 of the Modeling Technical Appendix (Volume 3 of this EIR/EIS), the hydrologic modeling for the FRWP alternatives indicates that CVP agricultural contractors south of the Delta (primarily in the San Joaquin Valley) may experience slight changes in water deliveries as a result of implementation of this alternative. The modeling indicates that these changes are expected to result in an average annual increase of approximately 1,100 af per year during all years, and a decrease of approximately 2,000 af per year during dry years. During these periods, average annual deliveries to CVP south of Delta agricultural contractors are approximately 1,080,000 af per year (average years), and 310,000 af per year (dry years). These reductions represent a +0.1% and -0.2% change in deliveries, respectively. No change in deliveries is expected for other CVP contractors.

Average annual deliveries to SWP contractors are expected to be slightly reduced (approximately 3,000 af per year total). During the dry period, average annual deliveries are expected to be reduced by approximately 6,900 af per year. During these periods, total SWP deliveries are approximately 2,950,000 af per year (average years) and 1,900,000 af per year (dry years). These changes represent a -0.2% and +0.6% change, respectively.

Westlands Water District is by far the largest CVP agricultural contractor south of the Delta. Recent information provided by Westlands Water District in comments on the SMUD Water Assignment Draft EIR (Rubin pers. comm.) indicates that the average quantity of water needed to produce a crop on land within the district is 2.5 af/acre. Therefore, according to Westlands comments, for every 1,000 af of water supply reduction, 400 acres of land are removed from agricultural production. Westlands also provided information indicating that the average annual crop value is \$1,720 per acre within the district.

Under a very conservative assumption that any changes in CVP deliveries would lead directly to a proportional change in the acreage of land put to agricultural use, this alternative may result in a decrease of approximately 800 acres during dry years, and an increase of approximately 250 acres on the average. This represents approximately -0.04% and +0.01% of agricultural land in Fresno and Kings Counties. However, this conservative assumption does not reflect actual responses to any minor reductions in deliveries. Individual water users would likely have independent responses to changes in water supply. The range of responses could include not planting crops on a portion of land, changing crop patterns, increasing irrigation efficiencies or accepting reduced yields, acquiring water from other sources, water conservation, and increased groundwater

pumping. It is important to note that CVP supplies are supplemental and are not the sole source of water used within Westlands Water District. Landowners in the district also use groundwater as part of their normal operations.

As described above, this fact is illustrated by information in Westlands Water District 2000/2001 annual report. Although there is a relationship between Westlands' CVP allocation and the amount of land fallowed, the relationship is not direct and is influenced by a number of other equally important factors. For example, Westlands' CVP allocation in 1995/1996 was 100%, or more than 1,000,000 af. In 2000/2001, the CVP allocation was reduced to approximately 700,000 af, a reduction of 300,000 af. Based on the information above, this reduction in supplies would have led to an increase in fallowed acreage of 120,000 acres. According to Westlands' annual report, however, the amount of land fallowed in 1995/1996 (100% CVP allocation) was approximately 45,000 acres, whereas approximately 51,000 acres were fallowed in 2000/2001 (65% CVP allocation). Additionally, in 1988/1989 and 1989/1990, when CVP allocations to Westlands were roughly 100%, the amount of fallowed acreage averaged approximately 55,000 acres. This information clearly demonstrates the lack of a direct relationship between minor changes in CVP allocations and agricultural production.

Any potential effects of a reduction in SWP deliveries on agricultural production would be much less than described above. The average annual reduction of 3,000 af, and 7,000 af during dry years, is very small and would be distributed among all SWP contractors. In addition, as discussed above, the specific responses of water users to any reductions in deliveries are not predictable and could vary widely.

Based on the information presented above, this potential impact is speculative. To the extent this issue can be meaningfully analyzed, there would be no significant impact. No further analysis is required.

Significant Impacts and Mitigation Measures

Alternatives 2–5

Impact 11-7: Loss or Conversion of Prime Farmland and Farmland of Statewide Importance

Construction of many of the segments of the pipeline from the intake facility to the Mokelumne Aqueducts could be outside of the roadway rights-of-way, as listed in Table 11-2. Project facilities could also affect Prime and Important Farmland (Table 11-3). Potential impacts on Prime and Important Farmland for Alternatives 2 through 5 are presented by county in Table 11-8.

Table 11-8. Estimated Acreage of Affected Prime or Other Important Farmland within Corridors:
Alternatives 2–6

Alternative or Facility	County	Miles Traversed	Estimated Acreage of Prime and Important Farmland		
			Acreage in Permanent 80-Foot Operational Corridor ¹	Acreage in Temporary Construction Corridor ¹	Total Prime and Important Farmland Acres Affected
Alt. 2	Sacramento County (Freeport to County Line)	7.65–8.71	Prime: 0–5.8	Prime: 0–3.6	Prime: 0–9.5
			Statewide Important: 10.9– 20.9	Statewide Important: 6.8–13.0	Statewide Important: 17.7– 33.9
			Other: 53.3–67.8	Other: 33.3–42.4	Other: 86.7–110.1
Alt. 3	Sacramento County (Freeport to County Line)	7.18–8.24	Prime: 2.4–8.2	Prime: 1.5–5.2	Prime: 3.9–13.4
			Statewide Important: 9.9– 19.9	Statewide Important: 6.2–12.4	Statewide Important: 16.1– 32.3
			Other: 47.3–61.7	Other: 29.5–38.6	Other: 76.8–100.3
Alt.4	Sacramento County (Freeport to County Line)	12.3–13.36	Prime: 16–21.8	Prime: 10–13.6	Prime: 26–35.5
			Statewide Important: 15.5– 25.5	Statewide Important: 9.7–15.9	Statewide Important: 2.6– 41.4
			Other: 77.8–92.3	Other: 48.6–57.7	Other: 126.5–149.9
Alt. 5	Sacramento County (Freeport to County Line)	11.83– 12.89	Prime: 18.4–24.2	Prime: 11.5–15.2	Prime: 29.9–39.4
			Statewide Important: 14.5– 24.5	Statewide Important: 9.1–15.3	Statewide Important: 23.6– 39.8
			Other: 71.8–86.2	Other: 44.9–53.9	Other: 116.6–140.1
Alts. 2–5	San Joaquin County (County Line to Mokelumne Aqueducts)	2.44–6.88	Prime: 4.9–10.2	Prime: 3–6.4	Prime: 7.9–16.6
			Statewide Important: 0–5.3	Statewide Important: 0–3.3	Statewide Important: 0–8.7
			Other: 18.8–51.2	Other: 11.8–32	Other: 30.6–83.2
Alt. 6	Sacramento County (Freeport to Zone 40 Surface WTP)	6.05	Prime: 16	Prime: 10	Prime: 26
			Statewide Important: 8.5	Statewide Important: 5.3	Statewide Important: 13.8
			Other: 34.4	Other: 21.5	Other: 55.9
Zone 40 Surface WTP	Sacramento County		Up to 100	N/A	Up to 100

Alternative or Facility	County	Miles Traversed	Estimated Acreage of Prime and Important Farmland		
			Acreage in Permanent 80-Foot Operational Corridor ¹	Acreage in Temporary Construction Corridor ¹	Total Prime and Important Farmland Acres Affected
Terminal Settling Basins, Grant Line option	Sacramento County		Prime: 0	N/A	Prime: 0
			Statewide Important: 5.3		Statewide Important: 5.3
			Other: 10.67		Other: 10.67
Terminal Settling Basins, Florin Road option	Sacramento County		Prime: 0	N/A	Prime: 0
			Statewide Important: 16		Statewide Important: 16
			Other: 0		Other: 0

Total Prime and Important Farmland in County in 2002

Sacramento: 234,120 acres

San Joaquin: 630,990 acres

Notes:

¹ Total acreage of Prime or Important Farmland converted calculated based on mileage listed in Table 11-2 multiplied by 80 feet for the permanent operations corridor and 50 feet for the temporary construction area.

² Acreage of Prime and Important Farmland in the entire four-county study area for all six alternatives totaled 1,110,795 acres in 2000.

Source: California Department of Conservation 2000a.

Prime Farmland and Farmland of Statewide Importance potentially affected under Alternatives 2 through 5 would represent less than 0.02% of the total of 865,110 acres of Prime Farmland and Farmland of Statewide Importance in Sacramento and San Joaquin Counties (Table 11-8). There would be a permanent loss of approximately about 12-33 acres in the 80-foot-wide operations corridors and a temporary loss of about 7–30.5 acres in the 50-foot-wide construction corridors. At the Zone 40 Surface WTP, there could be a loss of up to 100 acres of Prime and Important (Statewide) Farmland, depending on the selected location of the Zone 40 Surface WTP. At the terminal settling basins, there could be a loss of 5.3 to 16 acres, again depending on the selected location. These numbers are likely greater than actual acreages, as some of the affected land designated as Prime or Important may- already be urbanized. Additionally, actual losses would likely be far less than indicated because the analysis methodology is based on a worst-case scenario. The conversion of Prime and Important Farmland in San Joaquin County would be less than significant, and no mitigation is required. Because more than 50 acres of Prime and Important Farmland in Sacramento County could be permanently removed from agricultural production, this impact would be significant in Sacramento County. Mitigation Measure 11-1 would reduce this impact to less than significant.

Mitigation Measure 11-1: Comply with Sacramento County General Plan Requirements

The Sacramento County General Plan requires all property owners to participate equitably in any comprehensive open space/agricultural preservation program established by the Board of Supervisors to mitigate the loss of Prime or Important (Statewide) Farmland within the project area. Until such a program is established and approved by the Board of Supervisors, a condition of approval for any project converting more than 50 acres of agricultural land to nonagricultural uses will be required:

“Prior to the approval of the project, the applicant shall implement one of the following options to the satisfaction of the Planning Director, to mitigate for the loss of agricultural land, which will assist in maintaining the integrity of the Urban Service Boundary:

- A. For each acre of land being developed by this project, the applicant shall preserve 1.0 acre of agricultural land within the project area, through the purchase of conservation easements or similar instruments that assure the long term protection of that land from urban encroachment; or
- B. For each acre of land being developed by this project, the applicant shall contribute an amount to be agreed upon between the project proponents and the Board of Supervisors (through direct contribution or other financing mechanism that results in an equivalent contribution) into a fund to be used to purchase conservation easements or similar instruments within the same geographical area defined in part A, and to provide for the ongoing monitoring and administration of the program (the fund, and program to expend such fund, are to be approved by the Board of Supervisors); or
- C. Should the county Board of Supervisors adopt a permanent program to preserve agricultural land in the same geographical area defined in part A, prior to implementation of one of the above measures, and the governing body intends such a permanent program to replace this condition, the applicant shall be subject to that program instead.”

Compliance with Sacramento County General Plan requirements would reduce this potential impact to a less-than-significant level.

Alternative 6

Impact 11-8: Loss or Conversion of Prime or Important Farmland

The construction of most pipeline segments from the intake facility to the Zone 40 Surface WTP would be within roadway corridors, although some would not be within roadway rights-of-way, similar to Alternatives 2 through 5, as listed in

Table 11-2. Project facilities could also affect Prime and Important Farmland (Table 11-3). Table 11-8 summarizes the acreages of Prime and Important Farmland in Sacramento County that could be affected by Alternative 6. There is no mapped Prime or Important Farmland in Amador County or Calaveras County that would be affected by the enlargement of Pardee Reservoir; only rangeland would be lost in these counties.

Prime and Important Farmland affected under Alternative 6 (acres) would represent less than 0.001% of the total acreage of Prime and Important Farmland in Sacramento County. A maximum loss of about 24.5 acres would occur in the 80-foot-wide operations corridor, and a temporary loss of 15.3 acres would occur in the 50-foot-wide construction corridor. As discussed above, at the Zone 40 Surface WTP, there could be a loss of up to 100 acres of Prime and Important (Statewide) Farmland, depending on the selected location of the Zone 40 Surface WTP. Because more than 50 acres of Prime and Important Farmland in Sacramento County could be permanently removed from agricultural production, this impact would be significant. Mitigation Measure 11-1 would reduce this impact to a less than significant level.

Mitigation Measure 11-2: Comply with Sacramento County General Plan Requirements

As discussed above under Mitigation Measure 11-1, compliance with Sacramento County General Plan requirements would reduce this potential impact to a less-than-significant level.