

Chapter 13

Agricultural Land Use

Converting farmland into homes and other urban uses is a public issue in most agricultural regions experiencing rapid urbanization. California's multi-billion dollar agricultural industry depends on a large supply of fertile farmland for both crop and animal production. California's growing population necessitates further development of land, threatening open space and agricultural lands. This elevating conflict has led to the development of several state and federal programs aimed towards protecting farmland. Crop idling would be the only EWA action that would directly affect land use in California. Implementation of the EWA would not interfere with any of the existing land protection programs, nor would it permanently alter current land use plans in the area of analysis.

13.1 Affected Environment/Existing Conditions

EWA water acquisitions from crop idling could alter agricultural land use conditions. This section discusses numerous State and Federal programs designed to protect agricultural and open space land. This section also describes the existing land use

conditions and presents data on recent land use conversions in the counties potentially affect by EWA crop idling actions. Counties selected for inclusion in the areas of potential idling contain extensive rice or cotton acreage and have irrigation districts that have indicated a willingness to participate in the EWA Program.

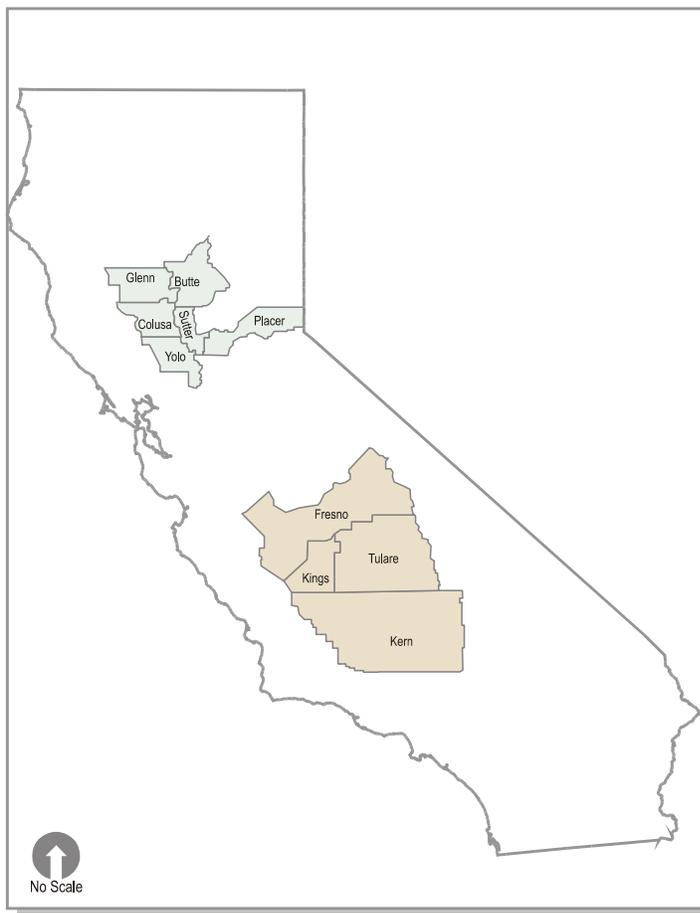


Figure 13-1
Agricultural Land Use Area of Analysis

13.1.1 Area of Analysis

This chapter divides California into two regions: the Upstream from the Delta Region and the Export Service Area. As noted above, the EWA agencies are considering rice idling in the upstream from the Delta counties of Butte, Colusa, Glenn, Placer, Yolo, and Sutter and cotton idling in the Export Service Area counties of Fresno, Kern, Kings, and Tulare. The boundaries of each county in each region define the Upstream from the Delta Region and the Export Service Area (Figure 13-1).

13.1.2 Land Resource Protection Programs

The following sections describe programs that exist to promote the preservation of open space and agricultural lands and wildlife habitat in the State.

13.1.2.1 Williamson Act

The California Land Conservation Act, better known as the Williamson Act, has been the State’s premier agricultural land protection program since its enactment in 1965. The California Legislature passed the Williamson Act in 1965 to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. The act creates an arrangement whereby private landowners contract with counties and cities to voluntarily restrict their land to agricultural and compatible open space uses. The vehicle for these agreements is a rolling term, 10-year contract (unless either party files a “notice of nonrenewal,” the contract is automatically renewed for an additional year). In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather than potential market value. The Williamson Act also establishes a Farmland Security Zone, which introduces a 20-year contract between a private landowner and a county that restricts land to agricultural or open space uses.¹

Table 13-1 displays farm acreage by county enrolled in the Williamson Act and Farmland Security Zone program in 2001.

County	Land Conservation Act		Farmland Security Zone				Other Enforceable Restriction Enrollment	Total
	Prime	Nonprime	Urban		Non-Urban			
			Prime	Nonprime	Prime	Nonprime		
Butte	109,579	101,667	-	-	-	-	-	211,245
Colusa	77,329	195,684	5,730	323	23,387	1,189	-	303,642
Glenn	64,575	266,345	8,977	1,260	51,381	1,608	-	394,147
Placer	16,351	28,395	-	-	-	-	-	44,745
Sutter	6,802	-	-	-	-	-	-	6,802
Yolo	253,165	185,261	-	-	-	-	61	438,486
Fresno	1,080,671	487,075	-	-	1,386	-	-	1,569,133
Kern	823,687	810,965	13,014	-	72,197	-	-	1,719,863
Kings	336,796	119,201	28,194	227	210,444	3,750	-	698,612
Tulare	594,218	511,697	8,348	-	-	-	686	1,114,948

Source: Division of Land Resource Protection 2002

¹ A farmland security zone is essentially 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.

13.1.2.2 California Farmland Conservancy Program

The State California Farmland Conservancy Program (CFCP) is a voluntary program that seeks to encourage the long-term, private stewardship of agricultural lands through the use of agricultural conservation easements. The CFCP provides grant funding for projects that use and support agricultural conservation easements for protection of agricultural lands. An agricultural conservation easement is a voluntary, legally recorded deed restriction that is placed on a specific property used for agricultural production. The goal of an agricultural conservation easement is to maintain agricultural land in active production by removing the development pressures from the land. Such an easement prohibits practices that would damage or interfere with the agricultural use of the land. Because the easement is a restriction on the deed of the property, the easement remains in effect even when the land changes ownership.

13.1.2.3 Conservation Reserve Program

The Conservation Reserve Program (CRP) is a Federal program administered by the Farm Services Agency. The CRP is a voluntary program that offers annual rental payments, incentive payments, and annual maintenance payments for certain activities, and cost-share assistance to establish approved cover on eligible cropland. To be eligible for placement in the CRP, land must be (1) cropland that is planted or considered planted to an agricultural commodity 2 of the 5 most recent crop years (including field margins) and that is physically and legally capable of being planted in a normal manner to an agricultural commodity or (2) marginal pastureland that is either enrolled in the Water Bank Program or suitable for use as a riparian buffer to be planted to trees.

13.1.2.4 Wetlands Reserve Program

The Wetlands Reserve Program (WRP) is a voluntary program offering landowners the opportunity to protect, restore, and enhance wetlands on their property. The USDA Natural Resources Conservation Service (NRCS) provides technical and financial support to help landowners with their wetland restoration. The NRCS goal is to achieve the greatest wetland functions and values, along with optimum wildlife habitat, on every acre enrolled in the program. This program offers landowners an opportunity to establish long-term conservation and wildlife practices and protection. In California, the WRP has focused on the restoration of a variety of wetland types throughout the state, including seasonal wetlands, semi-permanent marsh, vernal pools along the perimeter of the Central Valley, riparian corridors, and tidally influenced wetlands.

13.1.2.5 CALFED Ecosystem Restoration Program

The goal of the CALFED Ecosystem Restoration Program (ERP) is to improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta system to support sustainable populations of diverse and valuable plant and animal species. The premise of the program is to improve the ecosystem health to

reduce the conflict between environmental water use and other beneficial uses and allow more flexibility in water management decisions.

Actions of the ERP include restoring habitat in the Delta, San Pablo Bay, Suisun Marsh, and Yolo Bypass. The program is also intended to establish wildlife-friendly agricultural lands. Through these objectives, the ERP may result in agricultural land being taken out of production.

13.1.2.6 Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 and produces maps and statistical data used for analyzing effects on California's agricultural resources. The maps are updated every 2 years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance. The FMMP rates agricultural land according to soil quality and irrigation status and denotes the best quality land Prime Farmland. FMMP characterizes land use into the following categories:

- **Prime Farmland²** – Land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date.
- **Farmland of Statewide Importance** – Land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of crops. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date.
- **Unique Farmland** – Lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the two update cycles prior to the mapping date.
- **Farmland of Local Importance** – Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land** – Land on which the existing vegetation is suited to the grazing of livestock.

² The term 'Prime' as it refers to rating for agricultural uses has two meanings in California. FMMP determines the location and extent of 'Prime Farmland' as described above; while under the state's Williamson Act, land may be enrolled under the 'Prime Land' designation if it meets certain economic or production criteria. See Section 11.1.4 for specific definition.

- **Urban and Built-Up Land** – Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to one 10-acre parcel.
- **Other Land** – Land that does not meet the criteria of any other category.
- **Water** – Water areas with an extent of at least 40 acres.

Interim Farmland Mapping Categories³

- **Irrigated Farmland** - Cropped land with a developed irrigation water supply that is dependable and of adequate quality. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Nonirrigated Farmland** - Land on which agricultural commodities are produced on a continuing or cyclic basis using stored soil moisture.

13.1.3 Upstream from the Delta

The following data were taken directly from the Department of Conservation FMMP 2002. The data inventories acreages of land in each of the above land use categories in 1998 and 2000. Each county has an individual definition for the category Farmland of Local Importance that is set by the county's local advisory committee and adopted by the board of supervisors. Definitions are indicated below.

13.1.3.1 Butte County

In 2000, Butte County had a population of 203,100. Projections forecast that by the year 2020, Butte County's total population will reach 308,900 people (EDD 2002). Although agriculture remains a mainstay of Butte County's economy, farmland is increasingly being converted to urban uses and a significant amount of farmland is being restored to natural uses. In 2000, of the 917,909 acres mapped in Butte County, 522,297 acres were in agricultural use, 40,185 acres were urbanized, 21,643 acres were water and 333,784 acres were "other." (FMMP 2002) Table 13-2 summarizes further land use classifications and net changes in categories from 1998 to 2000. Land use data for Butte County are in the interim stages because recent soil survey information is unavailable. Table 13-3 specifies land use conversions from one category to another.

³ For farmed areas lacking modern soil survey information and for which there is expressed local concern on the status of farmland, Irrigated and Nonirrigated Farmland substitute for the categories of important farmland Only Butte and Kern counties continue to have Interim Farmland data.

Table 13-2
Butte County Land Use Summary and Change by Land Use Category

Land Use Category	1998 to 2000 Acreage Changes					
	Total Acreage Inventoried		Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
	1998	2000				
Irrigated Farmland	255,099	249,414	9,000	3,315	12,315	-5,685
Nonirrigated Farmland	9,372	7,901	1,664	193	1,857	-1,471
Interim Farmland Subtotal	264,471	257,315	10,664	3,508	14,172	-7,156
Grazing Land	264,778	264,982	3,090	3,294	6,384	204
Agricultural Land Subtotal	529,249	522,297	13,754	6,802	20,556	-6,952
Urban and Built-Up Land	39,243	40,185	1,147	2,089	3,236	942
Other Land	327,774	333,784	2,029	8,039	10,068	6,010
Water Area	21,643	21,643	0	0	0	0
Total Area Inventoried	917,909	917,909	16,930	16,930	33,860	0

Table 13-3
Land Use Conversion from 1998 to 2000, Butte County

From Land Use Category	To Irrigated Farmland	To Nonirrigated Farmland	Subtotal To Interim Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Irrigated Farmland ⁽¹⁾ to:	--	157	157	1,940	2,097	817	6,086	0	9,000
Nonirrigated Farmland to:	208	--	208	643	851	2	811	0	1,664
Interim Farmland Subtotal	208	157	365	2,583	2,948	819	6,897	0	10,664
Grazing Land ⁽²⁾ to:	1,642	15	1,657	--	1,657	604	829	0	3,090
Agricultural Land Subtotal	1,850	172	2,022	2,583	4,605	1,423	7,726	0	13,754
Urban and Built-Up Land ⁽³⁾ to:	407	6	413	421	834	--	313	0	1,147
Other Land ⁽²⁾ to:	1,058	15	1,073	290	1,363	666	--	0	2,029
Water Area to:	0	0	0	0	0	0	0	--	0
Total Acreage Converted to:	3,315	193	3,508	3,294	6,802	2,089	8,039	0	16,930

⁽¹⁾ Conversion to Grazing Land and Other Land due to land left idle for three or more update cycles, newly identified ranchettes throughout the county, and expansion of the Llano Seco Rancho, Sacramento River and Upper Butte Basin Wildlife Areas.

⁽²⁾ Conversion to Irrigated Farmland due to new orchards, rice fields, and irrigated pasture primarily in the western portion of the county.

⁽³⁾ Conversions from Urban and Built-Up Land are primarily the result of refinements made to the urban boundary.

13.1.3.2 Colusa County

In 2000, Colusa County had a population of 18,800. Projections forecast that by the year 2020, Colusa County's total population will reach 39,200 (EDD 2002). In 2000, of the 740,392 acres mapped in Colusa County, 573,420 were in agricultural use, 4,257 acres were urbanized, 1,838 acres were water and 160,877 acres were "other." (FMMP 2002) Table 13-4 summarizes further land use classifications and net changes in land use categories. In Colusa County, Farmland of Local Importance includes all farmable lands with the county that do not meet the definitions of Prime, Statewide, or Unique, but are currently irrigated pasture or nonirrigated crops. The classification also includes nonirrigated land with soils qualifying for Prime farmland or Farmland of Statewide Importance and lands that would have Prime or Statewide designation and

have been improved for irrigation but are now idle. Table 13-5 specifies land use conversions from one category to another.

Table 13-4
Colusa County Land Use Summary and Change by Land Use Category

Land Use Category	Total Acreage Inventoried		1998 to 2000 Acreage Changes			
	1998	2000	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
	Prime Farmland	201,910	202,232	2,116	2,438	4,554
Farmland of Statewide Importance	1,746	1,811	30	95	125	65
Unique Farmland	125,083	125,497	2,861	3,275	6,136	414
Farmland of Local Importance	239,966	236,354	4,318	706	5,024	-3,612
Important Farmland Subtotal	568,705	565,894	9,325	6,514	15,839	-2,811
Grazing Land	7,684	7,526	164	6	170	-158
Agricultural Land Subtotal	576,389	573,420	9,489	6,520	16,009	-2,969
Urban and Built-Up Land	4,293	4,257	433	397	830	-36
Other Land	157,872	160,877	1,772	4,777	6,549	3,005
Water Area	1,838	1,838	0	0	0	0
Total Area Inventoried ⁽¹⁾	740,392	740,392	11,694	11,694	23,388	0

⁽¹⁾ Total area inventoried represents information for the new Colusa County soil survey area. Prior reports classified farmland use in Colusa County with the Interim mapping categories of Irrigated and Nonirrigated.

Table 13-5
Land Use Conversion from 1998 to 2000, Colusa County

From Land Use Category	To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland ⁽¹⁾ to:	--	0	3	507	510	0	510	229	1,377	0	2,116
Farmland of Statewide Importance to:	0	--	0	28	28	0	28	0	2	0	30
Unique Farmland ⁽¹⁾ to:	3	0	--	110	113	6	119	30	2,712	0	2,861
Farmland of Local Importance ⁽²⁾ to:	1,816	95	2,032	--	3,943	0	3,943	57	318	0	4,318
Important Farmland Subtotal	1,819	95	2,035	645	4,594	6	4,600	316	4,409	0	9,325
Grazing Land to:	0	0	5	0	5	--	5	28	131	0	164
Agricultural Land Subtotal	1,819	95	2,040	645	4,599	6	4,605	344	4,540	0	9,489
Urban and Built-Up Land ⁽³⁾ to:	148	0	26	22	196	0	196	--	237	0	433
Other Land ⁽²⁾ to:	471	0	1,209	39	1,719	0	1,719	53	--	0	1,772
Water Area to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted to:	2,438	95	3,275	706	6,514	6	6,520	397	4,777	0	11,694

⁽¹⁾ Conversion to Other Land primarily due to boundary adjustments and identification of areas of native vegetation and wetlands throughout the County.

⁽²⁾ Conversion to Prime Farmland and Unique Farmland due to new irrigated agriculture, primarily orchards, in the central portion of the county.

⁽³⁾ Conversions from Urban and Built-Up Land primarily the result of refinements made to the urban boundary.

13.1.3.3 Glenn County

In 2000, Glenn County had a population of 26,400. Projections forecast that by the year 2020 Glenn County's total population will reach 46,500 people (EDD 2002). In 2000, of the 849,127 acres mapped in Glenn County, 583,974 were in agricultural use, 5,609

acres were urbanized, 5,759 acres were water, and 253,678 acres were “other.” (FMMP 2002) Table 13-6 summarizes further land use classifications and net changes from 1998 to 2000. In Glenn County, Farmland of Local Importance includes all lands not qualifying for Prime, Statewide, or Unique farmland that are cropped on a continuing or cyclic basis (irrigation is not a consideration). The classification also includes all croplable land within the Glenn County water district boundaries not qualifying for the Prime, Statewide, or Unique designations. Table 13-7 specifies land use conversions from one category to another.

Land Use Category	Total Acreage Inventoried		1998 to 2000 Acreage Changes			
	1998	2000	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
	Prime Farmland	168,217	166,549	3,217	1,549	4,766
Farmland of Statewide Importance	88,648	87,784	1,489	625	2,114	-864
Unique Farmland	11,073	11,605	774	1,306	2,080	532
Farmland of Local Importance	140,078	141,965	2,475	4,362	6,837	1,887
Important Farmland Subtotal	408,016	407,903	7,955	7,842	15,797	-113
Grazing Land	176,296	176,071	264	39	303	-225
Agricultural Land Subtotal	584,312	583,974	8,219	7,881	16,100	-338
Urban and Built-Up Land	5,378	5,609	178	409	587	231
Other Land	253,678	253,785	611	718	1,329	107
Water Area	5,759	5,759	0	0	0	0
Total Area Inventoried ⁽¹⁾	849,127	849,127	9,008	9,008	18,016	0

⁽¹⁾ Refinements made to the Sacramento River boundary may result in different acreage totals for Water and adjacent land use categories than those in the 1996-98 report.

From Land Use Category	To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland ^{(1) (2)} to:	--	23	193	2,459	2,675	6	2,681	137	399	0	3,217
Farmland of Statewide Importance to:	16	--	18	1,215	1,249	0	1,249	21	219	0	1,489
Unique Farmland ^{(1) (2)} to:	100	16	--	590	706	10	716	24	34	0	774
Farmland of Local Importance to:	931	452	871	--	2,254	23	2,277	178	20	0	2,475
Important Farmland Subtotal	1,047	491	1,082	4,264	6,884	39	6,923	360	672	0	7,955
Grazing Land to:	22	17	167	37	243	--	243	0	21	0	264
Agricultural Land Subtotal	1,069	508	1,249	4,301	7,127	39	7,166	360	693	0	8,219
Urban and Built-Up Land ⁽³⁾ to:	98	24	21	10	153	0	153	--	25	0	178
Other Land to:	382	93	36	51	562	0	562	49	--	0	611
Water Area to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted to:	1,549	625	1,306	4,362	7,842	39	7,881	409	718	0	9,008

⁽¹⁾ Conversions between Important Farmland categories primarily due to corrections made to soil unit identification throughout the county.

⁽²⁾ Conversion to Farmland of Local Importance primarily due to land left idle for three update cycles.

⁽³⁾ Conversion from Urban and Built-Up Land primarily due to refinements made to the urban boundary.

13.1.3.4 Placer County

In 2000, Placer County had a population of 248,400. Projections forecast that by the year 2020, Placer County's total population will reach 406,900 (EDD 2002). Since the FMMP began tracking changes in 1984, there has been a 78 percent increase in urbanized land in Placer County, as more than 18,000 acres of farmland and grazing land have been converted. The acceleration of growth in western Placer has placed the county among the top 10 urbanizing counties statewide in terms of acreage developed since 1994 (DOC 2002). In 2000, of the 411,531 acres mapped in Placer County, 180,342 were in agricultural use, 41,448 acres were urbanized, 5,026 acres were water and 184,585 acres were "other." (FMMP 2002) Table 13-8 summarizes further land use classifications and net changes in land use conversions from 1998 to 2000. In Placer County, Farmland of Local Importance is defined as farmlands not covered by the categories of Prime, Statewide or Unique. Farmland of Local Importance include lands zoned for agriculture by County Ordinance and the California Williamson Act, as well as dry farmed lands, irrigated pasture lands, and other agricultural lands of significant economic importance to the county. Lands that have the potential for irrigation from Placer County water supplies are also included in the Farmland of Local Importance designation. Table 13-9 specifies land use conversions from one category to another.

Table 13-8						
Placer County Land Use Summary and Change by Land Use Category						
Land Use Category	Total Acreage Inventoried		1998 to 2000 Acreage Changes			
	1998	2000	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
	Prime Farmland	9,750	9,901	696	847	1,543
Farmland of Statewide Importance	5,195	5,312	769	886	1,655	117
Unique Farmland	22,727	23,616	1,679	2,568	4,247	889
Farmland of Local Importance	114,452	111,987	4,920	2,455	7,375	-2,465
Important Farmland Subtotal	152,124	150,816	8,064	6,756	14,820	-1,308
Grazing Land	31,695	29,656	3,996	1,957	5,953	-2,039
Agricultural Land Subtotal	183,819	180,472	12,060	8,713	20,773	-3,347
Urban and Built-Up Land	37,608	41,448	2,633	6,473	9,106	3,840
Other Land	185,057	184,585	3,163	2,691	5,854	-472
Water Area	5,047	5,026	69	48	117	-21
Total Area Inventoried	411,531	411,531	17,925	17,925	35,850	0

Table 13-9
Land Use Conversion from 1998 to 2000, Placer County

From Land Use Category		To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland Of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland ⁽¹⁾	to:	--	28	130	447	605	0	605	52	39	0	696
Farmland of Statewide Importance ⁽¹⁾	to:	72	--	213	162	447	48	495	4	270	0	769
Unique Farmland ⁽¹⁾⁽²⁾	to:	99	259	--	1,100	1,458	2	1,460	12	207	0	1,679
Farmland of Local Importance ⁽³⁾	to:	560	337	1,965	--	2,862	205	3,067	1,253	600	0	4,920
Important Farmland Subtotal		731	624	2,308	1,709	5,372	255	5,627	1,321	1,116	0	8,064
Grazing Land	to:	0	31	8	181	220	--	220	3,387	376	13	3,996
Agricultural Land Subtotal		731	655	2,316	1,890	5,592	255	5,847	4,708	1,492	13	12,060
Urban and Built-Up Land ⁽⁴⁾	to:	4	10	23	122	159	1,281	1,440	--	1,193	0	2,633
Other Land ⁽⁵⁾	to:	112	221	229	443	1,005	358	1,363	1,765	--	35	3,163
Water Area	to:	0	0	0	0	0	63	63	0	6	--	69
Total Acreage Converted	to:	847	886	2,568	2,455	6,756	1,957	8,713	6,473	2,691	48	17,925

⁽¹⁾ Conversions between Important Farmland categories primarily due to corrections made to soil unit identification throughout the county.
⁽²⁾ Conversion to Farmland of Local Importance primarily due to land left idle for three update cycles and refinements to agricultural boundaries.
⁽³⁾ Conversion to Unique Farmland primarily due to new irrigated agriculture and refinements to agricultural boundaries.
⁽⁴⁾ Conversion from Urban and Built-Up Land primarily the result of refinements made to the urban boundary around Roseville, Rocklin and Lincoln.
⁽⁵⁾ Conversion to Grazing Land primarily due to refinements made to North Fork Lake and Rock Creek Lake.

13.1.3.5 Sutter County

In 2000, Sutter County had a population of 78,900. Projections forecast that by the year 2020 Sutter County's total population will reach 115,600 people (EDD 2002). Since 1990, 9,333 acres of farmland have gone out of production in Sutter County, and 2,354 acres of new urban land have been created (DOC 2002). In 2000, of the 389,439 acres mapped in Sutter County, 352,187 were in agricultural use, 11,360 acres were urbanized, 1,848 acres were water, and 24,044 acres were "other." (FMMP 2002) Table 13-10 summarizes further land use classifications and net changes from 1998 to 2000. In Sutter County, the Board of Supervisors determined there would be no Farmland of Local Importance designation. Table 13-11 specifies land use conversions from one category to another.

Land Use Category	Total Acreage Inventoried		1998 to 2000 Acreage Changes			
	1998	2000	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
	Prime Farmland	170,253				
Farmland of Statewide Importance	113,680	111,296	2,956	572	3,528	-2,384
Unique Farmland	22,234	20,213	2,376	355	2,731	-2,021
Farmland of Local Importance	0	0	0	0	0	0
Important Farmland Subtotal	306,167	301,291	7,491	2,615	10,106	-4,876
Grazing Land	49,753	50,896	2,229	3,372	5,601	1,143
Agricultural Land Subtotal	355,920	352,187	9,720	5,987	15,707	-3,733
Urban and Built-Up Land	10,668	11,360	226	918	1,144	692
Other Land	21,003	24,044	538	3,579	4,117	3,041
Water Area	1,848	1,848	0	0	0	0
Total Area Inventoried	389,439	389,439	10,484	10,484	20,968	0

From Land Use Category	To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland to:	--	43	21	0	64	901	965	235	959	0	2,159
Farmland of Statewide Importance (1) to:	39	--	6	0	45	1,707	1,752	312	892	0	2,956
Unique Farmland (2) (3) to:	222	0	--	0	222	602	824	0	1,552	0	2,376
Farmland of Local Importance to:	0	0	0	--	0	0	0	0	0	0	0
Important Farmland Subtotal	261	43	27	0	331	3,210	3,541	547	3,403	0	7,491
Grazing Land to:	1,228	349	232	0	1,809	--	1,809	253	167	0	2,229
Agricultural Land Subtotal	1,489	392	259	0	2,140	3,210	5,350	800	3,570	0	9,720
Urban and Built-Up Land (4) to:	56	50	0	0	106	111	217	--	9	0	226
Other Land to:	143	130	96	0	369	51	420	118	--	0	538
Water Area to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted	1,688	572	355	0	2,615	3,372	5,987	918	3,579	0	10,484

(1) Refinements made to the Feather River boundary may result in different acreage totals for Water and adjacent land use categories than those in the 1996-98 report.

(2) Conversion to Grazing Land primarily due to land left idle for three or more update cycles.

(3) Conversions between Prime Farmland and Unique Farmland primarily due to corrections made to soil unit identification on the Yuba City quadrangle.

(4) Conversion to Other Land primarily due to wetland areas, ranchettes and agricultural processing facilities identified throughout the county.

(5) Conversion to Prime Farmland primarily due to new orchards, irrigated pasture, and alfalfa near the Sutter Buttes and in the southeastern portion of the county.

(6) Conversion from Urban and Built-Up Land primarily due to urban line corrections and newly identified orchards.

13.1.3.6 Yolo County

In 2000, Yolo County had a population of 168,660. Forecasts show that by the year 2020 Yolo County's total population will reach 236,400 (EDD 2002). Yolo County's agricultural land will continue to face development pressure in the foreseeable future. Since 1990, 22,253 acres of farmland have gone out of production in Yolo County and 3,513 acres of new urban land have been created (DOC 2002). In 2000, of the 653,451 acres mapped in Yolo County, 553,536 were in agricultural use, 25,939 acres were urbanized, 7,399 acres were water, and 66,577 acres were "other." (FMMP 2002) Table 13-12 summarizes further land use classifications and net increases and reductions in categories from 1998 to 2000. In Yolo County, Farmland of Local Importance includes cultivated farmland having soils which meet the criteria for Prime or Statewide, except that the land is not presently irrigated, and other nonirrigated land. Table 13-13 specifies land use conversions from one category to another.

Land Use Category	Total Acreage Inventoried		1998-00 Acreage Changes			
	1998	2000	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
	Prime Farmland	265,915	264,452	2,467	1,004	3,471
Farmland of Statewide Importance	18,202	18,072	351	221	572	-130
Unique Farmland	55,243	54,390	1,390	537	1,927	-853
Farmland of Local Importance	74,303	71,927	3,835	1,459	5,294	-2,376
Important Farmland Subtotal	413,663	408,841	8,043	3,221	11,264	-4,822
Grazing Land	143,385	144,695	763	2,073	2,836	1,310
Agricultural Land Subtotal	557,048	553,536	8,806	5,294	14,100	-3,512
Urban and Built-Up Land	25,586	25,939	381	734	1,115	353
Other Land	63,446	66,577	624	3,755	4,379	3,131
Water Area	7,371	7,399	2	30	32	28
Total Area Inventoried	653,451	653,451	9,813	9,813	19,626	0

From Land Use Category	To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland to:	--	0	5	918	923	215	1,138	425	904	0	2,467
Farmland of Statewide Importance to:	11	--	0	161	172	7	179	51	121	0	351
Unique Farmland ⁽¹⁾ to:	60	8	--	108	176	865	1,041	0	349	0	1,390
Farmland of Local Importance ⁽²⁾ to:	612	165	313	--	1,090	617	1,707	186	1,942	0	3,835
Important Farmland Subtotal	683	173	318	1,187	2,361	1,704	4,065	662	3,316	0	8,043
Grazing Land to:	45	27	205	83	360	--	360	29	344	30	763
Agricultural Land Subtotal	728	200	523	1,270	2,721	1,704	4,425	691	3,660	30	8,806
Urban and Built-Up Land ⁽³⁾ to:	93	8	4	121	226	60	286	--	95	0	381
Other Land to:	183	13	10	68	274	307	581	43	--	0	624
Water Area to:	0	0	0	0	0	2	2	0	0	--	2
Total Acreage Converted to:	1,004	221	537	1,459	3,221	2,073	5,294	734	3,755	30	9,813

⁽¹⁾ Conversion to Prime Farmland primarily due to a correction made to soil unit identification on the Rumsey quadrangle.

⁽²⁾ Conversion to Other Land due to lands left idle for four or more update cycles, primarily adjacent to the Sacramento River deep water channel.

⁽³⁾ Conversions from Urban and Built-Up Land primarily the result of the ability to obtain a more distinct urban boundary.

13.1.4 Export Service Area

The following data are taken from the Department of Conservation FMMP 2002.

13.1.4.1 Fresno County

In 2000, Fresno County had a population of 799,400. Forecasts show that by the year 2020 Fresno County's total population will be over 1.1 million (EDD 2002). In 2000, of the 1,123,197 acres mapped in Fresno County, 961,858 were in agricultural use, 97,002 acres were urbanized, 3,891 acres were water and 60,446 acres were "other." (FMMP 2002) Table 13-14 summarizes further land use classifications and net changes in land use categories. In Fresno County, Farmland of Local Importance includes all farmable lands within the county that do not meet the definitions of Prime, Statewide, or Unique. This includes land that is or has been used for irrigated pasture, dry land farming, confined livestock and dairy, poultry facilities, aquaculture, and grazing land. Table 13-15 specifies land use conversions from one category to another.

Land Use Category	Total Acreage Inventoried		1998-00 Acreage Changes			
	1998	2000	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	367,196	363,758	3,649	211	3,860	-3,438
Farmland of Statewide Importance	141,046	139,546	1,905	405	2,310	-1,500
Unique Farmland	95,212	93,751	1,739	278	2,017	-1,461
Farmland of Local Importance	42,135	45,112	1,404	4,381	5,785	2,977
Important Farmland Subtotal	645,589	642,167	8,697	5,275	13,972	-3,422
Grazing Land	319,814	319,691	126	3	129	-123
Agricultural Land Subtotal	965,403	961,858	8,823	5,278	14,101	-3,545
Urban and Built-Up Land	93,309	97,002	16	3,709	3,725	3,693
Other Land	60,594	60,446	635	487	1,122	-148
Water Area	3,891	3,891	0	0	0	0
Total Area Inventoried	1,123,197	1,123,197	9,474	9,474	18,948	0

Table 13-15
Land Use Conversion from 1998 to 2000, Fresno County

From Land Use Category	To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland ⁽²⁾ to:	--	17	139	1,852	2,008	0	2,008	1,367	274	0	3,649
Farmland of Statewide Importance ⁽³⁾ to:	28	--	29	1,393	1,450	0	1,450	369	86	0	1,905
Unique Farmland ⁽²⁾ to:	14	143	--	1,112	1,269	3	1,272	429	38	0	1,739
Farmland of Local Importance ⁽²⁾ to:	113	228	62	--	403	0	403	937	64	0	1,404
Important Farmland Subtotal	155	388	230	4,357	5,130	3	5,133	3,102	462	0	8,697
Grazing Land to:	40	17	34	4	95	--	95	6	25	0	126
Agricultural Land Subtotal	195	405	264	4,361	5,225	3	5,228	3,108	487	0	8,823
Urban and Built-Up Land to:	9	0	5	2	16	0	16	--	0	0	16
Other Land to:	7	0	9	18	34	0	34	601	--	0	635
Water Area to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted to:	211	405	278	4,381	5,275	3	5,278	3,709	487	0	9,474

⁽¹⁾ 1998 figures for Farmland of Local Importance, Other Land, and adjacent land use categories differ from those published in the 1996-98 report due to a revision of the Farmland of Local Importance definition to accommodate confined livestock and dairies, poultry facilities, and aquaculture.

⁽²⁾ Conversions between Important Farmland categories primarily due to corrections made to soil unit identification throughout the county.

⁽³⁾ Conversion to Farmland of Local Importance primarily due to land left idle for three or more update cycles, small feedlot expansions, and two newly identified fish farms.

13.1.4.2 Kern County

In 2000, Kern County had a population of 662,000. Forecasts show that by the year 2020, Kern County's total population will be almost 1.1 million (EDD 2002). Kern County's agricultural land will continue to face development pressure in the foreseeable future. In 2000, of the 2,550,619 acres mapped in Kern County, 1,595,146 were in agricultural use, 82,149 acres were urbanized, 973 acres were water, and 872,351 acres were "other." (FMMP 2002) Table 13-16 summarizes further land use classifications and net changes in land use categories. In Kern County, the Board of Supervisors determined that there would be no Farmland of Local Importance designation. Table 13-17 specifies land use conversions from one category to another.

Table 13-16
Kern County Land Use Summary and Change by Land Use Category

Land Use Category	1998 to 2000 Acreage Changes					
	Total Acreage Inventoried		Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
	1998	2000				
Prime Farmland	537,043	531,205	12,458	6,620	19,078	-5,838
Farmland of Statewide Importance	112,258	109,622	4,117	1,481	5,598	-2,636
Unique Farmland	54,103	51,076	4,119	1,092	5,211	-3,027
Farmland of Local Importance	0	0	0	0	0	0
Important Farmland Subtotal	703,404	691,903	20,694	9,193	29,887	-11,501
Grazing Land	895,146	903,243	3,907	12,004	15,911	8,097
Agricultural Land Subtotal	1,598,550	1,595,146	24,601	21,197	45,798	-3,404
Urban and Built-Up Land	80,028	82,149	2,919	5,040	7,959	2,121
Other Land	871,068	872,351	9,300	10,583	19,883	1,283
Water Area	973	973	0	0	0	0
Total Area Inventoried	2,550,619	2,550,619	36,820	36,820	73,640	0

Table 13-17
Land Use Conversion from 1998 to 2000, Kern County

From Land Use Category	To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland ⁽¹⁾ to:	--	24	1	0	25	7,973	7,998	1,300	3,160	0	12,458
Farmland of Statewide Importance ⁽¹⁾⁽²⁾ to:	92	--	14	0	106	1,226	1,332	138	2,647	0	4,117
Unique Farmland ⁽¹⁾⁽²⁾ to:	1,248	0	--	0	1,248	1,635	2,883	0	1,236	0	4,119
Farmland of Local Importance to:	0	0	0	--	0	0	0	0	0	0	0
Important Farmland Subtotal	1,340	24	15	0	1,379	10,834	12,213	1,438	7,043	0	20,694
Grazing Land ⁽³⁾⁽⁴⁾ to:	1,217	176	427	0	1,820	--	1,820	487	1,600	0	3,907
Agricultural Land Subtotal	2,557	200	442	0	3,199	10,834	14,033	1,925	8,643	0	24,601
Urban and Built-Up Land ⁽⁵⁾ to:	559	34	3	0	596	383	979	--	1,940	0	2,919
Other Land ⁽⁶⁾ to:	3,504	1,247	647	0	5,398	787	6,185	3,115	--	0	9,300
Water Area to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted to:	6,620	1,481	1,092	0	9,193	12,004	21,197	5,040	10,583	0	36,820

- ⁽¹⁾ Conversion to Grazing Land and Other Land primarily due to land left idle for three update cycles and agricultural boundary adjustments. A portion of the Kern Water Bank accounted for ~3100 acres on the Tupman quadrangle.
- ⁽²⁾ Conversions between Important Farmland categories due to corrections made to soil unit identification primarily on the Keene, Cummings Mountain and Tehachapi South quadrangles.
- ⁽³⁾ Conversion to Prime Farmland due to new irrigated agriculture and agricultural boundary adjustments made throughout the county.
- ⁽⁴⁾ Conversion to Other Land primarily due to oil field, mine and ranchette boundary adjustments made throughout the county.
- ⁽⁵⁾ Conversions from Urban and Built-Up Land are primarily the result of the ability to obtain a more distinct urban boundary.
- ⁽⁶⁾ Conversion to Prime Farmland and Farmland of Statewide Importance primarily due to newly irrigated agriculture in the Antelope Valley area and agricultural boundary adjustments made throughout the county.

13.1.4.3 Kings County

In 2000, Kings County had a population of 129,500 people. Forecasts show that by the year 2020 Kings County's total population will reach 198,700 (EDD 2002). In 2000, of the 890,786 acres mapped in Kings County, 845,802 were in agricultural use, 28,939 acres were urbanized, 66 acres were water, and 15,979 acres were "other." (FMMP 2002) Table 13-18 summarizes further land use classifications and net changes in land use categories. Kings County defines Farmland of Local Importance as land that supports the commercial activities of dairies, confined livestock, and poultry operations. Table 13-19 specifies land use conversions from one category to another.

Table 13-18
Kings County Land Use Summary and Change by Land Use Category

Land Use Category	1998 to 2000 Acreage Changes					
	Total Acreage Inventoried		Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
	1998	2000				
Prime Farmland	142,529	142,665	636	772	1,408	136
Farmland of Statewide Importance	429,172	433,245	2,091	6,164	8,255	4,073
Unique Farmland	24,494	24,740	278	524	802	246
Farmland of Local Importance	6,511	6,851	134	474	608	340
Important Farmland Subtotal	602,706	607,501	3,139	7,934	11,073	4,795
Grazing Land	244,175	238,301	6,787	913	7,700	-5,874
Agricultural Land Subtotal	846,881	845,802	9,926	8,847	18,773	-1,079
Urban and Built-Up Land	28,244	28,939	369	1,064	1,433	695
Other Land	15,595	15,979	150	534	684	384
Water Area	66	66	0	0	0	0
Total Area Inventoried	890,786	890,786	10,445	10,445	20,890	0

Table 13-19
Land Use Conversion from 1998 to 2000, Kings County

From Land Use Category	To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland ⁽¹⁾ to:	--	10	6	94	110	124	234	235	167	0	636
Farmland of Statewide Importance to:	1	--	240	311	552	610	1,162	740	189	0	2,091
Unique Farmland to:	21	17	--	22	60	166	226	17	35	0	278
Farmland of Local Importance to:	31	48	0	--	79	12	91	0	43	0	134
Important Farmland Subtotal	53	75	246	427	801	912	1,713	992	434	0	3,139
Grazing Land ⁽²⁾ to:	676	5,744	278	30	6,728	--	6,728	0	59	0	6,787
Agricultural Land Subtotal	729	5,819	524	457	7,529	912	8,441	992	493	0	9,926
Urban and Built-Up Land ⁽³⁾ to:	0	325	0	2	327	1	328	--	41	0	369
Other Land to:	43	20	0	15	78	0	78	72	--	0	150
Water Area to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted	772	6,164	524	474	7,934	913	8,847	1,064	534	0	10,445

⁽¹⁾ Conversion to Unique Farmland is due to a correction made to soil unit identification on the Westhaven quad near Lemoore NAS.

⁽²⁾ Conversion to Farmland of Statewide Importance due to new irrigated agriculture, primarily alfalfa, identified on the Guernsey, Dudley Ridge, and Hacienda Ranch quads.

⁽³⁾ Conversion to Farmland of Statewide Importance due to new irrigated agriculture found in two water control basins on the Stratford quad and refinements made to urban boundaries.

13.1.4.4 Tulare County

In 2000, Tulare County had a population of 368,000. Forecasts show that by the year 2020 Tulare County's total population will reach 570,900 (EDD 2002). In 2000, of the 1,585,871 acres mapped in Tulare County, 1,314,148 were in agricultural use, 49,378 acres were urbanized, 4,651 acres were water, and 217,694 acres were "other." (FMMP 2002) Table 13-20 summarizes further land use classifications and net changes in land use categories. Tulare County defines Farmland of Local Importance as: lands that produce dry land grains; lands that have physical characteristics that would qualify as Prime or Statewide farmlands except for the lack of irrigation waters; and lands that currently support confined livestock, poultry, or aquaculture operations. Table 13-21 specifies land use conversions from one category to another.

Table 13-20
Tulare County Land Use Summary and Change by Land Use Category

Land Use Category	1998 to 2000 Acreage Changes					
	Total Acreage Inventoried		Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
	1998	2000				
Prime Farmland	396,125	393,036	4,180	1,091	5,271	-3,089
Farmland of Statewide Importance	357,221	351,689	6,562	1,030	7,592	-5,532
Unique Farmland	11,792	11,749	183	140	323	-43
Farmland of Local Importance	110,042	117,741	1,856	9,555	11,411	7,699
Important Farmland Subtotal	875,180	874,215	12,781	11,816	24,597	-965
Grazing Land	439,955	439,933	153	131	284	-22
Agricultural Land Subtotal	1,315,135	1,314,148	12,934	11,947	24,881	-987
Urban and Built-Up Land	48,500	49,378	103	981	1,084	878
Other Land	217,607	217,694	487	574	1,061	87
Water Area	4,629	4,651	0	22	22	22
Total Area Inventoried	1,585,871	1,585,871	13,524	13,524	27,048	0

Table 13-21
Land Use Conversion from 1998 to 2000, Tulare County

From Land Use Category	To Prime Farmland	To Farmland of Statewide Importance	To Unique Farmland	To Farmland of Local Importance	Subtotal Important Farmland	To Grazing Land	Total Agricultural Land	To Urban and Built-Up Land	To Other Land	To Water Area	Total Converted to Another Use
Prime Farmland ⁽²⁾ to:	--	0	1	3,373	3,374	2	3,376	592	212	0	4,180
Farmland of Statewide Importance ⁽²⁾ to:	8	--	1	6,154	6,163	1	6,164	178	220	0	6,562
Unique Farmland to:	1	4	--	6	11	120	131	1	51	0	183
Farmland of Local Importance to:	903	861	1	--	1,765	5	1,770	41	45	0	1,856
Important Farmland Subtotal	912	865	3	9,533	11,313	128	11,441	812	528	0	12,781
Grazing Land to:	1	0	87	1	89	--	89	21	43	0	153
Agricultural Land Subtotal	913	865	90	9,534	11,402	128	11,530	833	571	0	12,934
Urban and Built-Up Land to:	45	34	0	21	100	0	100	--	3	0	103
Other Land to:	133	131	50	0	314	3	317	148	--	22	487
Water Area to:	0	0	0	0	0	0	0	0	0	--	0
Total Acreage Converted	1,091	1,030	140	9,555	11,816	131	11,947	981	574	22	13,524

⁽¹⁾ Total area inventoried represents information for the new Western Tulare soil survey area (780,415 acres) as well as the Central Tulare area (805,452 acres). Prior reports classified farmland use in Western Tulare County with the Interim mapping categories of Irrigated and Nonirrigated. The County's Farmland of Local Importance definition contains more land use types than Nonirrigated Farmland, thus some Grazing and Other Land in Western Tulare was reclassified into Local.

⁽²⁾ Conversion to Farmland of Local Importance primarily due to land left idle or utilized for dry grains for three or more update cycles.

13.2 Environmental Consequences/Environmental Impacts

13.2.1 Assessment Methods

Under each alternative, the EWA Project Agencies would negotiate contracts with willing sellers based on a number of factors, including price, water availability, and location. These factors would change from year to year; therefore, the EWA Project Agencies may choose to vary their acquisition strategy in each year. To provide maximum flexibility, this analysis includes many potential transfers when the EWA Project Agencies would not likely need all transfers in a given year. Chapter 2 defines the transfers that are included in the analysis. The primary potential effects of the EWA on agricultural land use relate to crop idling transfers.

Qualitative evaluations in this section discuss the potential changes in land use within the counties that could participate in the EWA. This analysis assesses any permanent conversions of agricultural land to other uses under program conditions relative to the Baseline Condition.

13.2.2 Significance Criteria

This analysis determines that EWA implementation would have significant effects to agricultural land use if an action resulted in:

- Substantial permanent reduction in agricultural acreage in a region or permanent conversion of any lands categorized as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under the FMMP and Prime Farmland under the Williamson Act.
- Substantial permanent conversion of lands under the Williamson Act or other land protection programs to an incompatible use.

13.2.3 Environmental Consequences/Environmental Impacts of the No Action/No Project Alternative

Under the No Action/No Project Alternative, the trend of land conversion from agricultural uses to urbanization and non-agricultural uses would likely continue and possibly accelerate. Population growth is a major factor resulting in the reduction of agricultural lands. Metropolitan areas in the Central Valley, such as Sacramento, Stockton, Fresno, and Bakersfield are expected to expand with population growth, necessitating further development of land. Recently, farmers have also been affected by urbanization through the water transfer market. Urban water supply reductions and growing populations have increased urban water demand, and lower agricultural prices have increased farmers' willingness to sell.

Under the No Action/No Project Alternative, water transfers involving crop idling would likely continue at recent levels. Generally, water transfers would not affect land use because transfers are temporary. Farming patterns often change annually. If

single year water transfers are made, land use patterns would not vary substantially from normal farming practices. Farmers would also continue to idle some land temporarily depending on crop rotations and the agricultural market. Lands are temporarily removed from farm production for improvements such as land leveling and weed abatement. Farmers also rotate land to reduce pest problems and build soils. Farmers would continue to place back into production other previously-idled land. These continued farming practices would continue to cause some fluctuation in agricultural land use.

Under the No Action/No Project Alternative, statewide and Federal programs to preserve open space and agricultural lands would continue to be implemented. Several programs would also take agricultural land out of production. This would neither interfere with other land protection programs nor bring enrolled lands to an incompatible use. Any actions associated with the No Action/No Project Alternative would be less than significant.

13.2.4 Environmental Consequences/Environmental Impacts of the Flexible Purchase Alternative

The Flexible Purchase Alternative allows transfers up to 600,000 acre-feet and does not specify transfer limits from the Upstream from the Delta Region or the Export Service Area. The transfer from the Upstream from the Delta Region would vary between 50,000 and 600,000 acre-feet each year, limited by hydrologic year type and the availability of conveyance capacity through the Delta each year. Although all potential transfers would not occur within a single year, this section discusses the potential effects of all transfers to the EWA in order to provide an analysis of the maximum transfer scenario. Therefore, the crop idling acreages indicated in the analysis represent maximum crop idling actions and would not likely all occur within one year.

13.2.4.1 Upstream from the Delta

Table 13-22 shows the maximum acreage that could be idled in each county as defined under the project description. (See Chapter 11, Regional and Agricultural Economics for discussion.) EWA purchases through crop idling would not exceed 20 percents of baseline acreages in counties upstream from the Delta. EWA crop idling actions during a single year would likely affect less than the maximum acreages listed in Table 13-22.

Table 13-22			
Proposed Maximum Acreages for Rice Idling			
	Total Acres of Rice in County	Acreage Proposed for Idling	% of Total
Butte	95,120	19,000	20.0%
Colusa	132,338	26,460	20.0%
Glenn	83,777	16,750	20.0%
Placer	16,379	3,280	20.0%
Sutter	96,722	19,340	20.0%
Yolo	23,822	4,770	20.0%

Source: DEIM 2002

EWA acquisition of water through crop idling in counties in the Upstream from the Delta Region could permanently decrease the amount of lands categorized as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under the FMMP and Prime Farmland under the Williamson Act. For land to be categorized as Prime Farmland, Farmland of Statewide Importance or Unique Farmland under the FMMP, the land must have been used for production at some time during the two update cycles prior to the mapping date.⁴ Under the Williamson Act, land must have grossed an identified economic value for three of five consecutive years. Crop idling actions by the EWA would not necessarily be done every year. Any crop idling actions would also be a temporary effect. Landowners would annually choose whether to idle their rice fields and could place the fields back into production the following season. Therefore, crops could be idled annually and continue to meet the criteria for Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under the FMMP and Prime Farmland under the Williamson Act.

However, because each parcel has a different cropping history, the EWA Project Agencies could purchase water through crop idling and potentially change the classification of some farmland. This would result in a potentially significant effect. If idling the crops would change the classification to levels less than Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under the FMMP and Prime Farmland under the Williamson Act, the EWA agencies could implement mitigation measures to avoid changing land classifications (See Section 13.2.8). Consequently, land use effects would be less than significant with mitigation.

EWA acquisition of water through crop idling in counties in the Upstream from the Delta Region could convert lands under the Williamson Act and other land resource programs to an incompatible use. As discussed above, crop idling under the EWA would be a temporary effect. Farmers could resume farming the following season after the idling. Therefore, the EWA would not result in any permanent changes to the land and land would not be converted to an incompatible use. Thus, any idling actions would not interfere with objectives of the Williamson Act and other agricultural easements to preserve open space land. In addition, increased net returns allowed by water transfers could help landowners avoid selling land for development and preserve farmland. Consequently, any potential effects to agricultural land use would be less than significant. No mitigation is required.

13.2.4.2 Export Service Area

The majority of cotton fields in the Export Service Area are in Kings, Tulare, Kern, and western Fresno Counties. Table 13-23 provides the maximum number of acres proposed for crop idling in these counties, though these actions would not likely occur in a single year. Refer to Chapter 11, Regional and Agricultural Economics, for further discussion on the development of these acreages.

⁴ Each update cycle is two years.

Table 13-23
Proposed Maximum Acreages for Cotton Idling

	Total Acres of Cotton in County	Acreage Proposed for Idling	% of Total
Fresno	352,880	70,500	20.0%
Kern	246,616	49,300	20.0%
Kings	222,543	44,500	20.0%
Tulare	92,680	18,500	20.0%

Source: DEIM 2002

EWA acquisition of water through crop idling in counties in the Export Service Area could permanently decrease the amount of lands categorized as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under the FMMP and Prime Farmland under the Williamson Act. Crop idling actions under the EWA would not occur every year. Any crop idling that would take place would be a temporary effect. Landowners could produce cotton in the subsequent season after a crop idling year. Because fields are idled annually, the cotton land could continue to meet the land classification criteria stated in the FMMP and Williamson Act, and permanent reduction to agricultural acreages would not occur.

Because each parcel has a different cropping history, the EWA Project Agencies could purchase water through crop idling and potentially change the classification of some farmland. This would be a potentially significant effect. If idling the crop would change land classification levels under the Williamson Act and FMMP, the EWA agencies could implement mitigation measures to avoid changing land classifications (See Section 13.2.8). Therefore, this effect is considered less than significant with mitigation.

EWA acquisition of water through crop idling in counties in the Export Service Area could convert lands under the Williamson Act and other land resource programs to an incompatible use. As discussed above, crop idling under the EWA would be a temporary effect. Farmers could resume farming the following season after the idling. Therefore, the EWA would not result in any permanent changes to the land and land would not be converted to an incompatible use. Thus, any idling actions would not interfere with objectives of the Williamson Act and other land protection programs to preserve agricultural and open space land. In addition, increased net returns allowed by water transfers could help farmers avoid selling land for development. Consequently, any potential effects to agricultural land use would be less than significant. No mitigation is required.

13.2.4.3 Multi-year Water Transfers

EWA Project Agencies could potentially negotiate multi-year water transfers, which would guarantee the sale of water for multiple years. Multi-year contracts would be negotiated with water districts. If water districts contracted for multi-year crop idling transfers, the EWA acquisitions could change the classification of land under the

FMMP and Williamson Act. This could be a potentially significant effect. The EWA agencies would implement mitigation measures if land classifications under the Williamson Act and FMMP should change. The multi-year contract would indicate land classification requirements and particular parcels would be idled accordingly. Therefore, with mitigation, FMMP and Williamson Act classifications would not be affected by multi-year contracts and the effect would be less than significant. In addition, EWA multi-year transfers would not result in agricultural land being permanently taken out of production or converted to an incompatible use. This effect of multi-year water transfers would be less than significant.

13.2.5 Environmental Consequences/Environmental Impacts of Fixed Purchase Alternative

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area. Although the amounts in each region would be fixed, the acquisition types and sources could vary. This section analyzes the effects of each potential transfer to allow the EWA Project Agencies maximum flexibility when negotiating purchases with willing sellers. These transfers would be the same actions as those described in the Flexible Purchase Alternative, but the amounts would be limited by the total acquisition amount in each region (35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area).

The Fixed Purchase Alternative would involve the same crop idling actions as the Flexible Purchase Alternative in areas where 20 percent idling of county rice and cotton acreage defines the limits of transfer acquisitions. This occurs in Placer, Yolo, Kern, Kings, and Tulare Counties.

Table 13-24 describes proposed maximum acreages for rice and cotton idling under the Fixed Purchase Alternative. Under the Fixed Purchase Alternative, the EWA would not result in any agricultural land being permanently taken out of production. The temporary idling of land would not also result in substantial permanent changes in land use classifications under the Williamson Act and FMMP. Consequently, the agricultural land use effects of the Fixed Purchase Alternative would be less than significant.

Table 13-24
Proposed Maximum Acreages for Rice/Cotton Idling for Fixed Alternative

Region	County	Total Acres of Rice/ Cotton in County	Acreage Proposed for Idling	Percent of Total Rice/ Cotton Acres to be Idled
Upstream Region	Butte	95,120	10,600	11.1%
	Colusa	132,338	15,000	11.3%
	Glenn	83,777	15,000	17.9%
	Placer	16,379	3,280	20.0%
	Sutter	96,722	10,600	11.0%
	Yolo	23,822	4,770	20.0%
Export Service Area (Cotton)	Fresno	352,880	65,000	18.4%
	Kern	246,616	49,300	20.0%
	Kings	222,543	29,500	20.0%
	Tulare	92,680	18,500	20.0%

Source: DEIM 2002

13.2.6 Comparative Analysis of Alternatives

The Fixed Purchase Alternative specifies purchases of 35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area. While the amounts in each region would be fixed, the acquisition types and sources could vary. To allow the EWA project agencies maximum flexibility when negotiating purchases with willing sellers, this section analyzes the effects of each potential transfer. These transfers are the same actions as those described in the Flexible Purchase Alternative, but the amounts are limited by the total acquisition amount in each region (35,000 acre-feet from the Upstream from the Delta Region and 150,000 acre-feet from the Export Service Area).

Under the No Action/No Project Alternative, conversion of farmland to urban uses would continue under wet and dry years. Water transfers via crop idling would occur under other water acquisition programs. During dry years, crop idling would be utilized more as an acquisition method, relative to wet years.

13.2.6.1 Upstream from the Delta Region

In the Upstream from the Delta Region, the Fixed Purchase Alternative would be limited to a maximum acquisition of 35,000 acre-feet from all sources of water. In most years, this amount could be obtained from stored reservoir water purchases. In those years when surface water assets were not available (in part or in total), the EWA agencies would acquire water first from groundwater substitution and/or groundwater purchase, followed by crop idling. The Fixed Purchase Alternative would not be likely to involve acquisition of water from crop idling. Therefore, during wet and dry years, agricultural land use would not be affected under Fixed Purchase Alternative.

The Flexible Purchase Alternative could involve the purchase of up to 600,000 acre-feet of water from all sources upstream from the Delta. EWA agencies would prefer to purchase water from upstream sources because the water is generally less expensive.

The amount that could be purchased would be limited by the excess capacity of the Delta export pumps to move the water to export areas south of the Delta. During wet years, pump capacity may be available for as little as 50,000 acre-feet of EWA asset water because the pumps would be used primarily to move State and Federal project water to the Export Service Area. During dry years, when there would be less Project water available for pumping (and therefore the pumps would have greater available capacity), the EWA Project Agencies could acquire up to 600,000 acre feet of water from sources upstream of the Delta.

During wet years, the potential for land use effects upstream from the Delta for the Flexible Purchase Alternative would be very similar to the Fixed Purchase Alternative. During wet years, under both alternatives, acquisitions would most likely be from stored water sources and crop idling would not be exercised. There would thus be no land use effects during wet years. During dry year conditions, however, when the export pumps would have greater capacity to move EWA assets, crop idling would be used for additional EWA acquisitions. Consequently, during dry years, under the Flexible Purchase Alternative, EWA Project Agencies would acquire water through crop idling at much greater amounts than would be acquired under the Fixed Purchase Alternative.

13.2.6.2 Export Service Area

EWA asset acquisitions in the Export Service Area under the Fixed Purchase Alternative would be limited to 150,000 acre-feet from stored groundwater and crop idling sources. The EWA agencies would purchase stored groundwater first, then purchase water from crop idling if more were needed. Stored groundwater has finite availability, and 150,000 acre-feet would not likely be available in all years. In years with less stored groundwater availability, EWA agencies would turn to crop idling for the remaining acquisition needs.

EWA asset acquisitions in the Export Service Area under the Flexible Purchase Alternative would be dependent on the water year type upstream from of the Delta. Export pump capacity during wet years would limit the ability of the EWA Project Agencies to move assets through the Delta, requiring reliance on greater purchase amounts from export area sources. During wet years, acquisitions within the Export Service Area could involve up to 600,000 acre-feet of assets. Much of this water would be from crop idling; therefore, potential land use effects of the Flexible Purchase Alternative would be greater than for the Fixed Purchase Alternative.

Table 13-25 compares the potential effects of the Fixed Purchase and Flexible Purchase Alternatives.

**Table 13-25
Comparison of Agricultural Land Use Effects for Flexible and Fixed Purchase Alternatives**

<i>Region</i>	<i>Asset Acquisition or Management</i>	<i>Result</i>	<i>Effects</i>	<i>Flexible Purchase Alternative Effects</i>	<i>Fixed Purchase Alternative Effects</i>	<i>Significance of Flexible Purchase Alternative</i>	<i>Significance of Fixed Purchase Alternative</i>
Upstream from the Delta: Butte Colusa Glenn Placer Sutter Yolo	Crop Idling	Temporary conversion of rice crops to bare fields	Reduce rice crop acreage in upstream of the Delta counties	Decrease the amount of lands categorized as prime, statewide importance, or unique farmland.	Decrease the amount of lands categorized as prime, statewide importance, or unique farmland.	Potentially Significant; Less than significant effect with mitigation	Potentially Significant; Less than significant effect with mitigation
				Convert lands under the Williamson Act and other land resource programs to an incompatible use.	Convert lands under the Williamson Act and other land resource programs to an incompatible use.	Less than significant effect, could reduce conversion	Less than significant effect, could reduce conversion
Export Service Area Fresno Kern Kings Tulare	Crop Idling	Temporary conversion of cotton crops to bare fields	Reduce cotton crop acreage in Export Service Area counties	Decrease the amount of lands categorized as prime, statewide importance, or unique farmland	Decrease the amount of lands categorized as prime, statewide importance, or unique farmland	Potentially Significant; Less than significant effect with mitigation	Potentially Significant; Less than significant effect with mitigation
				Convert lands under the Williamson Act and other land resource programs to an incompatible use.	Convert lands under the Williamson Act and other land resource programs to an incompatible use.	Less than significant effect	Less than significant effect

13.2.7 Mitigation Measures

To decrease adverse land use effects, the EWA would consider the following measures:

- Water would not be acquired from a particular parcel of land if idling the land would result in a lower classification of the land as defined under the FMMP and Williamson Act. The EWA Project Agencies would gather accurate data regarding land classifications of cropland previously idled in participating counties. Data on recent idling history of specific parcels would be obtained from the seller.

13.2.8 Potentially Significant Unavoidable Impacts

There would be no potentially significant unavoidable agricultural land use effects.

13.2.9 Cumulative Effects

The timeframe for the EWA cumulative analysis extends through 2007. The cumulative effects analysis considers other water transfer programs that utilize crop idling and conservation programs that protect agricultural and open space land. These programs include the Dry Year Purchase Program, the Drought Risk Reduction Investment Program, CALFED Environmental Water Program and the CVPIA Water Acquisition Program. Chapter 22 explains the framework of the cumulative analysis and a summary of the programs considered.

Crop idling in these water acquisition programs is on a voluntary, year-by-year basis. Farmers can choose to offer their water for sale to any of the above programs during any season that the programs are in operation, subject to project conditions. The farmers can then decide to resume planting in the subsequent season. Therefore, crop idling would be a temporary effect and would not permanently alter any land use patterns. Water acquisition programs also would not result in any land being converted to incompatible uses. Land classifications could change under the cumulative condition if parcels are repeatedly idled under other programs. This is a potentially significant cumulative effect.

However, with the mitigation measures identified above, any EWA water acquisitions via crop idling would not decrease the amount of land categorized as Prime, Statewide Importance, or Unique under the FMMP and Prime Farmland under the Williamson Act. Therefore, EWA would not permanently change land use practices and would not contribute to any potential cumulative effects. Consequently, because crop idling is temporary and EWA actions would not result in any changes to land use classifications, any potential cumulative effects on agricultural land use by the EWA would be less than significant.

The Westlands Global Land Settlement Program is a land retirement program that proposes to permanently remove 200,000 acres of cropland from production in western Fresno and Kings Counties. Currently, the program does not specify the types and locations of cropland intended for retirement. Any land retired under the program would be used for wildlife habitat or dryland farming. The retirement program likely would change land classifications, depending on the location and current classification of the land. If changes occur, a cumulative effect could be considered significant. Environmental documentation for the program should address the potential cumulative effect. With the mitigation measures identified in this chapter, the EWA would not contribute to the cumulative effect.

13.3 References

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