

Projected Water Demands

4.1 INTRODUCTION

This chapter describes the water demand projections for El Dorado County as developed by Economic & Planning Systems, Inc. (EPS) in 2003 and updated by ECO: LOGIC in 2006. EPS originally developed water demand forecasts for four of the land use alternatives that were being considered as part of the County General Plan process. These land use forecasts were developed for the western slope of the County (excluding the Tahoe Basin). EPS also developed water demand forecasts for the Tahoe Basin based on land use data provided by the Tahoe Regional Planning Agency (TRPA).

On July 19, 2004, the El Dorado County Board of Supervisors adopted a new General Plan. On August 31, 2005, the Sacramento Superior Court ruled that the 2004 General Plan was fully compliant with the Writ of Mandate issued in 1999 and further legal challenges were dismissed. Based on these Court rulings, El Dorado County is able to implement this new General Plan.

The assumed land use forecast in the adopted 2004 General Plan was based on the 1996 General Plan alternative, with some minor modifications. The water demand forecast for the 1996 General Plan alternative has been revised to reflect these modifications and is now referred to as the 2004 General Plan land use forecast. The underlying methodology used by EPS to develop the water demand forecasts remains unchanged and is described in the June 4, 2003, Technical Memorandum prepared by EPS included in Appendix E (2003 EPS Memo). The modifications to the land use and water demand forecasts based on the adopted General Plan are also described in Appendix E (2006 ECO:LOGIC Memo).

Outside the service areas of the water purveyors, the water needs are supplied by small privately owned water providers and individual property owners from wells and springs. For the purposes of this study, the territory that is not serviced by the five major purveyors is cumulatively referred to as “Other County Areas” (OCA).

Water demand projections were developed both for the Western Slope and the Tahoe Basin for three points in time: the base year (1999 for the Western Slope and 2001 for the Tahoe Basin), 2025, and buildout. Buildout represents total land use capacity with no constraints such as roads, open spaces, preserves, biological corridors, and slope setbacks. Water demand projections are summarized in Table 4-1.

Table 4-1
El Dorado County Water Demand Forecast Water Demand Summary^[a]

Description	Acre Feet Per Year				
	Base Year ^b	2025		Buildout	
	Estimated Demand	New Demand (1999-2025)	Total Demand	New Demand (1999-Buildout)	Total Demand
	A	B	C=A+B	D	E=A+D
Western Slope:	58,332	54,752	113,084	110,124	168,456
Tahoe Basin:	9,085	3,300	12,362	3,410	12,495
Total Projected Water Demand:	67,417	58,052	125,446	113,534	180,951

(a) Water demand projections reflect a refinement of agricultural demands developed after the demand forecast was completed for the 2004 General Plan.

(b) 1999 for the Western Slope; 2001 for the Tahoe Basin.

4.2 WATER DEMAND FORECAST METHODOLOGY

There are three basic components or steps used to construct the water demand forecast. They are:

1. Land use forecasts for the County of El Dorado (Western Slope and Tahoe Basin);
2. Distribution of the land use forecasts between the five major water purveyors and the other county areas; and
3. Application of water demand factors to the land use forecasts by purveyor or other county areas.

The land use projections are multiplied by a water demand factor to estimate the water demand for each of the purveyors as well as the remaining OCAs. The water demand factors are based on data provided by each of the purveyors. Each of these steps is described in greater detail below.

4.2.1 LAND USE FORECASTS

The demand for water in El Dorado County over the next 25 years, in large part, will be related to growth in population and employment. Water demand in the Tahoe Basin will be related to growth in recreational and tourism activity.

Housing and employment growth forecasts were developed for the Western Slope of the County by Traffic Analysis Zones (TAZ) in conjunction with the 2004 General Plan.

The land use forecasts for the Tahoe Basin are based on the 2001 Land Use projections developed by the Tahoe Regional Planning Agency (TRPA) and extended to 2025 by EPS for purposes of this analysis. The buildout number of households is determined by the growth limitations currently in place within the Tahoe Basin.

Agricultural land use (both existing and future) was also considered for purposes of estimating the water demand. Data were provided by Wood Rodgers, Inc. with some modifications by ECO:LOGIC (Refer to Appendix D for details), for the projected water demands of agricultural users.

The Western Slope

The water demand forecast for the Western Slope is based on the adopted 2004 El Dorado County General Plan land use projections. The land use forecast projects residential housing units (and households) and non-residential employment for the year 2025 and at General Plan buildout. Projected single family and multi-family households and retail service, and other employment, were detailed at the TAZ level. The base year for the forecast is 1999.

The land use forecasts as originally prepared as part of the General Plan adoption process and as modified for the adopted General Plan are summarized in detail in Appendix E.

The Tahoe Basin

The growth projections for the Tahoe Basin were based on the information provided by the TRPA in 2002. The Tahoe Basin land use projections were also detailed at the TAZ level and contain the following categories:

- Residential Households
- Hotel/Motel Rooms
- Campground Sites

- Retail Employment
- Service Employment
- Recreational Employment
- Other Employment

For residential households, hotel/motel rooms, and campground sites, TRPA provided both the total number of units and the number of units with full-time and seasonal occupancy.

Growth in the Tahoe Basin is regulated by the rules established by the TRPA that limit the number of units that can be built annually and specify the total number of remaining developable parcels.

According to the TRPA, the total number of parcels available for development in 2001 in the district service area was 3,300, with approximately 2,800 parcels in the STPUD service area, and approximately 50 parcels in the TCPUD service area. The remaining developable parcels were assigned to Other County Areas.

The TRPA land use forecasts were projected through 2006. EPS extended the forecasts through 2025 and buildout for compatibility with western slope forecasts. The base year for the forecast is 2001 as determined by the TRPA.

The Tahoe Basin has several important demographic and growth factors that need to be considered in developing land use forecasts. In the original land use forecasts developed by EPS in 2003, there were two alternative scenarios considered. The scenarios were based on the number of residential units that can develop annually (El Dorado County allocation) and the level of seasonal occupancy. Currently, new development is restricted to 116 residential units per year; however, there is the possibility that this allocation could be lowered in the future. Alternative 1 assumed a maximum of 87 units per year and continued seasonal occupancy of a portion of the residential units. Alternative 2 assumed a maximum of 116 units per year full occupancy of seasonal units. For purposes of this report and future planning by the Water Agency, Alternative 2 (moderate growth/full occupancy) is assumed in the water demand forecast.

A detailed explanation of the assumptions and methodology used by EPS in developing the Tahoe Basin land use forecast is provided in Appendix E.

4.2.2 ALLOCATION OF GROWTH

In order to translate the land use forecasts into water demand for each of the five water purveyors as well as the Other County Areas, it is necessary to determine how much of the projected growth will occur in each of the purveyors' boundaries.

To determine the growth to be allocated to each of the water purveyors, an acreage distribution factor was calculated based on the purveyor's existing service area boundaries. These service boundaries were overlaid on to the TAZs' boundaries initially using the software package ArcView GIS 3.2A and updated using ArcView GIS 9.2. Based on this exercise, growth was allocated to purveyors and Other County Areas on a pro-rated acreage share basis.

The acreage allocation factors by TAZ for the Western Slope area and the acreage allocation factors by TAZ for the Tahoe Basin are shown in Appendix E. Any growth outside of the purveyor boundaries was allocated to the Other County Areas.

While this methodology worked for the majority of the water purveyors and TAZs, some exceptions did exist as noted in the following paragraphs.

In the Western Slope area, only Grizzly Flats CSD was modified. The purveyor's service area is completely located within one TAZ and geographically constitutes a very small portion of the TAZ (See Figure 2 of Appendix E). However, the total number of projected households located in the TAZ (278 households) matches closely to the number of accounts serviced by the purveyor in 1999 (approximately 300 accounts). A simplifying assumption was made to allocate all projected growth within this TAZ to the purveyor boundary. This assumption has resulted in an overstatement of buildout within the Grizzly Flats CSD boundary by 1272, which equates to 534 acre-feet of water, and an understatement in other county areas by the same number of households, although total households are not affected.

In the Tahoe Basin area, due to the specifics of land use and growth patterns (a large number of homes are located outside of the purveyor service areas), the pro-rated acreage percentage allocation method described in the beginning of this section did not yield reliable results in the allocation of residential growth to TCPUD and STPUD. Therefore, the number of residential accounts reported by the purveyors for the base year was used. The difference between the total number of households provided by the TRPA and the number of the residential accounts services by the purveyors was

assigned to the Other County Areas. The households and businesses within OCA receive water from private wells and numerous smaller water companies. No attempt has been made to generate separate forecasts for these water companies beyond the general OCA estimate (due to the fact that the efforts to obtain the necessary information from the water companies were unsuccessful and that in general these companies have on average relatively few accounts). This allocation became the basis for future growth projections.

The future household growth allocation to purveyor boundaries was made based on development constraints established by the TRPA, historic growth trends reported by the purveyors, and growth estimates generated by the TRPA for the years 2001 through 2006.

The results of growth allocation to purveyor boundaries for the Western Slope and the Tahoe Basin respectively are shown in Tables 4-2 and 4-3.

4.2.3 WATER DEMAND FACTORS

The water demand factors used in this analysis were based on data provided by each of the water purveyors. In some cases, simplifying assumptions were made for purposes of this analysis and are detailed in the section for each purveyor. The water demand factors are discussed in greater detail and summarized in Figures 8 and 9 of the 2003 EPS Memo included in Appendix E. Purveyor-specific water demand factors were used because each service area exhibits unique water demand and growth trends, thus making universal water demand factors unreliable.

El Dorado Irrigation District

EID service area is subdivided into three smaller service areas – El Dorado Hills, Western Region, and Eastern Region. Because this analysis is a “big picture” look at water demand, the projections presented herein are for the aggregated EID service area. However, due to the different pace of growth and water use within the EID regions, EPS used region-specific demand factors to increase forecast accuracy.

- **Residential Demand:** The residential water demand factors for the three EID service areas are based on the EID Administrative Draft Water Supply Master Plan.
- **Commercial/Industrial/Office (CIO) Demand:** The CIO water demand factor is the total CIO water demand divided by the total number of employees in the EID service area.

- **Agricultural Demand:** The agricultural water demand projections were provided by Wood Rodgers and have subsequently been modified through the public review process. Further discussion of agricultural demand is provided in Section 4.4 and Appendix D.
- **Recreational Turf Services:** The Recreational Turf Services includes irrigation of golf courses, parks and sports fields. Water demand for these uses was provided by EID (Draft Water Supply Master Plan) and reflects a historic average water demand for the past 11 years. Historical data does not suggest any growth trends in water use over time;
- **Ditches:** Water losses associated with the use of ditches for water delivery fluctuate significantly by year. A conservative approach was taken in the preparation of this report projecting that the future water demand within this category will average approximately 1,500 acre feet annually. The base year shows only 1,000 acre-feet due to the fact that it was the actual demand for that year. However, the 1999 demand in this category is also considered to be unusually low;
- **Other Authorized Uses and System Losses:** System losses are water that is taken into the system from a purveyor's main sources, but not delivered to the consumers, or used for other authorized purpose. This category of water demand is projected to be reduced (as a percentage of active demand) over time based on historical patterns and water loss control goals established by EID. This assumption is consistent with the EID strategy and performance geared towards reducing leakage and water losses; and
- **Latent Demand:** Latent demand includes inactive accounts and uninstalled meters, which can potentially generate immediate water demand. We expect latent demand to remain unchanged as a percentage of active demand based on historical data provided by EID.

The water demand projections presented herein for EID do not coincide with those in the EID *Water Supply Master Plan – December 2001* because of the difference in service area boundary used in the two projections. The December 2001 report based its projections on a service area somewhat larger than the district boundaries, including those parcels which, as the result of preliminary hydraulic evaluations, were deemed likely to receive EID water in the future. These parcels were those near EID's existing and planned distribution facilities judged to have the physical and financial potential to extend these facilities to serve them. In contrast, parcels within EID's existing territory with less potential for service were excluded. The EPS water demand projections for EID were based on

service within EID's existing boundaries; those areas outside EID's boundaries included in the December 2001 report in this report are included in Other County Areas. The county totals, therefore, are not affected.

Georgetown Divide PUD

The following factors were used to determine demand in the GDPUD:

- **Residential Demand:** The residential water demand factor was provided by GDPUD. No breakout of consumption by residential land uses is available. Therefore, the same factor was used for both single-family and multi-family residences, as shown in the EPS Memo Figure 8 of Appendix E.
- **Commercial/Industrial/Office (CIO) Demand:** The CIO water demand factor was estimated based on the total CIO water demand divided by the total number of employees in the service area;
- **Irrigation Demand:** The agricultural / irrigation water demand projections were provided by Wood Rodgers and have subsequently been modified through the public review process. Further discussion of agricultural demands are provided in section 4.4 and Appendix D;
- **Golf Course Demand:** A Property Owners Association is responsible for maintaining a golf course with a water demand that is projected to remain constant over the course of time;
- **Other Authorized Uses and System Losses:** This water demand includes operational losses that average 3,000 acre feet per year (per GDPUD) and water system treatment and conveyance that constitutes 4.2 percent of active demand; and
- **Latent Demand:** The water factor for latent demand was provided by GDPUD and is assumed to decrease (as a percentage of active demand) over time as additional customers become a part of active demand.

Grizzly Flats Community Services District

Only one universal per service demand factor was provided by GFSCD that included an allocation for all commercial, and other authorized uses and system losses. An adjustment was made for the 1999 water demand to account for units with seasonal occupancy. The seasonal occupancy is projected to decrease over time and by 2025 all residencies will have full-time occupancy.

South Tahoe Public Utility District

The following factors were used to determine demand in the STPUD:

- **Residential Demand:** Residential water demand factors were provided by STPUD and converted from gallons per day to acre-feet per year;
- **Commercial/Industrial/Office (CIO) Demand:** The CIO water demand factor is the total CIO water demand divided by the total number of employees in the service area;
- **Hotel/Motel Rooms and Campground Sites Demand:** The water demand factors for these uses was estimated based on data provided by the State Water Resources Control Board (Policy for Implementing the State Revolving Fund for Construction of Wastewater Treatment Facilities, Table E-1);
- **Other Authorized Uses and System Losses:** This water demand factor was provided by STPUD; and
- **Latent Demand:** Not included as data is not available.

Tahoe City Public Utility District

The following factors were used to determine demand for the TCPUD:

- **Residential Demand:** Residential water demand factors were provided by TCPUD and converted from gallons per day to acre-feet per year;
- **Commercial/Industrial/Office (CIO):** The CIO water demand factor was estimated based on the total CIO water demand divided by the total number of employees in the service area;
- **Hotel/Motel Rooms and Campground Sites Demand:** The water demand factors for these uses were estimated based on data provided by the State Water Resources Control Board (Policy for Implementing the State Revolving Fund for Construction of Wastewater Treatment Facilities, Table E-1);
- **Other Authorized Uses and System Losses:** This water demand factor was not included as no data is currently available; and
- **Latent Demand:** Not included as data is not available.

Table 4-2
El Dorado County
Western Slope Growth Projections Summary

Description	Units	Total for 1999					Total for 2025					Total for Capacity				
		NS	EID	GFCSD	GDPUD	Total	NS	EID	GFCSD	GDPUD	Total	NS	EID	GFCSD	GDPUD	Total
2004 General Plan																
<i>Residential:</i>																
Single-Family Units	Households	8,627	22,749	263	2,791	34,430	16,832	39,690	409	3,513	60,444	27,744	53,956	2,391	8,547	92,638
Multi-Family Units	Households	644	4,126	-	160	4,930	1,324	8,083	5	394	9,806	2,949	16,116	66	2,274	21,405
Mobile Home Units	Households	947	1,936	15	321	3,219	947	1,936	15	321	3,219	947	1,936	15	321	3,219
Total Units		10,218	28,811	278	3,272	42,579	19,103	49,709	429	4,228	73,469	31,640	72,008	2,472	11,142	117,262
<i>Employment:</i>																
Retail Employment	Employees	587	5,626	2	249	6,464	2,727	14,328	2	428	17,485	5,636	22,096	6	1,753	29,491
Service Employment	Employees	3,061	11,711	26	627	15,425	8,150	24,921	27	957	34,055	13,713	36,085	33	3,342	53,173
Other Employment	Employees	1,395	6,662	23	465	8,545	4,550	15,833	23	684	21,090	8,200	23,962	27	2,269	34,458
Total Employment:		5,043	23,999	51	1,341	30,434	15,427	55,082	52	2,069	72,630	27,549	82,143	66	7,364	117,122

Source: EPS Land Use Forecast

Table 4-3
El Dorado County
Tahoe Basin Growth Projection Summary

Description	Units	Total for 2001				Total for 2025				Total for Capacity				Notes
		NS	STPUD	TCPUD	Total	NS	STPUD	TCPUD	Total	NS	STPUD	TCPUD	Total	
Alternative 2														[a]
Residential Units	Households	2,766	12,509	556	15,831	4,155	15,298	620	20,073	4,155	15,371	620	20,146	[b]
Motel / Hotel Rooms	Rooms	388	5,490	10	5,888	510	8,132	37	8,679	518	8,282	39	8,839	[c]
Campground Sites	Sites	456	750	292	1,498	765	1,372	494	2,631	785	1,414	512	2,711	[d]
Employment:														
Retail Employment	Employees	171	3,280	13	3,464	193	3,935	13	4,141	202	4,028	13	4,243	[e]
Service Employment	Employees	238	2,731	46	3,015	289	3,390	46	3,725	307	3,480	46	3,833	[f]
Recreation Employment	Employees	13	222	-	235	39	222	-	261	48	222	-	270	[g]
Other Employment	Employees	115	2,172	-	2,287	140	2,612	-	2,752	149	2,705	-	2,854	[h]
Total Employment:		537	8,405	59	9,001	661	10,159	59	10,879	706	10,435	59	11,200	

Source: EPS, South Tahoe PUD, Tahoe City PUD, TRPA.

[a] Buildout is projected to take place in 2027.

[b] Growth projections were developed as follows:

STPUD - Average growth in the district area in the period between 1995 and 2000 has been 92.2 residential units a year.

Based on the TRPA allocation of units available for construction in the area, the District's potential to the buildout as of 1993 was 3,600 units. As of 2001, 738 of the available units were built. This leaves a balance of 2,862 units. Assuming previous level of residential development (116 units per year after 2006), the buildout will take place in 2027.

TCPUD - Average growth between 1997 and 2001 (excluding the annexation of Meeks Bay Vista customers) has been 2 accounts per year.

The buildout number of customers is provided by TCPUD as 620 residential and 4 commercial accounts. For the purposes of this projection, we assume annual growth of 4 accounts per year. The buildout remains unchanged.

NS - Total projected growth of residential units between 2001 and 2005 - 1,675 (TRPA). 489 units are within the STPUD and TCPUD area. The remaining 1,186 (over 5 years) units result in annual average of 237 units.

[c] Growth projections were developed as follows:

Total rooms growth for the El Dorado Co area of Tahoe Basin is projected to be 80 units per year.

STPUD (93.81% of all rooms) - 75 rooms per year.

TCPUD - 1.2 rooms per year.

NS - 3.8 rooms per year.

[d] Growth projections were developed as follows:

Total campsites growth for the El Dorado Co area of Tahoe Basin is projected to be 40 sites per year.

STPUD (52.29% of all sites) - 21 sites per year.

TCPUD - 9 sites per year.

NS - 10 sites per year.

[e] Growth projections were developed as follows:

STPUD - To project the high growth scenario retail employment we used households-to-retail jobs ratio for TRPA 2006 projection of 4.26 households per retail job.

However, the buildout number of jobs is the same as in the low growth scenario, since the buildout households are the same under both scenarios due to growth limitations. Under the high growth scenario the buildout comes sooner.

TCPUD - No growth.

NS - same as low growth.

[f] Growth projections were developed as follows:

STPUD - To project the high growth scenario retail employment we used households-to-retail jobs ratio for TRPA 2006 projection of 4.23 households per service job. However, the buildout number of jobs is the same as in the low growth scenario, since the buildout households are the same under both scenarios due to growth limitations. Under the high growth scenario the buildout comes sooner.

TCPUD - No growth.

NS - same as low growth.

[g] Growth projections were developed as follows:

STPUD - Due to inability to find any relationship between projected population growth and recreation employment decrease projected by TRPA, assume that under high growth scenario employment will remain at 2001 level through buildout.

TCPUD - No growth.

NS - same as low growth.

[h] Growth projections were developed as follows:

STPUD - To project the high growth scenario retail employment we used households-to-retail jobs ratio for TRPA 2006 projection of 6.34 households per other job. However, the buildout number of jobs is the same as in the low growth scenario, since the buildout households are the same under both scenarios due to growth limitations. Under the high growth scenario the buildout comes sooner.

TCPUD - No growth.

NS - same as low growth.

Other County Areas

For assessment of Other County Areas, separate calculations were made for the Western Slope and the Tahoe Basin areas due to differences in water demand trends discussed earlier. The calculated factors are a weighted average for demand in the areas serviced by purveyors. No other authorized uses/system losses, and latent demand factors were calculated due to the fact that the water is supplied through private wells and by smaller water companies that do not have the capability to track these factors.

4.3 COUNTYWIDE WATER DEMAND FORECAST

Water demand forecasts were estimated based on the growth projections and water demand factors which are described above for each purveyor. Once new growth was allocated either to a water purveyor or to the remaining county areas, a water demand factor was applied to the applicable land use to calculate the estimated water demand in acre-feet per year.

Water demand forecasts were developed for three points in time: the base year (1999 for the Western Slope and 2001 for the Tahoe Basin), 2025, and Buildout.

It should be noted that the base year water demand was estimated based on the historic average water demand factors and variables (households, employment, etc.) calculated based on the methodology specified in this report. While it is not the actual demand recorded by the purveyors for the base year, it is very close to the actual numbers with a very insignificant variance.

Agricultural water demand for the Western Slope was projected by Wood Rodgers, Inc and later modified by ECO:LOGIC. The assumptions used to determine agricultural water demand are detailed in Section 4.4 and Appendix D.

Table 4-4 and Table 4-5 summarize the water demand by each purveyor and other county areas (not currently served by a specific purveyor).

**Table 4-4
El Dorado County Water Agency - Western Slope Water Demand Forecast**

Purveyor / Demand Component	Total Water Demand (af/yr)		
	1999	2025 ^(a)	Buildout ^(a)
El Dorado Irrigation District			
Residential			
Single-Family Households	16,446	29,417	39,937
Multi-Family Household	1,111	2,360	4,708
Mobile Home Households	1,377	1,377	1,377
Commercial			
Retail Employees	577	1,819	2,771
Service Employees	1,369	3,791	5,369
Other Employees	691	2,334	3,426
Other			
Agricultural Demand ^(c)	5,950	17,307	24,503
Ditches	1,000	1,500	1,500
Recreational Turf Services	1,720	1,720	1,720
Other Authorized Uses and System Losses	5,536	9,963	10,007
Latent Demand	2,030	4,649	5,837
Total Water Demand for EID	37,807	76,237	101,155
Georgetown Divide PUD			
Residential			
Single-Family Households	1,351	1,700	4,137
Multi-Family Household	77	191	1,101
Mobile Home Households	155	155	155
Commercial			
Retail Employees	46	79	322
Service Employees	115	176	614
Other Employees	86	126	417
Other			
Irrigation (c)	4,351	7,920	13,852
Property Owners Association	123	123	123
Other Authorized Uses and System Losses	3,265	3,601	4,025
Latent Demand	1,387	2,864	3,660
Total Water Demand for GDPUD	10,956	16,935	28,406
Grizzly Flats CSD ^(b)			
Residential			
Single-Family Households	124	172	1,004
Multi-Family Household	-	2	28
Mobile Home Households	7	6	6
Commercial			
Retail Employees	1	1	3
Service Employees	13	13	14
Other Employees	12	11	11
Other			
Other Authorized Uses and System Losses	-	-	-
Latent Demand	-	-	-
Total Water Demand for GFCSD	157	205	1,066

Purveyor / Demand Component	Total Water Demand (af/yr)		
	1999	2025 ^(a)	Buildout ^(a)
Other County Areas - Western Slope			
Residential			
Single-Family Households	5,992	12,076	19,272
Multi-Family Household	179	399	933
Mobile Home Households	658	679	658
Commercial			
Retail Employees	67	398	815
Service Employees	351	1,189	1,982
Other Employees	160	664	1,185
Other			
Agricultural Demand ^(c)	2,005	4,302	12,984
Other Authorized Uses and System Losses	-	-	-
Latent Demand	-	-	-
Total Water Demand for Other County Areas	9,412	19,707	37,829
Total Water Demand for Western Slope	58,332	113,084	168,456

- (a) With the adoption for the 2004 General Plan, the county chose the 1996 land use alternative with minor adjustments. This adjustment is shown in ECO:LOGIC March 28, 2006 memo found in Appendix E.
- (b) As shown in 2004 General Plan. Further analysis of actual land use with the GFCSD boundary indicates that there are only 1200 single-family parcels with a unit demand factor of 0.42 acre-feet per household, which would generate only 504 acre-feet of water demand at buildout.
- (c) Agricultural projections are based on a 2050 projection and do not represent full utilization of important farmland. Acreage totals and water demand projections for all important farmland are provided in Section 4.4 and Appendix D.

**Table 4-5
El Dorado County
El Dorado Irrigation District - Residential and Commercial Water Demand Forecast by Service Region**

Demand Component	Total Water Demand (af/yr)											
	1999				2025				Buildout			
	Eastern	Western	El Dorado	Total	Eastern	Western	El Dorado	Total	Eastern	Western	El Dorado	Total
Single-Family Households	5,564	6,897	3,986	16,446	7,068	10,227	12,123	29,417	9,805	15,930	14,202	39,937
Multi-Family Household	489	581	40	1,111	580	1,303	478	2,360	760	3,126	823	4,708
Mobile Home Households	557	733	87	1,377	557	733	87	1,377	557	733	87	1,377
Retail Employees	204	265	107	577	319	747	752	1,819	456	1,272	1,043	2,771
Service Employees	375	480	513	1,369	437	885	2,469	3,791	532	1,639	3,198	5,369
Other Employees	251	283	156	691	327	531	1,476	2,334	426	1,076	1,924	3,426
Total Water Demand for EID				21,571				41,098				57,588

4.4 AGRICULTURE

4.4.1 AGRICULTURAL LAND USE POLICIES

The 2004 General Plan promotes a land use pattern that preserves agriculture to ensure its long-term viability. The General Plan designates agricultural districts, identifies the principle use of these districts as agriculture, and discourages incompatible uses such as high density residential. Limiting parcel size to 20 acres or more, allowing clustering of residential developments on non-choice soils and imposing minimum setbacks within agricultural districts are policies identified in the General Plan that will preserve and encourage agricultural growth in El Dorado County.

General Plan Objective 8.1.1 calls for the “identification of agricultural lands within the County that are important to the local agricultural economy including important crop lands and grazing lands.” Goals that support this objective include creating Agricultural Districts to conserve, protect and encourage use of important farmlands, and maintaining viable agricultural-based communities; and encouraging the expansion of agricultural activities and production. Policy 8.1.1.7 mandates that all agricultural lands in active production or determined by the Agricultural Commission to be suitable for production shall be incorporated into an Agricultural District following suitability review by the Board of Supervisors. The El Dorado County Agricultural Commission is in the process of evaluating additional land for inclusion into Agricultural Districts. Criteria used by the commission are dictated by the El Dorado County General Plan, and are listed below in section 4.5. Preliminary estimates by the Agricultural Commission suggest that an additional 30,607 acres of land is considered suitable for inclusion into the Agricultural Districts based on the General Plan criteria.

General Plan Policy 8.1.3.5 states that “on any parcel 10 acres or larger identified as having an existing or potential agricultural use, the Agricultural Commission must consider and provide a recommendation on the agricultural use (except for parcels assigned urban or other non-agricultural uses by the land use map for the 1996 General Plan) or potential of that parcel and whether the request will diminish or impair the existing or potential use prior to any discretionary permit being approved.” This policy recognizes the sustainability of existing commercial agriculture throughout the county on parcels as small as 10 acres.

General Plan Policy 8.1.3.5 states that “ranch marketing, winery, and visitor-serving uses (agricultural promotional uses) are permitted on agricultural parcels, subject to a compatibility review to ensure that the establishment of the use is secondary and subordinate to the agricultural use

and will have no significant adverse effect on agricultural production on surrounding properties. Such ranch marketing uses must be on parcels of 10 acres or more; the parcel must have a minimum of 5 acres of permanent agricultural or 10 acres of annual crop in production that are properly maintained. These uses cannot occupy more than 5 acres or 50 percent of the parcel, whichever is less.

These policies demonstrate El Dorado County's commitment to preserving agriculture and encouraging its expansion.

4.4.2 LOCAL AGRICULTURAL MARKETS

The identification of Agricultural Districts within El Dorado County has proven to be an effective strategy for protecting, maintaining and enhancing the local agricultural industry while embellishing the rural character of the county. The Districts have been very successful in helping to promote direct sales of value added agricultural products such as wine, apple pies, etc. to consumers. Analyses of the current status/boundaries of the Districts demonstrate there are significant opportunities to enable agriculture to grow and increase its economic contributions to the County through the expansion of the Agricultural District concept.

El Dorado County features a unique agricultural setting when compared to the large-scale agriculture found in the Sacramento and San Joaquin valleys. Farming in El Dorado County remains a small-scale, family owned and operated specialty crop-dominated activity such as berries, wine grapes, apples and Christmas trees on parcels as small as 5 acres. The mountain setting is characterized by sloping lands, abundant sunshine and mild temperatures that are ideal for hand-production of high quality crops that are the base for value-added products that are mainly sold through ranch marketing, on-site sales venues. Value-added products made from locally grown crops that currently are in great demand include, among others: table wine; apple and other fruit-based bakery goods; jams and jellies; olive oil; ornamental nursery products including bonsai trees; choose and cut Christmas trees; and organic fruits, nuts, and vegetables for gourmet restaurants. These specialty crops generally do not enter the commodity markets because of their higher cost of production, difficulty in transportation, and high demand for local use. Instead, much of these products are sold onsite where they are part of a growing agro-tourism industry that contributes important revenues to the county. According to the El Dorado Agriculture Commission, the economic benefit to the County

from taxes and services related to wineries in El Dorado County average \$220 million. Businesses in Apple Hill that provide on-site sales contribute an average of \$95 million annually to the County.

For the last decade, crop production in El Dorado County has begun to focus on crops that offer a higher economic yield such as berries and wine grapes. For instance, land used for wine grapes has increased from 1,300 acres in the year 2000 to 2100 acres in 2005, according to the Agricultural Commissioner. Wine grapes are a hardy crop that can grow on up to a 50 percent slope. El Dorado County has an abundance of land suitable for this kind of agricultural development.

4.4.3 AGRICULTURAL DEMAND FORECAST

The agricultural water demand forecast for the Western Slope used in this section was developed considering the county's protective policies. These estimates identify one possible scenario for growth of agricultural water demands. These demands may or may not occur in the time frames or in the magnitudes that are projected or with the crops identified. The Plan simply attempts to define the order of magnitude of potential agricultural demands for water planning purposes.

Table 4-6 provides a comparison of the initial agricultural water demand estimated by EPS based on data provided by the water purveyors with the estimates provided by Wood Rodgers/ ECO:LOGIC. Wood Rodgers provided preliminary estimates for the 2004 General Plan, however, the General Plan recognizes that the agricultural demand needed further evaluation, which has since been completed. The analysis shows potential for a significant increase in agricultural demand based on a more realistic crop mix and an increase in land area. Wood Rodgers estimates include all "Important Farmland" on the western slope and are detailed in Appendix D. Based on the mapping prepared by Wood Rodgers, ECO:LOGIC has reduced the area considered by eliminating urbanized areas and parcels too small to support commercial agriculture. The current estimates include the potential water demand that could be generated by these agricultural areas, assuming that reliable, affordable water supplies were available.

The future of agriculture in El Dorado County will be influenced by policies related to land use, water supply, and water supply infrastructure. Certainly, the global economic situation will be a factor; however, the agricultural economy of the Sierra Foothill region is less impacted by factors affecting agriculture in the Central Valley except for the availability of a reliable and affordable

water supply. The agricultural water demand figures are contingent upon the facilities necessary to provide such a water supply being in place.

Future agriculture in El Dorado County will be comprised generally of permanent crops as compared to annual crops, which comprise a large part of the crop mix in the Central Valley. Water demand figures reflect the establishment of permanent crops for which limited water supply cutbacks would be possible but for which fallowing is not a feasible option. Accordingly, in the future, the water supply for agriculture in El Dorado County will need to be evaluated from a “firm” yield perspective.

Seasonal crops, which can be fallowed, are not abundantly grown in the county due to topography constraints and management requirements that typically require large areas not available in El Dorado County. Permanent crops such as deciduous orchards, grapes, Christmas trees and berries are what drive agro-tourism in El Dorado County. Western Slope water purveyors recognize agricultural and agro-tourism in El Dorado County as a valuable community asset. Within EID, agricultural lands are primarily in the eastern region of the District, which is closer to supply sources and requires no pumping and less transmission. These economies are reflected in agricultural rates and connection fees. The same is true for GDPUD, in addition to the fact that only raw water is delivered to agricultural customers, making the water even less costly to deliver.

Agriculture is dynamic in the county and cropping patterns have changed decade to decade due to market factors, insect pressure, and introduced species and will continue to in the future. A shift to crops such as Walnuts that can be dry farmed for short periods of time or lower water use crops that can tolerate hotter, dryer conditions such as olives will likely occur if climatic conditions change as predicted. Whatever unfolds over the next century, agriculture will adapt as it has in the past. (Kirk Taylor-EID)

Table 4-6
El Dorado County Water Demand Forecast - Agricultural Water Demand Projections Comparison - Western Slope

Description	Base Year (acre-feet/year) ^c			2025 (acre-feet/year)			Buildout (2050) (acre-feet/year)		
	Initial Estimate ^a	Current Estimate ^b	Difference	Initial Estimate ^a	Current Estimate ^b	Difference	Initial Estimate ^a	Wood Rodgers Estimate ^b	Difference
El Dorado Irrigation District	5,239	5,950	711	5,239	17,307	12,068	5,239	24,503	19,264
Georgetown Divide PUD	4,463	4,351	-112	4,463	7,920	3,457	4,463	13,852	9,389
Grizzly Flat CSD	--	--	--	--	--	--	--	--	--
Other County Areas	--	2,005	2,005	--	4,302	4,302	--	12,984	12,984
Total	9,702	12,306	2,604	9,702	29,529	19,827	9,702	51,339	41,637

Sources: Economic and Planning Systems, Inc. (EPS); wood Rodgers, Inc.

a As shown in EPS Draft Technical Memorandum (El Dorado County Water Demand Forecast) dated December 19, 2002 (based on data provided by purveyors.

b Used in current project. Based on the March 21, 2003 Wood Rodgers Memo located in Appendix E and modifications by ECO:LOGIC also located in Appendix D,

c Base year is 1999 for the Initial Estimate and 2000 for Wood Rodgers estimates.

d. Buildout projections are based on a 2050 projection and do not represent full utilization of important farmland. Acreage totals and water demand projections for all important farmland are provided in Section 4.4

4.5 LAND RESOURCES

A discussion of agricultural water demands necessitates an evaluation of the land resources available for agriculture. Land suitable for agriculture but committed to existing irreversible land uses (development) and incompatible future land use designations in the General Plan were not considered in calculating agricultural water demands in this plan. Accordingly, for land to be considered ideal for designation in Agricultural Districts in El Dorado County, it must meet the following criteria:

1. Parcel sizes of 20 acres or more
2. Soils suitable for agricultural production.
3. Slopes of less than 50 percent.
4. Located at an elevation of 3,000 feet or less.

With respect to the criteria of Item 1, relating to existing parcels sizes of 20 acres or more, the El Dorado County Planning Department (2001 Project Description) delineated Agricultural Districts that required parcels be consistent with the 20-acre or more criteria. Slopes less than 50 percent are recognized by El Dorado County as Locally Important Soils and are included in this analysis. Much of El Dorado County is currently being developed on slopes from 15 to 50 percent. There are approximately 49,141 acres within the existing Agricultural Districts (when overlaps between the proposed and existing districts are eliminated) and approximately 30,607 additional acres being considered for inclusion in proposed Agricultural Districts in the County.

Additionally, land that is within the criteria of Item 2 and Item 4 above is identified as “Important Farmland” according to the State of California Department of Conservation (Farmland Mapping and Monitoring Program – 2000). Information related to the slope criteria was developed by the U.S. Department of Agriculture (USDA), Natural Resource Conservation District (NRCS) (SSURGO – 2001). To further narrow down the land resources that are specifically valuable for agriculture in El Dorado County, the General Plan (2004) specifies that all Important Farmland designated through the Farmland Mapping and Monitoring Program as “prime farmland, unique farmland, farmland of statewide importance or farmland of local importance” is considered County-designated “Choice Farmland” containing “Choice Soils”.

Choice Farmland (on slopes less than 50% and in parcels greater than 10 acres) is presented on Figure 4-1 (refer to jacket pocket of this report). Additionally, the boundaries of the existing Agricultural Districts and the service areas of the El Dorado Irrigation District (EID) and the Georgetown Divide Public Utility District (GDPUD) are shown in Figure 4-1. The Agricultural Districts were subdivided further with consideration given to grouping the land as potential service areas for irrigation infrastructure.

Also reflected in Figure 4-1, is a considerable amount of land meeting the criteria for “Choice Farmland” located outside the Agricultural Districts, both within and outside the service areas of EID and GDPUD. This is particularly the case in the southeastern part of the county where “Choice Farmland” exists in large contiguous units.

There is a total of 84,200 acres of Choice Farmland on parcels greater than 10 acres in the entire County below 3,000 feet elevation (including within community regions). There are approximately 20,035 acres of Choice Farmland within the existing Agricultural Districts and another 62,165 acres outside of Agricultural Districts. When community regions are eliminated there is a total of 61,708 acres of choice farmland in the County (Table 4-7).

The Choice Farmland areas are scattered across the western slope on various parcels sizes, with some lands falling within either existing urbanized areas or General Plan Community Regions that include prescribed land use designations that are not compatible with agricultural activities. Because it is unrealistic to consider all of this land in the evaluation, three criteria were used to reduce the total acreage considered. The first is the elimination of land within the General Plan Community Regions, as land use designations in these areas are not necessarily compatible with agricultural activities. The second is the elimination of all parcels that are smaller than 10 acres because General Plan policies are not protective of parcels smaller than 10 acres, and commercial agricultural pursuits on parcels smaller than 10 acres are not viable in most cases. There is however, considerable existing agricultural cultivation on parcels as small as five acres and elimination of these parcel from consideration may tend to understate the potential for agricultural land develop in the county. Finally, a reduction of 10 percent of the remaining gross area was made to account for land that would not be available for crops due to roads, irregular fields, and unusable land.

Table 4-7
Choice Farmland Acreage within El Dorado County

Agricultural District	Sub Area Number	Choice Soil Acreage	10% Infrastructure Adjusted
El Dorado Irrigation District			
Irrigated Lands - 2000			
		1,418	1,276
		414	373
		539	485
Total Irrigated Lands	<i>Subtotal</i>	2,371	2,134
Choice Soils <u>Inside</u> Agriculture Districts			
Choice Soils with slopes at 15% or less			
Gold Hill	4*	1,449	1,304
Camino Fruitridge	5*	1,676	1,508
Oak Hill	6*	572	515
Pleasant Valley (East)	7*	46	41
Pleasant Valley (West)	8*	129	116
Fairplay/Somerset	10*	11	10
	<i>Subtotal</i>	3,882	3,494
Choice Soils with slopes between 16% and 50%			
Gold Hill	4*	947	852
Camino Fruitridge	5*	1,878	1,690
Oak Hill	6*	96	87
Pleasant Valley (East)	7*	434	391
Pleasant Valley (West)	8*	360	324
Fairplay/Somerset	10*	0	0
	<i>Subtotal</i>	3,716	3,344
	EID: Total Choice Soils <u>Inside</u> Ag. Districts	7,598	6,838
Choice Soils <u>Outside</u> of Agricultural Districts			
		1,658	1,492
		3,943	3,549
	EID: Total Choice Soils <u>Outside</u> Ag. Districts	5,601	5,041
EID Summary Totals			
	EID: Total Choice Soils	13,199	11,879
	Irrigated lands outside Choice Soils	414	373
	Irrigated Pasture and Other Lands	539	485
EID: Total Choice Farmland (All, incl. exist. farmland and irrigation land outside Choice Soils)		14,152	12,737

Table 4-7 (Continued)

	Agricultural District	Sub Area Number	Choice Soils Acreage	10% Infrastructure Adjusted
Georgetown Divide Public Utility District				
Irrigated Lands - 2000				
			55	50
			26	23
			1,114	1,003
		<i>Subtotal</i>	1,195	1,076
Choice Soils <u>Inside</u> Agriculture Districts				
Choice Soils with slopes at 15% or less				
	Coloma	1*	38	34
	Garden Valley/Georgetown West	2	222	200
	Garden Valley/Georgetown East	3	428	385
		<i>Subtotal</i>	688	620
Choice Soils with slopes between 16% and 50%				
	Coloma	1*	44	40
	Garden Valley/Georgetown West	2	825	743
	Garden Valley/Georgetown East	3	1,094	985
		<i>Subtotal</i>	1,964	1,767
GDPUD: Total Choice Soils <u>Inside</u> Ag. Districts			2,652	2,387
Choice Soils <u>Outside</u> of Agricultural Districts				
			1,469	1,322
			3,488	3,139
GDPUD: Total Choice Soils <u>Outside</u> Ag. Districts			4,957	4,461
GDPUD Summary Totals				
GDPUD: Total Choice Soils			7,609	6,848
			26	23
			1,114	1,003
GDPUD: Total Choice Farmland (All, incl. exist. farmland and irrigation land outside Choice Soils)			8,749	7,874

Table 4-7 (Continued)

Agricultural District	Sub Area Number	Choice Soils Acreage	10% Infrastructure Adjusted
Other County Areas (Outside Water Purveyor Districts)			
Irrigated Lands - 2000			
Irrigated lands inside Choice Farmland		928	835
Irrigated Lands outside Choice Farmland		318	286
Irrigated Pasture and Other Lands		14	13
Total Irrigated Lands	<i>Subtotal</i>	1,260	1,134
Choice Soils <u>Inside</u> Agriculture Districts			
Choice Soils with stops at 15% or less			
Coloma	1*	117	105
Gold Hill	4*	62	56
Camino Fruitridge	5*	58	52
Oak Hill	6*	78	70
Pleasant Valley (East)	7*	25	23
Pleasant Valley (West)	8*	1	1
Fairplay/Summerset	9	265	238
Fairplay/Summerset	10 *	523	471
Fairplay/Summerset	11	1,688	1,520
Fairplay/Summerset	12	839	755
Fairplay/Summerset	13	540	486
Fairplay/Summerset	14	1,834	1,651
	<i>Subtotal</i>	6,029	5,426
Choice Soils with slopes between 16% and 50%			
Coloma	1*	84	76
Gold Hill	4*	151	136
Camino Fruitridge	5*	402	362
Oak Hill	6*	54	49
Pleasant Valley (East)	7*	354	318
Pleasant Valley (West)	8*	115	103
Fairplay/Summerset	9	176	159
Fairplay/Summerset	10 *	232	209
Fairplay/Summerset	11	1,174	1,056
Fairplay/Summerset	12	699	629
Fairplay/Summerset	13	332	299
Fairplay/Summerset	14	1,982	1,783
	<i>Subtotal</i>	5,754	5,178
OCA: Total Choice Soils <u>Inside</u> Ag. Districts		11,783	10,604

Table 4-7 (Continued)

Agricultural District	Sub Area Number	Choice Soils Acreage	10% Infrastructure Adjusted	
Choice Soils <u>Outside</u> of Agricultural Districts				
		Choice Soils with stops at 15% or less	7,824	7,042
		Choice Soils with slopes between 16% and 50%	21,295	19,165
OCA: Total Choice Soils <u>Outside</u> Ag. Districts			29,119	26,207
OCA Summary				
GDPUD: Total Choice Soils			40,901	36,811
		Irrigated lands outside Choice Soils	318	286
		Irrigated Pasture and Other Lands	14	13
OCA: Total Choice Farmland (All, incl. exist. farmland and irrigation land outside Choice Soils)			41,233	37,110
Western Slope Grand Total (choice lands and existing non-choice irrigated lands)			64,134	57,721

Table 4-7 provides the breakdown of Choice Farmland within and outside water purveyor boundaries and within and outside Agricultural Districts. The table differentiates Choice Farmland by slope and includes current irrigated land for EID, GDPUD and Other County Areas. Table 4-7 also provides a breakdown of existing irrigated lands that are not choice or important agricultural land.

4.5.1 FUTURE IRRIGATED AGRICULTURE

As noted previously, future irrigated agriculture in El Dorado County will be influenced by policies of the County, EID, and GDPUD related to land use, water supply, and water supply infrastructure. Activity and inquiries of the water districts and Agricultural Commissioner's Office regarding vineyards and other permanent crops reflect a growing recognition of the desirability of the region from a geographic and production standpoint. The combination of available "Choice Farmland," policies to support expansion of the agricultural sector, and proximity to a rapidly growing metropolitan population provide the foundation for a robust agricultural economy in El Dorado County. Future irrigated agriculture in El Dorado County was projected accordingly.

It is assumed for purposes of this study, the growth in agriculture would occur on "Choice Farmland" the amounts and locations of which were presented on **Table 4-7** and **Figure 4-1**. It is also assumed that growth in the earlier part of the planning period (2010-2025) would occur primarily within Agricultural Districts in the established water districts. In the later part (2025-2050), it is assumed the growth would occur largely within Agricultural Districts south of EID and to a lesser extent on "Choice Farmland" outside of the Agricultural Districts.

Presented on **Table 4-8** is the projected area of agriculture for the years 2010, 2025, 2050 and Buildout. Although buildout is shown in the table, it is considered only a potential area for agricultural expansion and not a likely outcome of agricultural growth within the county. Therefore, the 2050 projection is used in conjunction with residential and commercial buildout figures, as it is more likely to occur within the same planning horizon. As shown, the projections are made according to the two water purveyors, EID and GDPUD, and Other County Areas. The growth rates used for the respective time periods are noted. In making the projection, the amount of land devoted to “Pasture and Other” was assumed to have no net change in acreage through the plan period. The overall increase in agricultural land as presented on **Table 4-8** was distributed according to the other two crop categories and presented on **Table 4-9**.

4.5.2 IRRIGATED AGRICULTURE WATER DEMAND

The irrigation water demand to support the projected growth in agriculture is based upon the application of an average unit water use value of 1.3 acre-feet/acre for the crop category of Vineyard, Christmas Trees, Olive/Citrus, Berries, and 2.8 acre-feet/acre for the crop category of Deciduous Orchards. These unit water use values are composite values based on California Department of Water Resources (DWR) data and local agriculture community experience on properties utilizing Irrigation Management Services. Therefore they reflect the efficiencies of agricultural irrigation best management practices such as drip irrigation. The agricultural water demand is estimated for growth within EID, GDPUD and for Other County Areas. The land and water use projections for these areas are presented in **Tables 4-10, 4-11, and 4-12**, respectively. The projections assume that water would be conveyed through newly developed infrastructure to supply water to the land outside EID.

The water demand figures reflect the establishment of permanent crops for which limited water supply cutbacks would be possible but for which fallowing is not a feasible option.

Table 4-8
 El Dorado County Agricultural Land Use - 2000, 2010, 2025, 2050 and Buildout^{[a] [b] [c] [d]}

Location	2000	2010	2025	2050	Buildout
	Area (acre)	Area (acre)	Area (acre)	Area (acre)	Area (acre)
El Dorado Irrigation District	2,371	4,246	7,791	11,304	12,737
Georgetown Divide Public Utility District	1,195	1,947	3,527	7,385	7,874
Outside Purveyor's Boundaries	1,260	1,693	2,638	7,929	37,110
Total	4,826	7,886	13,956	26,617	57,721

[a] Acreage represents irrigated agriculture.

[b] Assumed growth rate of approximately 6 percent per year for periods 2000-2010; 4 percent per year for 2010-2025; and 1.5 percent per year for 2025-2050 for EID.

[c] Assumed growth rate of approximately 5 percent per year for periods 2000-2010; 4 percent per year for 2010-2025; and 3 percent per year for 2025-2050 for GDPUD.

[d] Assumed growth rate of approximately 3 percent per year for periods 2000-2010; 3 percent per year for 2010-2025; and 4.5 percent per year for 2025-2050 for OCA.

Table 4-9
 Agricultural Land Use¹ - 2000, 2010, 2025, 2050 and Buildout

Agricultural Land Use	Location	2000	2010		2025		2050		Buildout	
		Area (acre)	Approx. Growth Rate per year (%)	Area (acres)	Approx. Growth Rate per year (%)	Area (acre)	Approx. Growth Rate per year (%)	Area (acre)	Approx. Growth Rate per year (%) ^b	Area (acre)
Deciduous Orchards	El Dorado Irrigation District	1,013	7.00%	1,993	4.56%	3,887	1.50%	5,640	1.00%	6,230
	Georgetown Divide PUD	7	27.90%	82	10.50%	367	4.00%	978	0.25%	1,015
	Outside Purveyor's Boundaries	224	6.36%	415	2.00%	559	4.70%	1,761	4.20%	7,431
Vineyard, Christmas Trees, Olive/Citrus Berries	El Dorado Irrigation District	819	7.67%	1,714	4.60%	3,365	1.70%	5,125	1.54%	5,969
	Georgetown Divide PUD	74	26.07%	751	6.92%	2,046	3.88%	5,293	0.55%	5,745
	Outside Purveyor's Boundaries	1,022	2.15%	1,264	3.33%	2,066	4.46%	6,155	4.60%	29,664
Pasture and Other ^a	El Dorado County	1,667	0.00%	1,667	0.00%	1,667	0.00%	1,667	0.00%	1,667
Total		4,826		7,886		13,956		26,619		57,721

[a]. Acreage represents irrigated agriculture.

[b] Growth rate calculations from 2050 to buildout assumes 10 years for EID, 15 years for GDPUD and 35 years for OCA

Table 4-10
El Dorado Irrigation District Irrigable Land Use and Water Use - 2000, 2010, 2025, 2050 and Buildout

Agricultural Land Use	2000		2010		2025		2050		Buildout	
	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)
Deciduous Orchards	1,013	2,836	1,993	5,580	3,887	10,884	5,640	15,792	6,230	17,444
Vineyard, Christmas Trees, Olive/Citrus Berries	819	1,065	1,714	2,228	3,365	4,375	5,125	6,663	5,969	7,759
Pasture and Other ^a	539	2,048	539	2,048	539	2,048	539	2,048	539	2,048
Total	2,371	5,949	4,246	9,856	7,791	17,307	11,304	24,503	12,737	27,251

[a] Assumed no net change in total land use in this category.

Notes:

[1] Assumed water supply available to support agriculture expanding equally on "Choice Soils" in Agricultural Districts 4, 5, 6, 7, and 8.

[2] Based upon unit water use value of 1.3 acre-feet/acre applied to vineyard, Christmas trees, olive/citrus, betties, etc., and unit water use value of 2.8 acre-feet/acre applied to deciduous orchards.

Table 4-11
Georgetown Divide Public Utility District Irrigable Agricultural Land Use and Water Use 2000, 2010, 2025, 2050 and Buildout

Agricultural Land Use	2000		2010		2025		2050		Buildout	
	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)
Deciduous Orchards	7	20	82	230	367	1,027	978	2,737	1,015	2,842
Vineyard, Christmas Trees, Olive/Citrus Berries	74	96	751	976	2,046	2,660	5,293	6,881	5,745	7,468
Pasture and Other ^a	1,114	4,233	1,114	4,233	1,114	4,233	1,114	4,233	1,114	4,233
Total	1,195	4,349	1,947	5,439	3,527	7,920	7,385	13,852	7,874	14,543

[a] Assumed no net change in total land use in this category.

Notes:

[1] Assumed water supply available to support agriculture expanding equally on "Choice Soils" in Agricultural Districts 1, 2, and 3.

[2] Based upon unit water use value of 1.3 acre-feet/acre applied to vineyard, Christmas trees, olive/citrus, betties, etc., and unit water use value of 2.8 acre-feet/acre applied to deciduous orchards.

Table 4-12
Outside Purveyor's Boundaries Irrigable Agricultural Land Use and Water Use - 2000, 2010, 2025, 2050, Buildout

Agricultural Land Use	2000		2010		2025		2050		Buildout	
	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)	Area (acre)	Water Use (acre-feet)
Deciduous Orchards	224	627	415	1,162	559	1,564	1,761	4,930	7,431	20,808
Vineyard, Christmas Trees, Olive/Citrus Berries	1,022	1,329	1,264	1,644	2,066	2,685	6,155	8,001	29,664	38,564
Pasture and Other ^a	14	53	14	53	14	53	14	53	14	53
Total	1,260	2,009	1,693	2,859	2,638	4,302	7,929	12,984	37,110	59,425

[a] Assumed no net increase in this land use category.

Notes:

[1] Based upon unit water use value of 1.3 acre-feet/acre applied to vineyard and Christmas trees, and unit water use value of 2.8 acre-feet/acre applied to deciduous orchards.

[2] Assumed water supply available to support agriculture in Other County Area.