



Monitoring Oak Woodland Canopy Change: El Dorado, Amador and Calaveras Counties



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Overview

The USDA Forest Service and California Department of Forestry and Fire Protection have developed a monitoring method for assessing forest health throughout the oak woodland forest types in the state. This is accomplished by detecting changes in canopy cover over a five year period using remote sensing approaches. The University of California Cooperative Extension (UCCE) and the UC Integrated Hardwood Range Management Program (IHRMP) are utilizing this change detection information to monitor impacts to hardwood rangeland (oak woodland) values.

Information collected for El Dorado, Amador and Calaveras Counties has been analyzed and summarized for the periods of 1991-96 and 1996-2001. These analyses provide valuable information to counties for assessment of existing policies, potential need for modification, and for the development of public education programs.

The results from these analyses are summarized in table 1 (see page 2). The results show the number of acres where decreases or increases in oak canopy cover were detected over the five year period. Difference in total acres are attributed to advancements and refinements in technology and methodology which provided for more accurate determination of vegetation types and canopy changes for the 1996-2001 period assessment than that for the 1991-1996 period assessment.



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Table 1. El Dorado, Amador and Calaveras Counties Acres With Changes in Hardwood Canopy Cover

1991-1996

		<u>Large Decrease</u>	<u>Moderate Decrease</u>	<u>Small Decrease</u>	<u>No Change</u>	<u>Small Increase</u>	<u>Moderate Increase</u>	<u>Large Increase</u>
Acres	El Dorado	178	818	3427	248857	890	92	4
	Amador	9	243	1418	133839	224	17	0
	Calaveras	2642	6519	4521	195593	10494	4189	245
Percent of Total Area	El Dorado	0.1	0.3	1.3	97.9	0.4	0.04	<0.01
	Amador	<.01	0.18	1.0	98.6	0.02	0.01	0
	Calaveras	1.2	2.9	2.0	87.2	4.7	1.9	0.11

1996-2001

		<u>71% to 100% Decrease</u>	<u>41% to 70% Decrease</u>	<u>16% to 40% Decrease</u>	<u>Little/No Change</u>	<u>16% to 40% Increase</u>	<u>41% to 100% Increase</u>
Acres	El Dorado	723	342	195	204,675	25	383
	Amador	412	170	36	108,264	4	55
	Calaveras	473	351	265	149,098	2	64
Percent of Total Area	El Dorado	0.35	0.17	0.09	99.2	0.01	0.19
	Amador	0.38	0.16	0.03	99.4	<0.01	0.05
	Calaveras	0.31	0.23	0.18	99.2	<0.01	0.04

Information summarized from:

California Land Cover Mapping and Monitoring Program. 2002. Monitoring land cover changes in California: Northeastern California Project Area. USDA Forest Service and California Department of Forestry and Fire Protection Cooperating Monitoring Program. 171 p.

California Land Cover Mapping and Monitoring Program. 2004. Monitoring land cover changes in California: Northern Sierra Project Area - Cycle II. USDA Forest Service and California Department of Forestry and Fire Protection Cooperating Monitoring Program. 226 p.