

III. Economic Value of Oak Woodlands

The natural resource values of oak woodlands were described in Section II. This section reviews the limited amount of past research and analysis of direct economic values of oak woodlands.

The natural resources values of Section II underlie the economic values described in this section. Therefore, community economics will be affected as the extent and quality of the resource diminishes. As agri-tourism and recreation continue to receive attention in El Dorado County for economic development, so too must the underlying resources that support those and other industries.

Oak woodlands in El Dorado County provide economic value to landowners and the community at large. In addition to providing a source for firewood and other wood products, oak woodlands support important economic activities, such as grazing and recreation in El Dorado County, enhance land values, and play a critical role in the healthy functioning of aquatic and terrestrial ecosystems throughout the County. Economic values associated with these functions are described below.

A. Support of Important Economic Activities

Agriculture and recreation-based tourism are important industries in El Dorado County. According to the 2005 El Dorado and Alpine Counties Agricultural Crop and Livestock Report produced by the Agricultural Commissioner, the impact of agriculture on El Dorado County's economy was estimated at \$434 million in 2005. According to the California Department of Conservation (2002), much of the soil on the west slope – 183,944 acres, or 16% of the county – is categorized as grazing land. Oak woodlands provide much of the forage area, including shade and some feed, for livestock. The economic value of pasture and rangeland was about \$3.6 million in 2005 (El Dorado County Department of Agriculture 2005).

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In addition to agricultural operations, oak woodlands support many recreation activities in El Dorado County. With more than 25% of its lands under Forest Service jurisdiction, El Dorado County provides substantial recreation opportunities. The extensive public land, as well as privately owned orchards, wineries, recreation facilities, and timberlands, combine to create a major scenic and recreational attraction for tourism in the County. The scenic beauty of the County's oak woodlands is an important part of the attraction. In addition, deer and other game species that depend on oak woodland habitat contribute to recreational hunting opportunities on public lands and through hunting leases on private lands, which in turn generate revenues for land owners that help keep many ranches viable.

Oak woodlands also support other recreation activities such as camping, fishing, hiking, bird-watching and equestrian activities that contribute to a high quality of life for residents and attract visitors. Businesses that depend on and directly benefit from recreation-based tourism include

recreation services, lodging, food services, restaurants, service stations, and retail trade. Tax revenues generated by recreation activities and agri-tourism help support important governmental operations in El Dorado County.

B. Contribute to Land Value

Property values are a function of location, improvements, and other amenities. Numerous studies have shown that the presence of oak woodlands enhance land values by providing shade (energy conservation) and wind break benefits, absorbing sound, serving as a land use buffer, providing erosion control and contributing to aesthetic beauty. Oak woodland plans for Tehama County and San Luis Obispo County cite a study in Southern California that shows that parcels containing native oaks have at least 20 percent higher property value than parcels without trees (Standiford and Scott 2001). In addition, properties located closer to open space preserves benefit from higher property value. Standiford (1999) also shows that oak trees can offer higher real estate market yields over bare land. Individual oak trees of large size and landmark status have been found to contribute between \$18,000 and \$50,000 each to the value of parcels (Standiford 1999). Increases in property values also contribute to increases in property tax revenues for a county.

C. Contribute to Ecosystem Functions

As discussed in Section II (Natural Resource Values of Oak Woodlands), oak woodlands contribute to the healthy functioning of both aquatic and terrestrial ecosystems. Important ecosystem functions to which oak woodlands contribute include providing habitat, maintaining water quality and supporting water supplies, and providing other watershed services such as improving soil structure, increasing infiltration rates, reducing soil erosion and sedimentation, and enhancing nutrient cycling and soil fertility. Although placing a monetary value on these services is challenging and imprecise, recent research has made strides in better understanding the importance and value of these services to society.

One study recently conducted by the Spatial Informatics Group (Troy and Wilson 2006) on the value of services provided by oak woodlands suggests that the habitat value of oak woodlands is about \$117 per acre. This value reflects society's willingness to pay for maintaining oak woodland habitat that supports healthy populations of species that depend on oak woodlands. Although monetary values for other ecosystem functions, such as watershed services, to which oak woodlands contribute are not available, the value of the services, including infiltration and control of erosion and sedimentation (in terms of the avoided cost to society of having to duplicate these services by alternative means such as water treatment), is certainly substantial.

Lastly, the role of oak woodlands in contributing to climate effects should be acknowledged. Two studies (Birdsey 1992 and Tol 2005) examined the contribution that oak woodlands make to regulating carbon dioxide, a key contributor of harmful greenhouse gases. According to these studies, the carbon sequestration services that oak woodlands provide are valued at between \$33 and \$83 per acre of oak woodlands.