



SANTA BARBARA COUNTY  
COMPREHENSIVE PLAN

# CONSERVATION ELEMENT

## OAK TREE PROTECTION IN THE INLAND RURAL AREAS OF SANTA BARBARA COUNTY

### *SUPPLEMENT TO THE MAPPED AREAS AND COMMUNITIES SECTION*

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## **Table of Contents**

<b>I. INTRODUCTION .....</b>	<b>3</b>
<b>II. OVERVIEW OF OAK TREE RESOURCES IN THE SANTA BARBARA COUNTY RURAL AREA .....</b>	<b>5</b>
<b>III. GOAL, POLICIES, AND IMPLEMENTING ACTIONS .....</b>	<b>11</b>
<b>CITATIONS.....</b>	<b>16</b>

**SUPPLEMENT TO THE MAPPED AREAS AND COMMUNITIES SECTION  
OF THE CONSERVATION ELEMENT**

**OAK TREE PROTECTION IN THE INLAND RURAL AREAS OF  
SANTA BARBARA COUNTY**

## I. INTRODUCTION <sup>1</sup>

### A. Purpose and Organization

This section of the Santa Barbara County Comprehensive Plan Conservation Element provides for the protection of native oak trees in the inland rural areas of Santa Barbara County. To achieve protection of the remaining oak tree resource, the County will regulate the removal of oak trees; seek financial assistance for landowners, incentives and purchase toward their conservation; and distribute information about oak trees and their propagation to promote oak woodland restoration.

Part I provides an introduction and background to the development of this section of the Conservation Element, including a history of the process that generated the oak tree protection Goals, Policies, Actions, and Development Standards. Part II is an overview of oak tree resources in Santa Barbara County. Part III contains the Goals, Policies, Actions, and Development Standards that address oak trees in the inland rural areas of the county.

### B. Process History

Outside of the coastal zone boundary, the County of Santa Barbara has no regulations specifically written to address the removal of native oak trees unless the removal is associated with another action requiring a permit. On February 10, 1998 the County's Board of Supervisors initiated a collaborative public process to develop recommendations for oak protection. This decision was made in response to the accelerated clearing of native oak trees on the county's rural lands to prepare ground for planting new crops. The County's Planning & Development Department estimated that more than 2,000 oak trees were removed for agricultural intensification in the eighteen months preceding the February 1998 hearing, more than had been removed for urban development in the previous ten years.

The County invited over 400 people to participate in the collaborative discussions, including grape growers, vintners, farmers, ranchers, Agricultural Advisory Committee members, scientists, environmentalists, and other interested parties. In sixteen public meetings over 14 months, a balanced core group of approximately 25 participants and many other occasional participants came close to agreeing on recommendations to address large-scale oak removal. However, the group was ultimately unable to unanimously approve final recommendations.

In September of 1999 the Board recognized that complete consensus was not forthcoming. The Board directed Planning & Development to hold another series of public workshops and to develop oak protection regulations based on public comment, the work of the Oak Protection Collaborative Process, and County policies that call for the encouragement of agricultural expansion and the protection of natural resources.

The regulations were prepared and an Environmental Impact Report prepared by spring of 2001.

In July of 2001, after five public hearings, the County Planning Commission recommended that the Board of Supervisors adopt the Oak Protection Program. When Planning & Development brought the program to the Board in spring of 2002, however, the Board chose instead to encourage a small group of farming and environmental representatives to work on another consensus based alternative. After several meetings supported and facilitated in part by County staff, the group now known as the Oak Working Group produced the recommendations that are the basis for the Oak Tree Protection and Regeneration Program that was adopted in April 2003.

The uniqueness of the Oak Tree Protection and Regeneration Program produced by the Oak Working Group, which calls for stewardship and cooperation, has received support and buy-in from both the agricultural and environmental communities. Such bipartisan support is critical for the success of this type of program.

The goal, policies, development standards and implementing actions in Section III below are based on the work of the collaborative process and on other input from the community. They were subsequently refined and finalized by the Oak Working Group.

## **II. OVERVIEW OF OAK TREE RESOURCES IN THE SANTA BARBARA COUNTY RURAL AREA**

### **A. Oak Trees in California**

Oak savannas, woodlands, forests, and the grassland and riparian systems that complement them are California's most biologically diverse ecosystems and integral parts of the state's cultural and historical heritage. Santa Barbara County is fortunate to retain a significant, though reduced, distribution of the oak habitats that once blanketed the Central Coast.

Oak habitats contribute greatly to the ecological diversity of California. In terms of species diversity, California's native oak woodlands provide habitat for approximately 2,000 species of plants, 170 birds, 100 mammals (approximately one-third of all mammals native to California), 60 amphibians and reptiles, and 5,000 species of insects (University of California 1993 and 1996). These species include eagles, owls, hawks, reptiles, bobcats, foxes, deer, and 300 or more other vertebrate species that depend on oak habitats during their breeding seasons. In terms of ecological function, intact oak habitats stabilize the soil on which they occur, serving to help prevent the erosion of topsoil and protect water quality. Oak trees also provide shade, influencing the temperature and growth conditions for understory species. The community of oak-associated plants, vertebrates, invertebrates, and soil microbes varies from site to site, in response to site-specific conditions and the extent of influence by the dominant oaks. Within these communities, structural complexity is enhanced by the presence of riparian areas, downed and woody debris, snags, and diverse ages and conditions in oaks and other plants (Merrick et al. 1999).

California's oaks are also important for their aesthetic, economic, historical, and cultural values. Oak trees and their habitats are woven into California and Santa Barbara County's cultural heritage, beginning with the indigenous peoples that utilized oak tree products and valued the oak woodlands in their cultural traditions. After European settlement in California, oak habitats have continued to be an enduring symbol of the state's rich ranching tradition, and to be valued economically and aesthetically. The presence of oak trees on a property can increase the property's value by 20% or more (University of California 1993). They are one of the county's and the state's most widely recognized and admired visual assets. In both the urban and rural areas of Santa Barbara County, oak woodlands and large, individual oak trees contribute significantly to the scenic beauty for which the county is known.

### **B. Distribution and Characteristics of Oak Trees in Santa Barbara County Distribution**

Oaks in Santa Barbara County are widely distributed and occur in a variety of diverse biological communities. Some oak species always occur as trees, others occur as shrubs, and for some, size and growth form depends on site conditions and genetics.

The tree-sized oak species in Santa Barbara County include coast live oak trees (*Quercus agrifolia*), valley oak trees (*Quercus lobata*), blue oak trees (*Quercus douglasii*), canyon live oak trees (*Quercus chrysolepis*), black oak trees (*Quercus kelloggii*), and interior live oak trees (*Quercus wislizenii*). Table 1 provides the inventory of each of the different oak woodland and forest communities occurring in Santa Barbara County.

Coast live oak trees occur predominantly in coastal areas, and throughout the county on north-facing slopes and along perennial and intermittent creeks. Multi-trunked coast live oak trees are often a component of the sensitive Burton Mesa chaparral community in the Lompoc Valley. In the Santa Ynez Valley, stands of coast live oak trees mingle with relatively widely spaced valley oak trees on rolling savannas. Beginning on the cool, north-facing slopes of the upper Santa Ynez Valley and extending northward, blue oak woodlands become prevalent. Canyon live oak, black oak, and interior live oak trees occur in montane and interior areas of the County, largely on lands included within Los Padres National Forest.

**Table 1:** Oak Woodland and Forest Communities in Santa Barbara County

Oak Community	Approximate Acreage
Coast Live Oak Forest*	71,381
Canyon Live Oak Forest	12,325
Interior Live Oak Forest	1,902
Valley Oak Woodland	9,682
Blue Oak Woodland	22,872
Coast Live Oak Woodland	80,077
Total Oak Woodlands and Forests	198,239
<i>Source:</i> ICESS, U.C. Santa Barbara; (personal communication, Davis 2000)	
*Includes central coast live oak riparian forest and south coast live oak riparian forest	

Of the oak trees occurring in Santa Barbara County, the valley oak trees (*Quercus lobata*), blue oak trees (*Quercus douglasii*), and black oak trees (*Quercus kelloggii*), are deciduous, losing their leaves in winter. Coast live oak trees (*Quercus agrifolia*), canyon live oak trees (*Quercus chrysolepis*), and interior live oak trees (*Quercus wislizenii*) are live oak trees, retaining their foliage throughout the year. Some of the other characteristics of the oak trees of Santa Barbara County are described below.

### Characteristics

**Coast live oak (*Quercus agrifolia*):** Coast live oak trees are generally low trees, with trees in open stands ranging from 20 to 40 feet tall. However, trees in dense stands can reach 80 feet tall. A dense, layered canopy is characteristic, and coast live oak trees often have multiple trunks when the stumps re-sprout after fire. They commonly reach greater than 250 years in age (Pavlik et al. 1991) and occur from Northern Baja

California to Mendocino County along the coast as well as in inland areas where fog provides adequate moisture (Pavlik et al. 1991).

**Valley oak** (*Quercus lobata*): Valley oak trees are thought to be the largest oak species in North America, reaching up to 100 feet in height (though they are most typically 40 to 50 feet tall) with canopies that are generally 40 to 50 feet wide (Pavlik et al. 1991). The limbs are relatively large and often droop near the ground, especially on trees that occur in open savannas rather than on trees in more dense riparian habitats. Valley oak trees can live to be 400 to 600 years old. Their distribution is limited to California, in the Central Valley and the inner coast and transverse ranges. Within their range, they occur on deep, rich soils in riparian areas, alluvial fans and valleys, and upland terraces (University of California 1993).

**Blue oak** (*Quercus douglasii*): Blue oak trees average 30 to 40 feet in height, and have a compact canopy (Pavlik et al. 1991). The tree's name indicates the blue-ish color of the upper leaf surfaces, which is most dramatic in the late summer (Pavlik et al. 1991). Blue oak trees are thought to live for 200 to 300 years, though trees as old as 390 years have been reported (White 1966). Blue oaks occur only in California, from Santa Barbara to Shasta counties (University of California 1993), mainly in foothills bordering interior valleys (Pavlik et al. 1991).

**Canyon live oak** (*Quercus chrysolepis*): Canyon live oak trees can grow to be between 15 and 60 feet tall (University of California 1993), with the taller trees generally occurring in dense stands. The species approaches a shrub stature in open, harsh conditions (Pavlik et al. 1991). Canyon live oak trees generally live for 250 to 300 years (Plumb and Gomez 1983). They are found from central Baja California to southwestern Oregon, Nevada, and central Arizona (Pavlik et al. 1991) in foothills and coastal canyons, and on mountain ridges (University of California 1993).

**Black oak** (*Quercus kelloggii*): Black oak trees occurring in dense stands can reach 100 feet in height, while trees occurring in more open stands are generally 30 to 80 feet tall (Little 1980, Plumb and Gomez 1983). The trees do not usually dominate the communities in which they occur, but are often subordinate to the pines, firs, and cedars in the landscape (Pavlik et al. 1991). Black oaks live for approximately 200 to 300 years (McDonald 1969, Plumb and Gomez 1983). Found in mountains and fairly distant from the coast, black oak trees are distributed from southern San Diego County to central Oregon.

**Interior live oak** (*Quercus wislizenii*): A dense, round tree, interior live oaks are usually between 30 and 75 feet tall (University of California 1993). They generally live for approximately 150 to 200 years and are capable of vigorous re-sprouting after fire (Plumb and Gomez 1983). The species is common in the Klamath and southwestern Cascade ranges and scattered in the Coast, inner Transverse, and Peninsular ranges (Pavlik et al. 1991). Within its range, interior live oak trees occur away from the coast and can tolerate both extremely wet and extremely dry conditions (University of California 1993).



### C. Changes in Oak Tree Distribution in California and Santa Barbara County

California's oak woodlands are declining in both viability and distribution. The state's original 10-12 million acres of oak woodland have been reduced to approximately 7 million acres today (Thomas 1997). The greatest concentrations of oak woodlands remain in the foothills of the coast and valleys (University of California 1993). Though millions of acres remain, there is concern regarding the viability of some relict populations of older oak trees that do not appear capable of regenerating the aging stands in which they occur (Pavlik et al. 1991, University of California 1993). After the existing oak trees die, these areas will be added to the tally of acreage where oak woodlands have been lost.

Santa Barbara County's oak populations have not been spared from the declines observed in the rest of the state. A large percentage of coast live oak, valley oak, and blue oak habitats occur on private lands within the jurisdiction of the County of Santa Barbara. Santa Barbara County's populations of black oak, canyon live oak, and interior live oak are concentrated within the boundaries of Los Padres National Forest. As a result, valley oak, blue oak, and coast live oak woodland have experienced the most severe contractions in their populations and are of the most concern.

Valley oak savannas and woodlands in the county, naturally occurring on the deep, fertile soils also preferred by agriculture and development, have been especially affected. The California Department of Fish and Game considers virtually every valley oak community threatened and of high priority (Davis 1999). Countywide, valley oak savanna and woodland is estimated to have declined from 62,000 acres in the 1700's to approximately 10,000 acres today (Davis 1999).

In the San Antonio Creek watershed, including the Los Alamos Valley and exclusive of Vandenberg Air Force Base, approximately 4,100 acres of coast live oak woodlands and forests were cleared between 1930s and 1999. Approximately 2,200 acres of blue oak woodland have been lost in the same area. This study area represents approximately 10% of the privately owned land in the jurisdiction of the County of Santa Barbara and it includes much of the area of vineyard development in the county (Davis 1999).

Much of the historic and current declines in oak tree populations in Santa Barbara County and the rest of the state have been due to direct removal for the purposes of urban development and cultivated agriculture. Livestock raising, wood cutting, flood control and fire suppression have also had a hand in the clearing of oak trees in California during the last 200 years (Rossi 1980). Some oak trees continue to be lost to urban expansion in the county. However, agriculture, especially vineyard expansion, made a notable contribution to oak tree clearing in Santa Barbara County in the mid to late 1990's. Planning and Development estimates that approximately 2,000 oak trees were removed by agricultural operations between 1996 and 1998.

In addition to the direct effects of tree removal on oak communities, many oak populations in Santa Barbara County and throughout the state are known for their lack of successful natural recruitment. Recruitment is the transition of oak seedlings to saplings and young adults that will eventually serve to replace the older trees. In Santa Barbara County, savannas and woodlands dominated by valley oak and blue oak trees are particularly lacking young trees.

This less direct and less visible threat to the county's oak woodlands cannot be attributed to any one simple cause. A number of determinants appear to be involved in the lack of oak tree saplings. Competition with annual grasses (originally introduced during European settlement) for scarce moisture, and the cumulative effects of numerous rodents, livestock, and other herbivorous species such as deer are thought to be the main factors (Sweicki and Bernhardt 1991). The native perennial grasses remove moisture from the soil over a longer growing season relative to introduced annual grasses that more quickly deplete soil moisture during a crucial period of oak seedling growth (Danielson 1990). Increases in the number of livestock and in deer and rodent populations further impact oak seedling survival (Griffin 1976 and 1980). Fire suppression and ground water depletion are also thought to play a role in altering the natural conditions of oak tree communities, leading to an effect on their reproductive capabilities (Muick and Bartolome 1986).

#### D. Protection and Restoration of Oak Trees in Santa Barbara County

The goal of oak preservation in California can best be achieved through an approach that includes preservation of the remaining savannas, woodlands and forests, replacement and restoration of oak resources, and education (Pavlik et al. 1991). Santa Barbara County's Oak Tree Protection and Regeneration Program promotes the protection of the existing oak tree populations, and seeks to increase the acreage of oak woodlands, forests and savannas using a variety of methods and approaches.

With the large percentage of oak woodlands occurring on private lands, it is important for oak protection strategies, especially regulations, to take the property owners' needs into consideration. The oak tree protection policies and standards that are now part of Santa Barbara County's Comprehensive Plan were adopted to provide protection for our county's important oak resources while allowing for continued reasonable use of agricultural properties and other lands.

Restoration of oak habitats to approximate historic oak tree populations and extent will require more than project by project regulatory protection. To accomplish this goal, the program calls for the development of incentives for landowners to protect and increase oak resources, including funding for conservation easements. Funding for oak tree restoration projects is another incentive option. Long-term enhancement and restoration could also be accomplished through outright public acquisition of important oak resources on the properties of willing landowners.

The program also highlights the importance of public education and outreach. This component of the program will provide information on the importance of oak trees, oak habitats, and methods for their successful protection and restoration. These non-regulatory approaches will further the goal of protecting, enhancing, and increasing oak tree populations and habitats in Santa Barbara County.

### III. GOAL, POLICIES, AND IMPLEMENTING ACTIONS

#### OAK TREE PROTECTION GOAL

**Santa Barbara County shall promote the conservation and regeneration of oak woodlands in the County over the long term, and, where feasible, shall work to increase the native oak population and extent of woodland acreage. The highest priority for conservation, protection and regeneration shall be for valley oak trees, valley oak woodlands and valley oak savanna.**

#### *Intent*

*Defines the county's overall objective for oak protection and regeneration.*

#### OAK TREE PROTECTION POLICY 1

**Native oak trees, native oak woodlands and native oak savannas shall be protected to the maximum extent feasible in the County's rural and/or agricultural lands. Regeneration of oak trees shall be encouraged. Because of the limited range and increasing scarcity of valley oak trees, valley oak woodlands and valley oak savanna, special priority shall be given to their protection and regeneration.**

#### *Intent*

*Establishes the basis for implementation of the Oak Protection Goal; promotes replanting or restoration of degraded oak woodlands to offset loss of oak trees through removals and defines approach to protect valley oaks.*

#### DEVELOPMENT STANDARDS FOR DEVELOPMENT

The following standards shall apply to all development (as defined in the Land Use Element of the Comprehensive Plan) in the rural areas of the County requiring a permit.

##### **Development Standard 1: Protection of all species of mature oak trees**

All development shall avoid removal of or damage to mature oak trees, to the maximum extent feasible. Mature oak trees are considered to be live oak trees six inches or greater diameter at breast height and blue oak trees four inches or greater diameter at breast height, or live and blue oaks six feet or greater in height. Native oak trees that cannot be avoided shall be replanted on site. When replanting oak trees on site is not feasible, replanting shall occur on receiver sites known to be capable of supporting the particular oak tree species, and in areas contiguous with existing woodlands or savannas where the removed species occurs. Replanting shall conform to the County's *Standard Conditions and Mitigation Measures*. (This development standard applies to oak trees other than valley oaks. Valley oak trees are addressed in separate Development Standards.)

### **Development Standard 2: Protection of valley oak trees**

All development shall avoid removal of or damage to protected valley oak trees. Development shall not encroach within six feet of the dripline of any protected valley oak trees. Protected valley oak trees are those valley oak trees two inches or greater diameter at breast height, or six feet or taller in height. Valley oak trees that cannot be avoided shall be appropriately replaced on site. If replanting valley oak trees on site is not feasible, replanting shall occur on receiver sites known to be capable of supporting valley oaks, and that allow re-planting in areas contiguous with existing woodlands or savannas where valley oaks occur. All oak tree replanting shall conform to the County's *Standard Conditions and Mitigation Measures*.

### **Development Standard 3: Restoration of the valley oak tree population**

Where development is proposed within historic valley oak tree habitat (even if no valley oak trees would be removed), mitigation of the loss of historic habitat shall be required, where feasible, through planting of locally obtained valley oaks as part of the project landscaping.

## **OAK TREE PROTECTION ACTION 1**

Concurrent with the adoption of these amendments, the County shall amend the Santa Barbara County Code to include oak tree protection regulations developed by the Oak Working Group consistent with the Oak Tree Protection Goal and Oak Tree Protection Policy 1, and endorse a voluntary oak conservation and regeneration program.

## **OAK TREE PROTECTION POLICY 2**

**The County shall pursue funding for conservation easements, incentive programs and funding or other assistance for landowners to retain and regenerate native oak trees.**

*Intent*

*Contributes to the protection of some oak woodlands.*

## **OAK TREE PROTECTION ACTION 2**

The County shall establish a fund to pursue grants for creating conservation easements, or to acquire property for protection of oaks from willing landowners. These efforts should target the most significant oak resources, especially valley oak woodlands and savanna. The Oak Tree Specialist shall work with other agencies and County departments to prepare a conservation program which will identify priorities for acquisition, funding and other means to preserve selected oak habitat, and outline the steps to achieve the program goals.

## **OAK TREE PROTECTION ACTION 3**

The County shall support and, where appropriate, directly carry out public education and outreach (e.g. to private landowners) regarding oak trees, management, incentives and other relevant topics, and seek funding for oak tree regeneration projects on public and private land.

#### **OAK TREE PROTECTION ACTION 4**

The County shall monitor the Oak Tree Protection and Regeneration Program, particularly the effectiveness of the regulations, and report to the Board of Supervisors initially at two years and five years following adoption of the Program and then again every five years.

#### **OAK TREE PROTECTION ACTION 5**

The County shall pursue funding and staffing for an Oak Tree Specialist to assist with regeneration and management plans, seek incentive funding, carry out education and outreach, monitor the program and report to the Board of Supervisors on program effectiveness.

## REFERENCES

- Brown, R.W. and F.W. Davis 1991. Historic mortality of valley oak in the Santa Ynez Valley, Santa Barbara County, CA. In: Proceedings of the symposium on oak woodlands and hardwood rangeland management; October 31 – November 2, 1990, Davis, CA. Gen. Tech. Rep. PSW-126. Berkeley, CA. USDA Forest Service.
- Danielson, K.C. and W.L. Halvorson 1990. Valley oak seedling growth associated with selected grass species. In: Proceedings of the symposium on oak woodlands and hardwood rangeland management; October 31 – November 2, 1990, Davis, CA. Gen. Tech. Rep. PSW-126. Berkeley, CA. USDA Forest Service.
- Davis, F.W., W. Kuhn, P. Alagona, M. Campopiano, R. Brown 1999. Santa Barbara County Oak Woodland Inventory and Monitoring Program. Pilot mapping and modeling study final report to the County of Santa Barbara Department of Planning and Development. University of California.
- Davis, F.W. pers. comm. 1999. Personal communication by Abe Leider of Planning and Development.
- Davis, F.W. pers. comm. 2000. Personal communication by Tamara Klug, consulting biologist of Science Application International Corporation.
- Griffin, J.R. 1976. Regeneration in *Quercus lobata* savannas, Santa Lucia Mountains, California. *American Midland Naturalist* 95: 422-435.
- Griffin, J.R. 1980. Animal damage to valley oak acorns and seedlings, Carmel Valley, CA. In: Plumb, T.R. (tech. coord.) Proceedings of the symposium on the ecology, management, and utilization of California oaks. June 26-28, 1979. Claremont, CA. Gen. Tech. Rep. PSW-44. USDA Forest Service.
- Little, E.L. 1980. *The Audubon Field Guide to North American Trees: Western Region*. New York: Alfred A. Knopf, Inc.
- McDonald, P.M. 1969. *Silvicultural Characteristics of California Black Oak (Quercus kelloggii Newb.)* USDA Forest Service Range Experiment Station Report PSW-53.
- Muick, P. and Bartolome, J 1986. Factors associated with oak regeneration in California. In: Proceedings of the Symposium on Multiple-Use Management of California's Hardwood Resources 12-14 November, 1986, San Luis Obispo, CA. Gen. Tech. Rep. PSW-100. USDA Forest Service.
- Pavlik, B.M., P.C. Muick, S.G. Johnson, and M.J. Popper 1991. *Oaks of California*. Cachuma Press, Inc.
- Plumb, T.R., and A.P. Gomez 1983. *Fire Southern California Oaks: Identification and Postfire Management*. Gen. Tech. Rep. PSW-71. USDA Forest Service.

Rossi, R. 1980. History of cultural influences on the distribution and reproduction of oaks in California. In: Plumb, T.R. (tech. coord.) Proceedings of the symposium on the ecology, management, and utilization of California oaks. June 26-28, 1979. Claremont, CA. Gen. Tech. Rep. PSW-44. USDA Forest Service.

Swiecki, T.J., and E.A. Bernhardt 1991. Minimum input techniques for restoring valley oaks on hardwood rangeland. Plant Science Consulting and Research. Vacaville, CA.

University of California 1993. A Planner's Guide for Oak Woodlands. Pub. of the Integrated Hardwood Rangeland Management Program, Department of Forestry and Resource Management, University of California, Berkeley.

University of California 1996. Guidelines for Managing California's Hardwood Rangelands. Pub. of the Integrated Hardwood Rangeland Management Program, California Department of Fish and Game, California Department of Forestry and Fire Protection. University of California Division of Agriculture and Natural Resources Publication 3368.

White, K.L. 1966. Structure and composition of foothill woodland in central coastal California. Ecology 47: 229-237.



## CITATIONS

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<sup>1</sup> [Resolution No. 03-120](#) (Case No. 00-GPA-6) Adopted April 15<sup>th</sup>, 2003 (Adopted Supplement to the Mapped Areas and Communities Section, Oak Tree Protection In the Inland Rural Areas of Santa Barbara County)