

COBB MOUNTAIN AREA PLAN

Preliminary Draft

May 1989

Lake County Board of Supervisors

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Part One: INTRODUCTION

1.0 GENERAL BACKGROUND

1.1 Purpose of the Area Plan

The purpose of the Cobb Mountain Area Plan is to provide guidance regarding the long term growth and development of the Cobb Valley and Loch Lomond areas and other surrounding rural communities and rural lands. The area plan is a tool by which greater planning detail is provided for the Cobb Mountain Area.

The policies of the County's general plan call for more detailed plans to be prepared for the unincorporated communities.¹ It is recommended that they take the form of area plans which can be adopted as part of the Lake County General Plan. The Cobb Mountain planning area is one of ten geographically distinct subregions within Lake County for which area plans are to be prepared. Figure 1 on the following page shows the relationship of the Cobb Mountain planning area to Lake County. The area plan will focus on specific community and rural issues and needs. Participation by local residents is an extremely important component of preparing an area plan.

Relationship to General Plan:

The relationship between the general plan and an area plan must be mutually complementary and consistent.² Policies in the area plan should supplement general plan policies, yet more precisely reflect the characteristics found in the planning area. Upon adoption, the area plan and the general plan must be internally consistent. The Cobb Mountain Area Plan also includes a zoning map which corresponds to the land use designations of the plan. This area plan and zoning map must be consistent with all applicable provisions of the general plan.

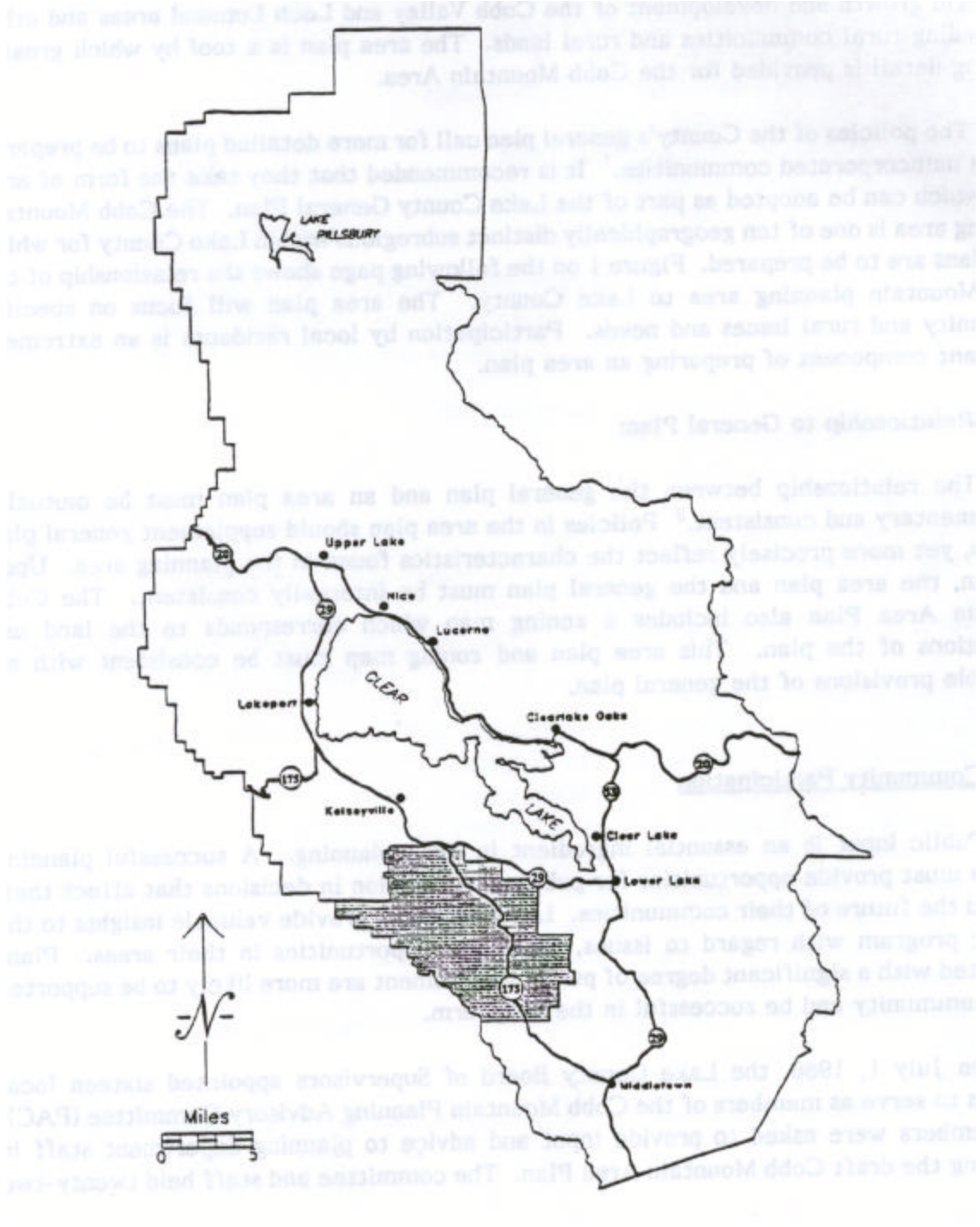
1.2 Community Participation

Public input is an essential ingredient in local planning. A successful planning program must provide opportunities for public participation in decisions that affect their lives and the future of their communities. Local residents provide valuable insights to the planning program with regard to issues, needs and opportunities in their areas. Plans formulated with a significant degree of public involvement are more likely to be supported by the community and be successful in the long term.

On July 1, 1986, the Lake County Board of Supervisors appointed sixteen local residents to serve as members of the Cobb Mountain Planning Advisory Committee (PAC). PAC members were asked to provide input and advice to planning department staff in developing the draft Cobb Mountain Area Plan. The committee and staff held twenty-two meetings during this period, evaluating numerous ideas and recommendations. Besides defining planning issues, the PAC provided comments and recommendations on the Cobb Mountain Area Plan.

FIGURE 1

Cobb Mountain Planning Area Location Map



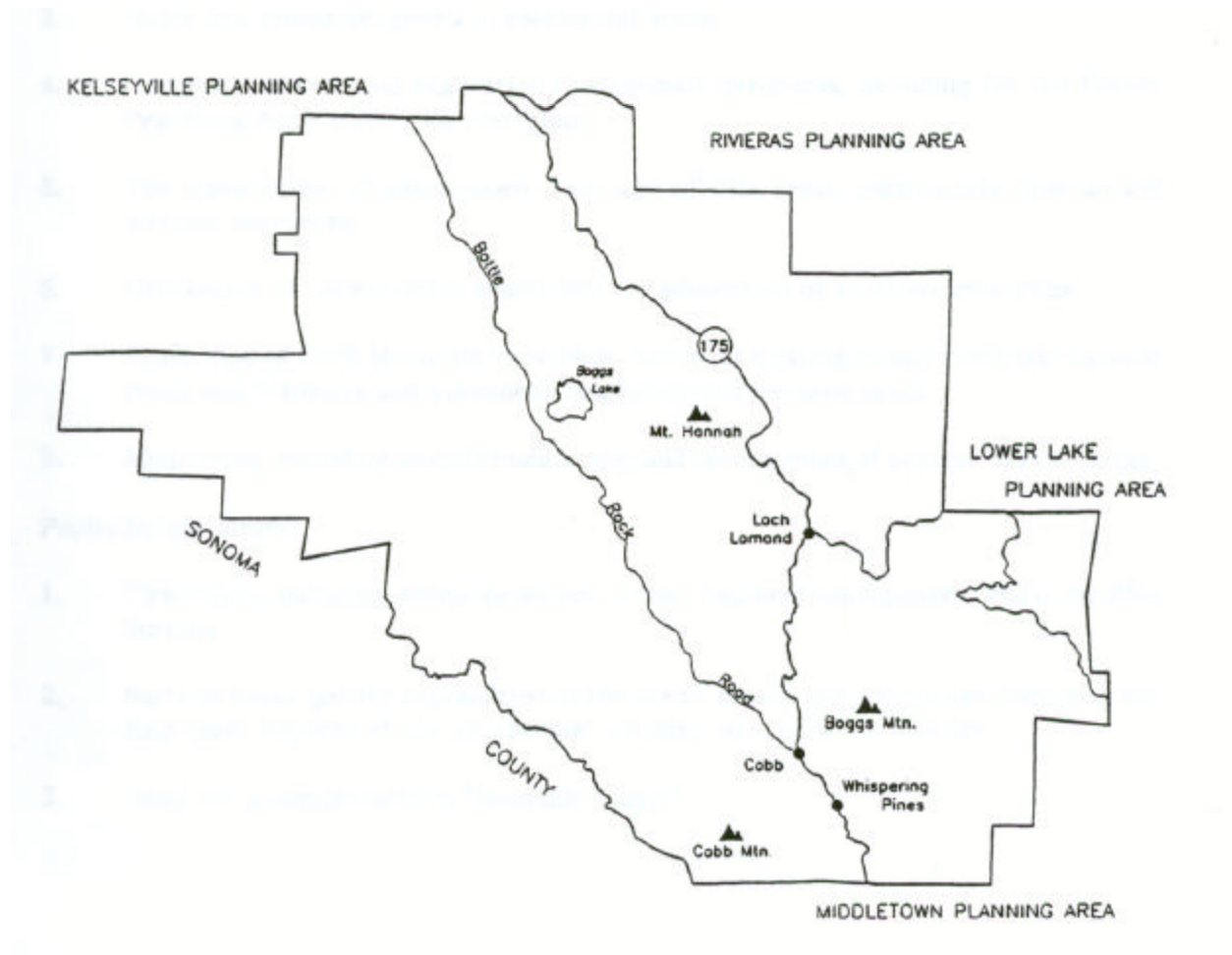
1.3 Organization of the Area Plan

The Cobb Mountain Area Plan is divided into three major sections, including: 1) an introductory framework, 2) planning elements and policies, and 3) land use and zoning maps, along with implementation of the plan.

The introduction includes major issues and assumptions, as well as population projections that influence the text, policies and the land use and zoning maps. The second section, including Chapters 3 through 5, provides background and policies for planning for the area's natural resources, public safety and community development. The third section includes a detailed description of the land use and zoning maps, and how the plan will be implemented.

FIGURE 2

Cobb Mountain Planning Area



2.0 ISSUES, ASSUMPTIONS, AND PROJECTIONS

2.1 Major Planning Issues

A summary of major issues facing the Cobb Mountain Area was developed by the Planning Advisory Committee. These issues, identified below, helped to guide and focus development of the plan. PAC concerns have been incorporated into the plan's analysis and policy development.

Natural Resource Issues:

1. Erosion from poor road construction and maintenance practices and the need for revegetation programs following construction and development.
2. Long-term water supplies in light of the competing demands of residential, agricultural, recreational, commercial and geothermal industry uses.
3. Noise abatement programs in residential areas.
4. Adequacy of tree and vegetation management programs, including for the Forest Practices Act's timber harvest plans.
5. The preservation of unique open space and wildlife areas, particularly riparian and wetland resources.
6. Utilization of conservation easements for protection of sensitive resources.
7. Protection of Cobb Mountain viewsheds, including existing county designated scenic roads and highways and viewsheds in geothermal resource areas.
8. Monitoring, including seismic monitoring, and development of geothermal resources.

Public Safety Issues:

1. Fire safety, including adequate access, water, fuel load management, and controlled burning.
2. Surface water quality degradation of the area's creeks and waterways, including the long-term impacts of the geothermal industry on area water quality.
3. Need for a comprehensive "landslide study."

Land Use and Circulation Issues:

1. Effect of infrastructure, fiscal, and environmental constraints on land use patterns and densities.
2. Balance of commercial uses with need for other land uses.
3. Review of need for additional rural residential lands.
4. Careful consideration of any further strip commercial development.
5. Potential impacts of conditions, covenants and restrictions (CC&R's) found in existing homeowners associations.
6. Pedestrian, equestrian and bicycle circulation systems to serve community areas.
7. Potential land use conflicts between industrial or commercial uses versus residential or recreation uses.
8. Coordination of the Geothermal Resources and Transmission Element with the area plan.

Public Service Issues:

1. Level of underutilized public service capacity in the area.
2. Management of geothermal resource mitigations.
3. Management of on-site wastewater disposal in and around population centers.
4. Law enforcement levels throughout the area, including privately accessed areas of the Geysers geothermal resource area. Localized law enforcement management in planning area neighborhoods (e.g., speed control zones, neighborhood watches, no-shooting areas, litter control, etc.).
5. Fire emergency response time to residential areas, including improvement of substandard street access and water supplies for fire flows.
6. Consolidation of fire protection services in the planning area.
7. Local importance of the Amador Plan contract with the California Department of Forestry and Fire Protection.
8. Expansion of recreational opportunities in Boggs Mountain State Forest. Need for waysides and small neighborhood parks.

9. Enhancement of water-related recreation opportunities, including the feasibility of Forest Lake as a potential park facility.

Housing Issues:

1. Need for moderate and low-income housing, including affordable housing for all age groups.
2. Multi-family and mobile home housing needs.
3. Housing for future construction cycles in the geothermal industry.

Economic Development Issues:

1. Importance and vitality of the planning area's resort and recreation industry, including private resorts and hot springs.
2. Provision of more easily accessible retail and professional services.
3. Role of geothermal and related commercial activities in the area.
4. Utilization of lower-temperature geothermal resources.

Cultural Resource Issues:

1. The development of community-oriented cultural and performing arts facilities.
2. The adequacy of existing archaeological inventories for that area.
3. The level of historic preservation efforts in the planning area.

2.2 Assumptions

General assumptions about future planning conditions have been incorporated into preparation of the Cobb Mountain Area Plan. These assumptions help provide a consistent long-term planning framework. If the basis for an assumption were to dramatically vary, then related planning decisions could become inconsistent and could result in internal conflicts within the plan. State planning law requires that the County's general plan be internally consistent throughout.

The Planning Advisory Committee helped to define the basic assumptions to be utilized during preparation of the Cobb Mountain Area Plan. Basic assumptions incorporated into the preparation of the plan are as follows:

1. County, state and federal budget limitations will continue to significantly restrain construction of major capital improvements in the area. Increasing reliance on efficient use of locally generated revenues will occur during the planning period. Revenues from geothermally produced energy will be a significant source of local government funding for the area.
2. New residents, including retirees or those involved in service employment, will increasingly reside full-time in the planning area. The geothermal industry will be a main direct and indirect employer, with recreation and general service employment providing work for an important segment of the planning area's population. Average age will slowly decline during the first portion of the 20 year planning period, then stabilize.
3. Federal, state and county standards for public health, safety and welfare will not change significantly.
4. Major improvements will have to occur for key public facilities in the area if substantial growth is to be accommodated, including fire protection, water supply, wastewater management, roads, and schools.
5. The private automobile will continue to be the dominant form of transportation in the planning area.
6. Short-term highway improvements will focus on maintenance and safety.
7. Scenic qualities in the Cobb Mountain Planning Area will be preserved and enhanced. Local business districts will increasingly become community centers and focal points for surrounding residential neighborhoods during the planning area.

2.3 Population and Growth Projections

Countywide population growth projections have been developed by the Lake County General Plan to the year 2000. In preparing these projections, historical population and employment trends were analyzed. Between 1970 and 1980 the County experienced very rapid growth, averaging 8.6 percent annually.

However, the General Plan has recognized that limiting factors, such as new job creation and the ability of local government to provide such public services as roads, water, wastewater management and schools, would slow the County's growth rate from that of the 1970's.

Two population projections prepared in the General Plan assumed a countywide growth rate of 4.9 percent and 6.6 percent over the 20 year period from 1980 to 2000. The plan reasoned that the higher of the two projections would probably require the location of major new basic industry in the County, a significant increase in the percent of retirees moving to the County, or some combination of these factors.¹

Between 1980 and 1985, Lake County had the fastest percentage growth rate of any California county, with the countywide population growth rate averaging nearly 5.6 percent and ranging between 4.9 percent and 6.0 percent annually. This five-year growth rate was very close to the middle-range forecast in the General Plan. Meanwhile, from 1980 to 1986, the population growth rate in the Cobb Mountain Area was significantly greater than in the remainder of the County, averaging approximately 7.8 percent annually. This high growth rate was heavily influenced by the rapid growth of the geothermal power industry in the Lake County geysers region during this period.

Between 1980 and 1985, four geothermal power plants went into operation in Lake County amounting to 380 megawatts (MW) of new electrical generation capacity. Construction of the first of these four plants began in 1978. It is estimated that the growth of the geothermal industry through the first half of the 1980's directly accounted for nearly a third of the Cobb Mountain Area's population increase between 1980 and 1986.² Indirect growth resulting from geothermal development, an increased primary resident population, and the increased willingness of many Cobb Area residents to commute to out-of-area employment were other important reasons for population growth between 1980 and 1986.

Since 1985, however, the rate of geothermal development has decreased and both countywide and Cobb Mountain Area population growth has slowed to levels below earlier rates of the 1970's and early 1980's. Average annual population growth has been in the range of 3 percent to 4 percent during the later 1980's.

While up to 250 to 470 MW of additional geothermal power generation are expected to be produced in Lake County over the long-term, overall average annual population growth is expected to be in the vicinity of 4.3 percent in the Cobb Mountain Area.³ This 4.3 percent growth rate is the same forecasted by the California Department of Finance for long-term growth in Lake County.⁴

Based on the 1980 U.S. Census, the Cobb Mountain Area's population was approximately 1650 persons. A Planning Department survey in 1986 estimated the area's population to have grown to an estimated 2,600 persons or a 7.8 percent annual average for the six year period.⁵ However, because of reasons stated above, it is unlikely that this short-term growth rate will be sustained during the planning period.

Table 1 shows several projected population growth rates for the Cobb Mountain Area to the year 2006.

TABLE 1

Population Projections

Cobb Mountain Planning Area

Annual Growth Rate

Year	3.0%	4.3%	4.9%
1980	1650	1650	1650 (1)
1986	2600	2600	2600 (2)
1991	3015	3210	3300
1996	3495	3960	4170
2001	4050	4890	5270
2006	4695	6035	6770
Sources:	(1)	1980 Census	
	(2)	1986 population estimates based on Planning Department	

Assuming that long-term population growth in the Cobb Mountain Area will average near 4.3 percent annually, population in the year 2006 would be slightly over 6,000 persons as shown in Table 1. Table 1 also indicates that at rates of 3.0 percent or 4.9 percent, the Cobb Mountain area population in 2006 would be near 4,700 or 6,770, respectively.

These population projections are a very important planning component to the Cobb Mountain Area Plan. Most importantly, they are utilized in determining the amount of land that will be needed to accommodate expected growth in the planning area.

Part Two: INVENTORY AND POLICY ANALYSIS

3.0 NATURAL RESOURCES

3.1 Geography and Climate

The Cobb Mountain Area consists of approximately 73.5 square miles of mountainous territory in southwestern Lake County. The planning area contains a wide variety of vegetation types, including mixed and pine forests, chaparral and oak woodland. The area's mountain resort-residential communities, including Cobb, Hobergs, Loch Lomond and Whispering Pines, are the economic and social focal points of the planning area. Cobb Mountain, along with the adjacent Middletown planning area, contains Lake County's portion of the geothermal resource area known as The Geysers.

The Cobb Mountain Area's mountainous terrain generally slopes away from the crest of the Mayacmas Mountains located on the Lake-Sonoma County line. Many of the area's mountain peaks are of volcanic origin; Cobb Mountain (4,720 feet elevation) is the most dominant. Other major peaks include Mount Hannah (3,978 feet), Boggs Mountain (3,720 feet) and Seigler Mountain (3,692). Mt. Konocti (4,299 feet) is located just north of the planning area. Isolated small valleys and basins are located between the major mountain peaks. Most of the area's resort and residential districts are located at elevations from 2,400 to slightly over 3,000 feet above sea level.

A majority of the Cobb Mountain Area is located in the Clear Lake/Cache Creek watershed, with major perennial watercourses including Kelsey, Alder and Cole Creeks. The far eastern portions are located in the Putah Creek watershed, which also includes Big Canyon Creek.

The climate of the Cobb Mountain subregion is strongly Mediterranean in character, with higher elevations receiving increased wet season precipitation, including significant snowfall. Rainfall averages from near 30 inches annually in the northeast corner of the area to over 80 inches annually on Cobb Mountain. Major resort-residential areas receive 45 to 70 inches annually. Approximately 90 percent of the area's normal rainfall occurs in the six month period from November through April. Year-to-year rainfall extremes can vary substantially from as low as 40 percent to nearly double the normal amount.

Temperatures in the subregion are characterized by cool winters with frequent frosts and mild to warm summers with daytime temperatures typically in the mid-80 to low-90 degree range. Snowfalls occasionally blanket the region, and higher elevations are often snow-covered much of the winter.

3.2 Soils and Slope

Soil and slope conditions in the Cobb Mountain Area are related closely to subregional and localized geological characteristics. In general, the subregion is located in the southern portion of the northern Coast Range. The province is characterized by northwest trending mountain ranges and intervening valleys which generally parallel the structural trend of the bedrock geology.¹ As a result of the area's geology, soil and slope conditions vary widely in their potential for various land uses.

The Mayacmas Mountains belong to the Franciscan assemblage, which consists of a complex including sandstone, shale, chert, greenstone and various igneous and metamorphics, including serpentinite. Soils in the area located generally west of Bottle Rock Road are developed from parent materials of the Franciscan assemblage, which result in poorly drained and often steep soil conditions. Generally, soils formed from the Franciscan formation are characterized by poor soil and mineral quality. Areas to the east of Bottle Rock Road are generally influenced by soils of volcanic origins.

Soils in the Cobb and Boggs Mountain area result from volcanic parent materials which overlay the Franciscan assemblage. This area consists of well-drained soils with gently sloping to very steep soils. Soils in the northern and eastern portions are formed from volcanic parent materials, including ash deposits attributed to Clear Lake volcanics. In general, soils of volcanic origins are of much better quality than Franciscan soils. Where slopes are not excessive, many of the area's volcanic soils are classified as Class III or, more typically, Class IV.²

Much of the Cobb Mountain Area is characterized by relatively steep to very steep slope conditions with a moderate to severe erosion potential. 70.5 percent of the area has slopes greater than 15 percent, while 29.1 percent of the land area consists of slopes greater than 30 percent. The Franciscan assemblage is generally associated with the planning area's steeper and most erosive soil areas. Slopes of 30 percent to 75 percent predominate in the Mayacmas Mountains, and are associated with moderate to severe erosion potential, particularly when disturbed. Of particular concern is the impact of geothermal steamfield development in areas of moderate to high erosion sensitivity. State-of-the-art erosion control technologies and programs, however, are usually applied to geothermal development activities in these areas.

Figure 3 shows slope and fault characteristics found in the planning area. Landslides and other seismic hazards are discussed in Section 4.3.

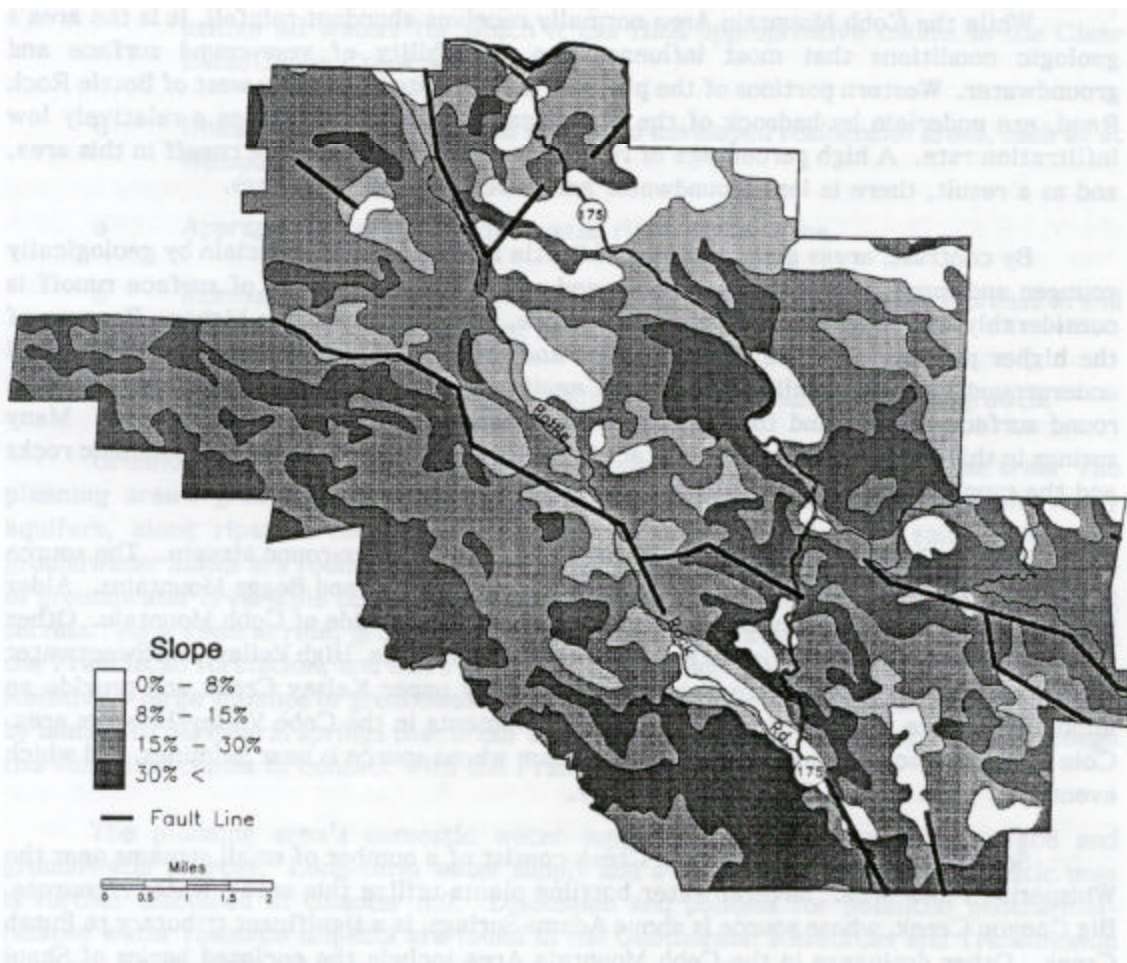
3.3 Water Resources

The water resources policies of the General Plan call for protection of the County's water supplies and water quality, and encourage the development of additional water sources for future needs. The availability of water resources is an important planning

FIGURE 3

Slope and Fault Characteristics

Cobb Mountain Area Plan



component in the Cobb Mountain Area. Water supply concerns affect growth and development in the area's resort and residential communities, as well as domestic and agricultural users located downstream. Water for development and enhancement of geothermal resources is also a long-term water resource consideration in the Geysers area.

The Cobb Mountain Area is the source for two important watersheds. These include the Kelsey Creek drainage, a tributary to Clear Lake, and the upper Putah Creek drainage. Local water resources include numerous mountain springs that provide high quality water locally, and perennial creeks that provide a major source of water for Lake County's major agricultural district, the Big Valley-Kelseyville area. The extreme southeastern portions of the Cobb Mountain Area provide a significant watershed for the upper Putah Creek drainage.

While the Cobb Mountain Area normally receives abundant rainfall, it is the area's geologic conditions that most influence the availability of year-round surface and groundwater. Western portions of the planning area, located generally west of Bottle Rock Road, are underlain by bedrock of the Franciscan formation, which has a relatively low infiltration rate. A high percentage of rainfall is converted to surface runoff in this area, and as a result, there is less groundwater and fewer year-round springs.

By contrast, areas generally east of Bottle Rock Road are underlain by geologically younger and more porous volcanic rocks and soils. The percentage of surface runoff is considerably less in areas with volcanic bedrock, while infiltration is higher. Because of the higher porosity of these volcanic rocks and soils, considerably more water is stored underground in small localized basins and aquifers. As a result, more springs and year-round surface waters find their source in the eastern part of the planning area. Many springs in this area occur near the contact between the relatively permeable volcanic rocks and the much less permeable Franciscan rocks.³

Kelsey Creek is the Cobb Mountain Area's largest year-round stream. The source of Kelsey Creek is located above Cobb Valley between Cobb and Boggs Mountains. Alder Creek, a tributary to Kelsey Creek, begins on the northwest side of Cobb Mountain. Other important perennial tributaries to Kelsey Creek include Jones, High Valley, and Sweetwater Creeks. Other springs and small brooks also supply upper Kelsey Creek and provide an important source of water for residential developments in the Cobb Valley-Hobergs area. Cole Creek is also an important perennial stream whose source is near Salminas, and which eventually joins Kelsey Creek in Big Valley.

Source waters for upper Putah Creek consist of a number of small streams near the Whispering Pines area. Several water bottling plants utilize this area's water resources. Big Canyon Creek, whose source is above Adams Springs, is a significant tributary to Putah Creek. Other drainages in the Cobb Mountain Area include the enclosed basins of Shaul Valley and Thurston Creek. A very small portion of the northeastern area is in the Seigler Creek drainage.

The planning area's surface water resources are controlled by appropriative and riparian water rights.⁴ Diversion of surface waters for use other than on adjacent riparian lands must secure an appropriative permit from the State Water Resources Control Board. To date, appropriated surface water permits have not been utilized on a widespread or large-scale basis in the area.

Major appropriative water rights issues affecting the planning area include the following:

- o Yolo County Flood Control and Water Conservation District's claim of appropriative rights to waters of Clear Lake and its watershed basin, including that within the planning area. The District has yet to beneficially utilize all waters for which it has filed appropriative claims in the Clear Lake/Cache Creek watershed.
- o Undetermined water rights in certain developed residential areas, such as at Whispering Pines.
- o Appropriate use of riparian water rights in the area.
- o Increasing competition for beneficial use of water as demands increase in and downstream of the planning area.
- o The effect of existing water rights on water needs for future growth.

Groundwater also provides an important source of domestic water in the area. The planning area's groundwater resources are limited to small confined mountain valley aquifers, along riparian corridors and in porous volcanic rocks and soils. No large groundwater basins are found in the mountainous planning area. Generally, the availability of groundwater is variable throughout the area and highly dependent upon local geology and terrain. As a general rule, groundwater resources are less abundant and more variable in the Franciscan formation, and more available in areas underlain by volcanic rock and soil. Relatively large volumes of groundwater may be stored within these volcanics, as expressed by numerous peripheral springs that occur as the water which infiltrates downward through the volcanics comes in contact with the Franciscan complex.

The planning area's domestic water supply is derived from both surface and groundwater sources. Long-term water supply and availability for various domestic uses is further discussed in Chapter 5.0. Discussion and policies for potential geothermal-related water resource impacts are found in the Geothermal Resources and Transmission Element. A discussion of water quality-related issues is found in Section 4.5.

3.4 Vegetation and Wildlife

A. Vegetation Patterns:

One of the unique features of the Cobb Mountain Area is the diversity and richness of its vegetation. The combination of ample rainfall, volcanic soils, and mountain elevations which moderate extreme temperatures allow one of the greatest varieties of vegetation found in Lake County. The area's most biologically productive plant communities include mixed and evergreen timber resources, riparian corridors, wet meadows, and productive ecotone environments. The thick vegetative cover is critical for reducing erosion and maintaining the high watershed value of the region.

Most of the planning area is covered by forest communities. In terms of territory, the most dominant vegetative communities include conifer forest, mixed conifer and deciduous forests, northern oak woodlands, and mixed chaparral woodlands. Generally, conifer forests are found at higher elevations, while mixed chaparral communities are found in lower elevations to the north.

Ponderosa pine forests, mixed conifer forests (Ponderosa pine and Douglas fir), and mixed conifer-deciduous forests represented at the higher elevations of the planning area. Most of the Cobb Mountain Area's larger population centers are located in one or more of these forest communities. One of the most significant timber-producing stands is the 3,453-acre Boggs Mountain Demonstration State Forest, which occupies the plateau-like top of Boggs Mountain. This State Forest is used for forestry experiments to demonstrate forest productivity and management practices. A large portion of Lake County's timber harvest from non-federal lands occurs in conifer forests. The remaining conifer forest community, Knobcone pine forest, is located almost exclusively in the drier north and northwest portions of the planning area, with heaviest coverage on Camel Back Ridge.

Communities of northern oak woodland occur throughout the southern and central portions of the Cobb Mountain Area. The most extensive area of northern oak woodland occurs in the northeastern portions of the area. Valley oak communities are associated with riparian corridors elsewhere found in deep-soil locations throughout the planning area. Blue oak communities are scattered throughout the lower elevations of the area.

The area's riparian and wetland communities provide extremely productive habitat for a wide variety of wildlife found in the area. Significant riparian woodlands and meadows are associated with waterways such as Alder, Lee, Cole, High Valley, Jones, Kelsey, McIntire and Sweetwater Creeks, as well as Big Canyon Creek and its tributaries. These riparian areas typically include several varieties of willow, white alder and Fremont cottonwood. Wetland meadows, such as those found at Anderson Meadow at the lower end of Cobb Valley, Salminas Meadow, upper McIntire Creek, and portions of Cole and Kelsey Creeks, provide extremely important wildlife habitat. In some cases, these wetland meadows also act to provide green or cut forage for livestock.

In addition to the above riparian and wetland vegetation communities, the Cobb Mountain Area contains a number of important vernal pool and vernal lake communities. Vernal pools and lakes provide unique isolated wetland habitats where endemic plant species are often found, including a number of rare or endangered plant species, as discussed below. Boggs Lake is the area's largest and most diverse vernal lake. Other large vernal pools are found at Salminas Meadow and Loch Lomond, and near Bonanza Springs near Loch Lomond Road.

Mixed chaparral communities are scattered over much of the area and occur in greatest frequency at lower elevations, on drier south-facing slopes, and on serpentine soils of the Franciscan formation. The area's chaparral communities often include scatterings of digger pines or blue oaks. Introduced grasslands and native grasslands are also scattered throughout most of the planning area and often form meadow-like environments. Extensive areas of dryland walnut orchards occur in the area known as the Red Hill district in the extreme northeastern portion of the area.

Serpentine soils of the Franciscan formation offer poor soil quality and nutrition, which often leads to unusual characteristics of endemic plant communities. For example, a large area of serpentine soils west of Bottle Rock Road is the site of an extensive Sargent cyprus pygmy forest. Serpentine soils throughout Lake County are considered prime areas for rare and endangered plant species.

B. Wildlife:

Wildlife species generally common to California's interior north coastal foothill region can be found throughout much of the Cobb Mountain Area. Large mammalian species include blacktail deer, mountain lion, black bear, coyote, bobcat, and grey fox. Small common mammals include western grey squirrel, California ground squirrel, black-tailed jackrabbit, bush rabbit, and other rodents such as mice.

Riparian and wetland vegetation communities support the greatest number and diversity of mammals, reptiles, birds, and amphibians, including numerous species of nesting and overwintering birds. During the long summer dry season, these communities become extremely important sources of food and water for resident wildlife. Some of the planning area's most clearly defined wildlife corridors are associated with intermittent water courses which lead to riparian and wetland areas.

The Cobb Mountain Area provides habitat for a great number of resident and seasonal bird species. More than 40 species of birds are considered common or abundant year-round residents of the area, while over-wintering birds common to the area number between 15 and 20 species. Many more less common bird species utilize the area during the winter, including a significant number of waterfowl. During the summer season, an estimated 25 additional bird species are considered common to the area. Over 150 bird species are known to use habitat in the planning area, including two state and federally listed endangered species, and at least four species of local concern.

Game bird species commonly found in the planning area include California quail, mountain quail, band-tailed pigeon, and mourning dove. Raptors found in the area include the sharp-shinned hawk, Cooper's hawk, red-tailed hawk, red shouldered hawk, American kestrel, screech owl, great horned owl, and pygmy owl.

Fisheries resources are found in most year-round creeks. Fish species inhabiting these creeks include rainbow and brown trout, and also suckers and minnows. Kelsey, Alder and Big Canyon Creeks provide the best coldwater fisheries habitat, while Lee and Cole Creeks, as well as other year-round creeks, provide more marginal fish habitat.

Several preliminary studies of selected wildlife and fish populations in the Geysers have raised concerns regarding the increased mobility of heavy metals that can affect animal health. These

preliminary studies suggest the importance of continued research and monitoring. These and other geothermal-related issues are addressed in the Geothermal Resource and Transmission Element.

C. Rare and Endangered Species:

Two state and federally listed endangered birds, the peregrine falcon and bald eagle, are known to utilize habitat of the Cobb Mountain Area. A number of fully protected wildlife species are also found in this habitat, including the ringtail cat and golden eagle. In addition, the population of a number of wildlife species are treated with special concern.

Although no known peregrine falcon sites exist in the area, suitable nesting habitat occurs on Boggs and Cobb Mountains. The nearest active known nesting sites are located on Mount St. Helena and Mt. Konocti. The nearby Anderson Marsh-Cache Creek waterway corridor in the Lower Lake Planning Area provides the second most important wintering habitat area in California for the bald eagle, and fly overs of the Cobb Mountain Area are occasionally observed.

Riparian habitat preferred by the ringtail cat is found in much of the area. Although few sightings of golden eagles are recorded, suitable habitat is also found in the area.

A number of bird species of special concern are found in the Cobb Mountain Area. Species known to breed in the area include the sharp-shinned hawk, Cooper's hawk and purple martin. The spotted owl, prairie falcon and pileated woodpecker have been observed in the area. The spotted owl inhabits heavy-canopied old growth woodlands, especially along riparian areas. Loss of these forested areas causes concern for the welfare of this species. The sharp-shinned hawk, prairie falcon and Cooper's hawk generally favor open and open woodland landscapes. The purple martin, a large swallow, is a cavity nester which prefers open woodlands near riparian reaches.

TABLE 2

Rare and Endangered Plants - State and Federal Status

Cobb Mountain Planning Area

<u>Plant Name</u>	<u>Approximate Location</u>	<u>Status</u>
1. State-listed endangered:		
<u>Eryngium constancei</u> (common name: Loch Lomond coyote-thistle)	Loch Lomond vernal pool	CA - E US - E
<u>Gratiola heterosepala</u> (common name: Boggs Lake hedge-hyssop)	Boggs Lake area	CA - E US - 2
<u>Navarretia plieantha</u> (common name: Slender orcuttia grass)	Boggs Lake area Loch Lomond Rd. vernal Salminas vernal	CA - E US - 2
<u>Orcuttia tenuis</u> (common name: Slender orcuttia grass)	Boggs Lake area	CA - E US - 1
2. Federal candidate endangered species:		
<u>Antirrhinum subcordatum</u> (common name: Dimorphic snapdragon)	Whispering Pines	US - 2
<u>Ceanothus confusus</u> (common name: Rincon Ridge ceanothus)	Hobergs	US - 2
<u>Legenere limosa</u> (common name: Legenere)	Boggs Lake area	US - 2
<u>Navarretia pauciflora</u> (common name: few-flowering navarretia)	most vernal pools	US - 2
<u>Parvisedum leiocarpum</u> (1)	Whispering Pines	US - 2
3. Endangered and candidate species near planning area:		
<u>Dichanthelium lanuginosum</u> var. thermal (common name: Geyser's panicum)	Sulphur Creek Sonoma County	CA - E US - 2
<u>Eriogonum nervulosum</u> (common name: Snow Mountain buckwheat)	south of Bear Canyon	US - 2
<u>Streptanthus morrisonii</u> (common name: Morrison's jewel flower)	Sonoma Co. line/Bear Canyon	US - 1

**TABLE 2 - Rare and Endangered Plants - State & Federal Status
Cobb Mountain Planning Area**

(1) Current location and endangerment information needs to be improved.

Status Codes:	CA	-	California listing
	US	-	Federal listing
	E	-	Endangered
	1	-	Category 1 candidate
	2	-	Category 2 candidate

Note: Category 1 candidate species means that the U.S. Fish and Wildlife Service has sufficient information to support their listing as threatened or endangered.

Category 2 candidates means that their listing may be appropriate, but current information is insufficient to support their official proposal.

Sources:

A Study of Rare Plants for the Geysers - Calistoga Known Geothermal Resource Area, Pacific Gas and Electric Company, September, 1985.

Inventory of Rare and Endangered Vascular Plants of California, California Native Plants Society, September, 1984.

Designated Endangered, Threatened or Rare Plants by County, Region 3, California Department of Fish and Game, January, 1987.

Five additional sensitive plant species found in the area are also classified as candidate species for federal listing, and are found at locations near Hobergs, Whispering Pines, Pine Grove and at vernal habitat areas such as Boggs Lake, Loch Lomond, east of Loch Lomond, and Salminas basin. State-listed endangered plant species and known federal candidate species found in or near the Cobb Mountain Area are listed in Table 2.

3.5 Agriculture and Forestry

Most commercial agricultural activities are located in the northeastern portions of the Cobb Mountain Area in the vicinity of Red Hills Road and Seigler Springs North Road. English walnuts are the dominate crop in this area. Other area agriculture includes livestock ranching, several Christmas tree farms, and newly planted vineyards. Forestry is also practiced in the planning area, and a significant amount of timber is harvested from both private and public lands.

Agricultural lands are a major contributor to the economic base and beauty of Lake County. The County's agricultural potential is largely determined by the availability of soils with few natural limitations on their use, but also depends on topography, availability of water, climate market conditions, and the technical know-how of the grower.⁵ The Lake County General Plan defines agricultural lands as those having soil capability ratings of Class I - IV, based on the Lake County soil survey.⁶ Areas of Class I - IV soils are shown in Figure 4 located at the end of this document.

Approximately 1,200 acres of walnuts are in production in the area.⁷ Most of this acreage is dry farmed on the Class III and IV soils formed from volcanic and ash deposits found in the Red Hills district. While net yields from this area are below county averages where irrigation is normally practiced, quality is above average.⁸ The principal agricultural restraint in this area is excessive erosion of the light volcanic soils. Although groundwater supplies and springs are available in much of the Red Hills area, irrigation is not usually practiced. Most agricultural preserves in the Cobb area are found in the vicinity of the Red Hills walnut district.

A significant portion of Lake County's timber production from non-federal land occurs in the planning area. Nearly all timber lands in this area involves second growth stock, except for some old growth stands on Cobb Mountain. Approximately 7,400 acres of timber lands are presently under timber preserve contracts, including all of the 3,453 acre Boggs Mountain Demonstration State Forest. Ponderosa pine and mixed conifer softwoods dominate the area's timber harvest. Presently, about 300,000 board feet per year are harvested from the State Forest. All timber harvesting is subject to California's Timberland Production Act of 1982.

The area's livestock ranching is concentrated around mountain meadows and creekways where spring and summer pasture and cut hay are available. Significant live-stock operations are found in the McIntire Creek and Salminas basin area, as well as at other locations. Several Christmas tree farms are located in the planning area, most notably around Wildcat Road. Aquaculture is also found in the area on a limited basis.

The greatest limitations to agriculture in the Cobb Mountain Area are its poor mountain soils and excessive slopes. However, the Red Hills walnut district has potential to accommodate much greater wine grape production over the long term. Adequate water supplies could be developed for much of this area, with drip irrigation of wine grapes.⁹

3.6 Minerals

Policies of the Lake County general plan urge the protection, management, and development of mineral resources. A major goal of these policies is to minimize land use conflicts between mineral extraction activities and other uses. The Geysers geothermal steamfield, centered in the Mayacmas Mountains, is the dominant mineral resource found in the Cobb Mountain Area. The general plan includes a Geothermal Resources and Transmission Element which supplements policies and implementation programs for managing Lake County's geothermal resources.

Figure 5 shows the approximate extent of the known geothermal resource area (KGRA) in Lake County. The KGRA also extends into Sonoma, Napa and Mendocino Counties, and includes the entire Cobb Mountain planning area. Table 3 provides a definition of each geothermal reservoir identified in Figure 5. Existing geothermal steamfield and power plant development occurs in the known high temperature vapor-dominated reservoir. Further definition of the primary geothermal resource area is found in Section 6.0 along with zoning maps and descriptions of land use.

Over the long term, continued expansion of steamfield and power plant facilities in Lake County is expected to occur in the known vapor-dominated portion of the KGRA. As economics and energy demands make development increasingly feasible, geothermal power facilities can also be expected to occur in areas with unproved vapor-dominated reservoirs.

Areas expected to contain probable hot or low-temperature water-dominated reservoirs are found generally in the KGRA northeast of the Callayomi Fault. These water-dominated reservoirs are considered to have potential for direct-use applications, such as residential and commercial space heating, greenhouses, and commercial hot springs.

Lake County's assortment and variety of potential resort mineral springs is one of the greatest of any area in the United States.¹⁰ Significant warm mineral springs located in the Cobb Mountain Area include Howard, Spiers and Seigler Springs. Harbin Springs is located nearby in the Middletown Planning Area. Numerous other smaller warm and hot springs are found in the region.

Other mineral extraction activities in the planning area are limited. There are no large-scale commercial gravel mining operations.¹¹ One crushed rock mining operation was located west of Bottle Rock Road in the upper portion of the Sweetwater Creek drainage. In the future, the County's proposed Aggregate Resources Management Plan should help identify additional potential aggregate sites in the region.

During the heyday of Lake County's mercury mining, several small mercury mines were developed on Cobb Mountain. These mines have long since been abandoned, but they may be one source of elevated mercury in certain streams that have headwaters in the area.

3.7 Critical Resource Areas

The general plan describes a number of critical resource areas that are environmentally sensitive because they provide outstanding plant and wildlife habitat, rare or endangered species, noteworthy geologic features or are of particular scientific or historic interest. Environmentally sensitive habitats include wetlands, riparian corridors, vernal pools, unique natural features such as important waterfalls, geological formations, and habitat types. The Cobb Mountain Area contains one of the highest concentrations of critical resource areas found in Lake County.

Wetlands, including seasonally wet meadows and riparian woodlands, are extremely important for fish and wildlife production, and are thus recognized as two of the most critical habitats needing preservation in California.¹² During the long summer dry season these wet areas become important to area wildlife, frequently becoming activity centers for many birds and mammals. Wetlands are very important as forage and nursery areas for many species of fish, marsh birds, waterfowl, and amphibians.

Riparian habitat provides food sources (especially insects) and vital roosting, nesting, and escape cover for terrestrial species.¹³ Because riparian lands are always situated at the edge of different biotic communities, they possess a diversity of plant and animal life, including species which are characteristic only in an ecotone community.

Vernal pools and lakes, which contain small, isolated and temporary wetland water bodies, provide extremely unique plant and wildlife habitat. Many vernal pools and lakes contain endemic plants which are often associated with rare or endangered species.

Habitat that supports state or federally-listed rare or endangered animal or plant species, or species that are under consideration for listing, is also considered a critical natural resource.

The general plan has identified a number of unique natural areas within the planning area (Figure 5, Page V-23). The plan also identifies sensitive riparian corridors in the planning area (Figure 6, Page V-23). The following is a brief description of unique natural areas identified in the general plan:

FIGURE 5

Resource Type and Reservoir Areas

Cobb Mountain Area Plan

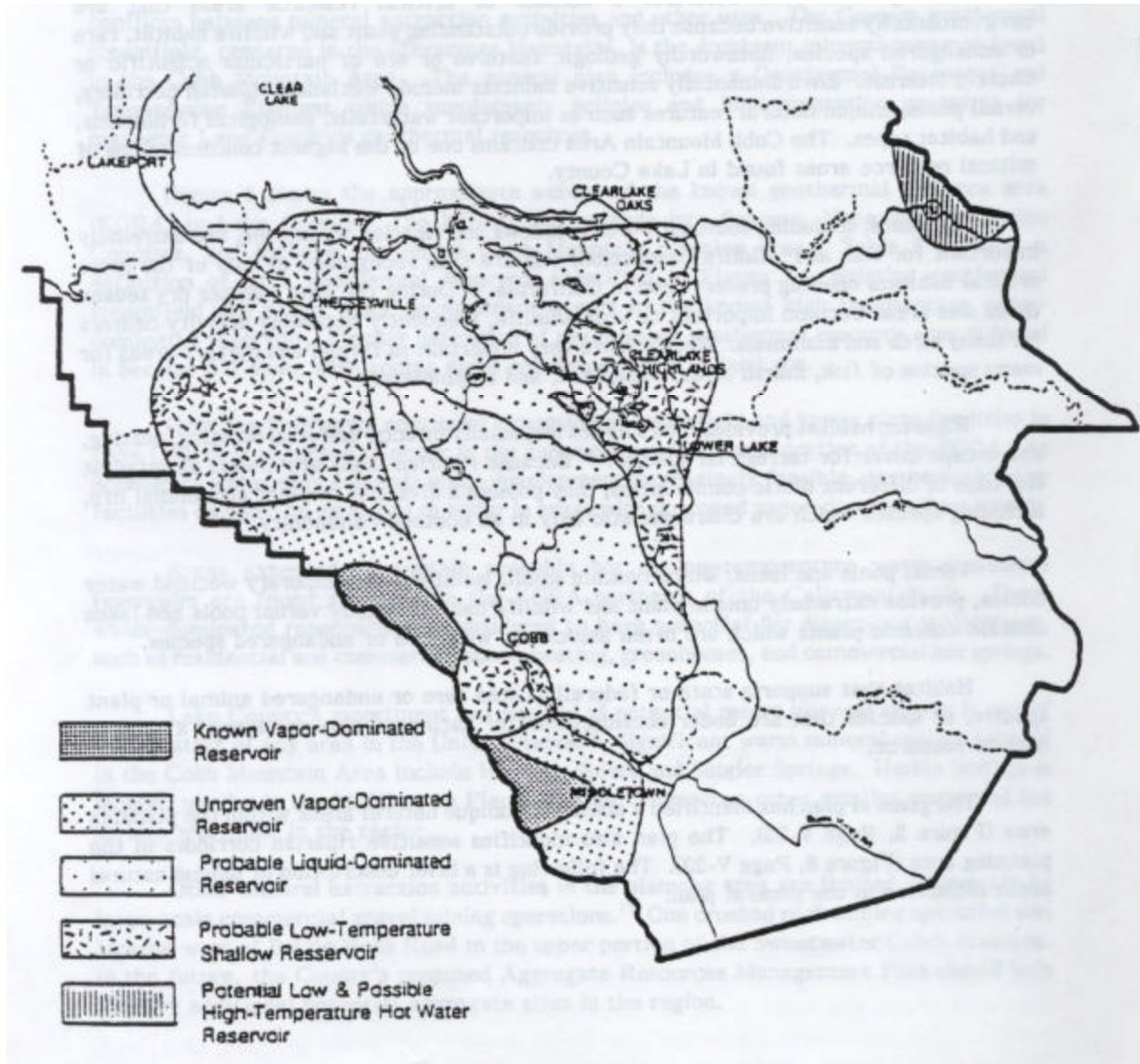


TABLE 3

Resource Area Definitions For Figure 5

Known vapor-dominated reservoir: Within this area commercial high-temperature steam production is highly probable, based upon current economics associated with drilling and fluid recovery. The greater percentage of wells drilled within this boundary are expected to be productive.

Unproven vapor-dominated reservoir: The development of this area for high-temperature steam production, based on current economics, has proven to be of limited success. Improvements in geothermal-related technologies may reduce costs and make this area economically feasible for commercial production. Further exploration in the extreme portions of this area, particularly to the northwest, is necessary to determine the area's ultimate potential.

Probable liquid-dominated reservoir: Evidence suggests that the potential for high-temperature, hot water and shallow, low-temperature resources is good in this area.

Probable low-temperature shallow reservoir: Good potential for direct-use applications exist within this area. There is also the possibility of a limited, deep, high-temperature hot water resource in areas adjacent to the unproven vapor-dominated and probable liquid-dominated reservoirs. Local geologic conditions may also present the opportunity for high-temperature hot water development throughout portions of the area.

Potential low-temperature and possible high-temperature hot water reservoir: This area is in close proximity to the Wilbur Springs geothermal area, which is known to contain a reservoir suitable for high to low-temperature development of hot water. The boundary shown in Figure 4 is very speculative due to the absence of exploration data in this area.

- o **Boggs Lake** - vernal lake, freshwater marsh habitat, numerous endangered and sensitive plant species:

Boggs Lake supports one of the best remaining examples of the state's vernal pool flora, a flora which formerly was common in the grasslands of the Central Valley. This unique natural area provides critical habitat for at least five endangered or sensitive plant species, as well as for numerous nesting and overwintering waterfowl. Surrounded by a setting of black oak, madrone, ponderosa pine, and Douglas fir trees, the lake provides an important riparian ecotone habitat for a large number of mammals and birds found in the region.

Much of the lake and immediate shore has been purchased by the Nature Conservancy; however, encroachment by development and logging in this enclosed basin is increasing the threat of sedimentation into the shallow lake. Further conservation measures are needed at Boggs Lake, including continued land conservation purchases, building and development setbacks, and special erosion control programs, in order to ensure that the fragile resource represented by the lake is not further degraded.

- o **Boggs Mountain--Big Canyon Creek Area** - riparian, oak woodland, mixed conifer and ponderosa forest:

This is a large area that includes the northern portion of Boggs Mountain State Demonstration Forest and the upper reaches of Big Canyon and Big Canyon Creek. This natural area also includes the 200-acre Boggs Mountain Inner Coast Range Reserve, which is under a conservation easement with the Napa County Land Trust. Steeper slopes in this area are virtually undisturbed.

The entire area is a major watershed for Putah Creek and provides some of the region's most pristine mountain and riparian vegetation communities and wildlife habitat. There are several warm and cold springs in the area. Ettawa Springs resort is located within this unique natural area.

- o **Cobb Mountain** - ponderosa and mixed conifer forest:

Cobb Mountain's conifer-forested slopes dominate the viewshed of Cobb Valley, and provides important watershed and wildlife habitat for many species of birds and mammals. Cobb Mountain is within the peregrine falcon hunting range. At least two candidate species of endangered plants are found here. Portions of the area contain virgin old-growth forest.

Timber harvesting and geothermal development have the potential to significantly impact this viewshed and habitat. Traces of past mercury mining occur within the area. The natural area of critical concern begins above 3,000 feet elevation.

- o **La Cienega de Carlos** - three unique plant communities in close proximity.

This botanically unique area embraces portions of Alder and Sulphur Creeks near their confluences with Kelsey Creek. Three botanical communities, including native bunch grasses, serpentine chaparral, and leather oak, are found in close proximity in the area. Meadows and riparian vegetation are found along waterways. The area is characterized by low-density rural uses.

- o **Little Falls** - falls and riparian association on Kelsey Creek:

Little Falls are some 50 feet high and are one of the largest falls in the southern portion of Lake County. A steep-sided gorge with a riparian association is found along Kelsey Creek, along with numerous fern species on the cliffs. The area is virtually undisturbed.

- o **Loch Lomond Vernal Pool** - vernal pool:

Ponderosa pine forest and the adjacent Loch Lomond community surround this small vernal pool, where two state-listed endangered plants are found. The vernal pool was severely impacted by dry season vehicle use and threatened by adjacent development until recently purchased by the Department of Fish and Game.

Other unique natural areas located in the planning area include the following:

- o **Salminas Meadow and Vernal Pool** - mountain wetland and vernal pool:

Salminas Basin forms the largest mountain meadows in the planning area. Located between Mount Hannah and Seigler Mountain, this meadow contains an unusual wetland complex, including adjacent marsh, meadow, and vernal pool habitats. Mixed conifer and oak woodlands cover the surrounding slopes. At least one state-listed endangered plant species may be located in the vernal pool. The area is a tributary to Cole Creek.

The rim and gentler slopes of Salminas Basin are developed with residential and limited commercial uses, including a resort. Livestock grazing occurs in the meadow. Further verification of the area's endangered plant species should be sought. This site could benefit from repair of the breach in the vernal pool's basin.

- o **Loch Lomond Road Vernal Pool** - vernal pool:

This vernal pool of approximately 20 acres is located about two miles east of Loch Lomond, just east of Loch Lomond Road and west of Black Oak Road. The vernal pool contains at least one sensitive plant species and is surrounded by a mixed oak-conifer woodland. Lower-density residential uses are found in the surrounding area.

- o **Anderson Meadow** - mountain meadow and riparian habitat:

This impressive mountain meadow is located along Kelsey Creek downstream from Pine Grove, alongside and north of Bottle Rock Road. A number of springs and feeder streams contribute to Kelsey Creek in this area, and provide rich spring and summer browse for wildlife. Portions of the meadow are saturated and support a year-round wetland. The meadow and riparian corridor in combination offer a rich habitat for a variety of nesting birds and mammals. Portions of the meadow are utilized for cut hay, which is compatible with wildlife uses if harvesting occurs after bird nesting.

Anderson Meadow suffers from erosion problems as a result of a steeply cut and eroding Kelsey Creek stream channel. A long-term solution to this cut bank erosion problem should be supported.

Critical resource and conservation areas identified in the general plan include the following riparian corridors:

- o **Kelsey Creek** from source to planning area boundary
- o **Alder Creek** from source to Kelsey Creek
- o **Little High Valley Creek** from source to Kelsey Creek
- o **Big Canyon Creek** from Adams Springs to planning area boundary

Other area creeks also containing biologically rich riparian corridors include:

- o **Cole Creek** from Salminas to planning area boundary
- o **Jones Creek** from source to Kelsey Creek
- o **Nutmeg Creek** from Nutmeg Spring to Kelsey Creek
- o **Lee Creek** from source to Alder Creek
- o **Sweetwater Creek** from source to planning area boundary
- o **McIntire Creek** from source to planning area boundary

- o Various **tributaries of Big Canyon Creek**
- o **Callayomi Creek** from Whispering Pines to planning area boundary

Protection and management of the planning area's critical and unique natural resources can be achieved by utilizing a combination of general plan policies and programs, land use designations, zoning, and encouragement of conservation easements. Natural resource protection areas are shown in Figure 19 in Section 6.0.

3.8 Scenic Resources

One objective of the general plan is to protect and enhance Lake County's scenic highways and resources. The major purpose of this objective is to assist the County's recreation-based economy and provide a high level of scenic quality to residents of the County. The Cobb Mountain Area contains many panoramic views and scenic highway viewsheds, including mountainous and hillside landscapes, agricultural and pastoral settings, and riparian and natural resource areas.

Important mountain viewsheds include those of Boggs and Cobb Mountains, Mount Hannah, and Seigler Mountain. Impressive meadow and wetland viewsheds are found in the Salminas and lower Cobb Valley areas. The Mayacmas Mountains provide a backdrop for much of the planning area, including portions of the northern Geysers geothermal resource area.

The Lake County General Plan has identified the following routes as potential scenic and county scenic highways:

- o State Route 175
- o Bottle Rock Road
- o Big Canyon Road

In addition, several other roads should be considered for potential county scenic protections, including Red Hills Road, Salmina Road and Loch Lomond Road. Figure 20 in section 6.0 shows areas along these highways and roads which are to be protected for their scenic views. A general description of each highway's scenic protection program is provided below:

- o **State Route 175** through entire planning area:

State Route 175 provides many different rural and mountain viewsheds as it traverses the planning area. Spectacular views of most major peaks in southern Lake County, including Cobb Mountain, are afforded along this route. This viewshed should be protected by including ridge lines when practicable. The county should also consider pursuing state scenic highway status for this state highway.

- o **Bottle Rock Road** from north planning area boundary to junction with State Route 175:

This highway provides spectacular panoramic views of the northern portion of Lake County's geothermal development area. Many of the area's major mountain peaks are included in Bottle Rock Road's viewshed.

- o **Big Canyon Road** through entire planning area:

This rural road provides some of the County's finest mountain scenery, with wooded hillsides and open valleys. Portions of this scenic route are also in the Lower Lake and Middletown planning areas.

- o **Red Hills Road** from junction with State Route 175 to planning area boundary:

Red Hills Road provides a striking northward view of the Mount Konocti-Rivieras area as it traverses the planning area's major agricultural district.

- o **Salmina Road** on east side of Salmina's Basin:

Salmina Road parallels the eastern perimeter of Salmina's Basin with viewsheds of this mountain wetland-meadow which are enclosed by Mount Hannah and Seigler Mountain.

- o **Loch Lomond Road** from one mile east of State Route 175 to Seigler Springs North Road:

Loch Lomond Road provides several panoramic views of the Boggs Mountain-Big Canyon area while traversing a mixed conifer-deciduous forest.

3.9 Cultural Resources

The natural resources of the Cobb Mountain Area have been utilized by many different groups over time. From hunting game for subsistence to cutting timber for mining shafts, to mountain and warm spring resorts in the 1920's, the subregion's cultural resources provide a rich heritage for present-day occupants.

A. Ethnographic Groups:

The uplands of the Cobb Mountain Area were heavily utilized by Northern California Indians during the warmer seasons prior to European exploration and settlement. Ethnographic boundaries are difficult to determine for the area due to the fact that at least five linguistically distinct tribal groups (Northern Wappo, Western Wappo, Eastern Pomo, Southern Pomo, and Lake Miwok) converged at Cobb Mountain.¹⁴

The Wappo generally occupied an area extending south of Cobb Mountain down into the Napa Valley and also a small area in the vicinity of Mt. Konocti. The Lake Miwok occupied territory east of the Cobb Mountain-Seigler Springs area. The Pomo occupied areas north and west of the Wappo and Lake Miwok and included a number of subtribes based around Clear Lake.¹⁵

The Clear Lake volcanics contained a regionally important source of valuable obsidian which was used by prehistoric inhabitants in the manufacture of projectile points and cutting tools. The rich habitat and water resources of the area also allowed for excellent food sources. Former hunting camps, such as that near Loch Lomond Vernal Pool, are thought to be found throughout the area. In addition, certain sites are known to have held special religious and ceremonial significance to prehistoric inhabitants, among them Geysers Rock.¹⁶

Wappo, Miwok and Pomo villages were frequently located on terraces or knolls above watercourses, or on gentle slopes near reliable water sources. The planning area's earliest circulation systems consisted of interconnected trails mainly located along ridgetops.

B. 19th and Early 20th Century:

As the original Spanish land grants in surrounding lowland valleys were taken over by increasing numbers of American settlers, European diseases such as smallpox, whooping cough, tuberculosis, and measles ravaged the Indian populations throughout the region. By 1850, the combination of disease, loss of territory, and brutal military actions had greatly reduced local Indian populations.

Two events in the 1850's triggered the early development of the Cobb Mountain Area. These were the discovery of mercury ore in various portions of Lake and Sonoma Counties and the development of mineral springs in the volcanic uplands of the planning area.

The development of a major mercury mining district southeast of Middletown in the Mayacmas Mountains lead to demand for timber resources in the vicinity of Cobb and Boggs Mountains. Access roads from Middletown to Cobb Valley, constructed to facilitate transportation of milled timber, also brought outdoor recreationists and early development of the area's mineral springs. Cobb Valley became a favorite of sportsmen seeking its reputation for good hunting and fishing.

By 1885, all major springs in Lake County had been located and developed. With more mineral springs than any other area in the United States and probably in Europe, it was predicted in 1916 that "some day this part of California will become one of the greatest health resorts in the world."¹⁷

Advertisements in the San Francisco Bay Area touted these mineral springs as providing relief from such maladies as pulmonary troubles, rheumatism, lumbago, dyspepsia, kidney diseases, gout, and malaria.¹⁸ Table 4 lists these early Cobb Mountain Area resorts.

As the demand grew for mineral waters at the turn of the century, bottling works were established. Between 1903 and 1914 mineral water was the major mineral extracted in Lake County, surpassing mercury mining. In 1912, one of three Lake County breweries opened in Cobb to take advantage of a Lake County ordinance prohibiting the import of beer into the county. However, bottled water demand rapidly declined with the advent of World War I, and prohibition later caused the demise of the production of fermented beverages.

The construction of highways began in earnest after World War I as automobiles gained popularity. By the 1920's, weekend crowds were common at Lake County resorts. The 1930's saw the development of new automobile-oriented resorts such as Whispering Pines, Forest Lake, and Pine Grove. Many older resorts which did not adapt to new standards and growing auto accommodations were forced to close. Notable exceptions were Hobergs Resort and Adams Springs, followed much later by Gifford's Resort (1947), more recently known as the Starview Lodge.¹⁹

TABLE 4

Early Cobb Area Resorts
1852 - 1890

<u>Resort</u>	<u>Established</u>	<u>Major Features at the Time</u>
Harbin Springs	1852	Steam baths, large hotel
Seigler Springs	1868	Cold to hot springs, hotel
Adams Springs	1871	Cool springs, hotel/cottage
Glenbrook Resort	1871	Guest accommodations
Howard Springs	1877	Hot springs, hotel/cottage/camp
Bonanza Springs	1882	Springs, hotel/cottage/camp
Hoberg's Resort	1885	Swimming, hotel/social hall
Gordon Springs	1890	Bath house, camping

Source: An Ethnographic and Historical Cultural Resource Study of the Aminoil, Little Geysers, Ford Flat, Cobb Mountain Geothermal Leaseholds, Sonoma and Lake Counties, Department of Anthropology, Sonoma State University, October, 1978.

C. Cultural Resources:

No more than 20 percent of the Cobb Mountain Area has been surveyed for the presence of archaeological sites. It is very likely that there are significant prehistoric and historic cultural resources which have not yet been identified.

The Cobb Mountain Area contains more than 100 recorded prehistoric and historic archaeological sites. These sites represent a wide variety of the area's history. Prehistoric archaeological sites include major villages, hunting camps, resource gathering and processing sites, and obsidian quarries. One quarry has been found to have been a major obsidian source for prehistoric peoples in adjoining counties. Historic archaeological sites represent logging, mining, residential, resort, and agricultural activities.

The Little Red School House is the most popular historic building in the Cobb Mountain Area. This one-room school house was constructed in 1853 as Cobb Valley's first dwelling and is rumored to have been the last single-room school house in California when it was officially closed in 1971. The building is now used as a meeting room and is maintained by a local civic group.

Other historic buildings found in the Cobb Mountain Area include portions of both the old Hoberg and Seigler Springs resorts, presently used as private retreats.

3.10 NATURAL RESOURCE POLICIES

The following objectives and policies may be applicable county-wide and as specifically set forth in the Cobb Mountain Area for the protection and management of natural resources. The policies found below correlate to the natural resource discussion found in this section and shall be utilized in concert with applicable policies found in Section 4.7 and 5.6 of this plan as well as those of the general plan.

Soils and Slope

Objective

3.2: To encourage programs which reduce and limit the potential for soil erosion.

Policies

3.2a: State-of-the-art erosion control programs should be utilized during and after construction of new subdivisions, roads, road realignments and other earth moving activities.

3.2b: Whenever soil erosion and conservation is a potential issue, proposals for parcel splits and subdivisions shall be referred for review and recommendation from the local resource conservation district.

- 3.2c: Development should be focused in areas of low to moderate erosion potential where feasible.
- 3.2d: The local resource conservation district should be encouraged to develop erosion control programs for "critical areas" in the Cobb Mountain Area, such as in the vicinity of hillside residential development, vernal pools, riparian corridors and wet meadows, as well as susceptible agricultural lands.
- 3.2e: Special review of the erosion potential of development projects should be conducted in the Boggs Lake drainage basin, as defined in Figure 18 in Section 6.0. Appropriate erosion mitigation measures shall be applied, as needed.

Water Resources

Objective

- 3.3: To provide a program for ensuring that adequate water resources are available for the planned physical development of the Cobb Mountain Area.

Policies

- 3.3a: Protect water resources for existing and future beneficial uses, including for residential, commercial and agricultural needs.
- 3.3b: Provide necessary support to assure that area water rights are protected to accommodate projected long-term water needs.
- 3.3c: Promote the cooperative study of current and future water needs of the geothermal industry. Geothermal water use and reservoir management practices shall be conducted in a comprehensive manner which do not adversely affect existing beneficial uses.

Vegetation and Wildlife

Objective

- 3.4: To promote practices that ensure the protection of the area's rich and diverse vegetation and wildlife.

Policies

- 3.4a: Remaining riparian, wetland and wet meadow habitat should be protected. These habitat areas are indicated in Figures 18 and 19 in Section 6.0.

- 3.4b: Cooperation with state and federal land and wildlife management agencies, as well as with private interests, shall occur towards preserving prime habitat for rare and endangered plant and animal species in the area.
- 3.4c: Native plant surveys shall be required prior to development of unsurveyed sites in accordance with the California Environmental Quality Act. Habitat containing a rare or endangered plant or any plant which is considered a candidate for rare or endangered status, shall be protected in accordance with federal and state requirements.
- 3.4d: The maintenance and restoration of streamside vegetation and bank structure should be encouraged along important waterways by the County and the local resource conservation district.
- 3.4e: Support should be provided for vegetation and wildlife restoration projects that have significant community support.
- 3.4f: Biological resources, including wildlife habitat, shall be periodically studied and evaluated to monitor potential impacts from geothermal development in the planning area.

Agriculture and Timber

Objective

- 3.5: To encourage long-term maintenance and viability of agricultural and timber production.

Policies

- 3.5a: Development of the viticulture industry in the Red Hills agricultural district should be encouraged.
- 3.5b: The U.S. Department of Agriculture should be encouraged to include eligible agricultural land in its erosion control and observation reserve program. Highly erodible hillside areas such as the Red Hills district should be included in the USDA's criteria.
- 3.5c: Proposals for timber harvest plans in the vicinity of Cobb Mountain shall be referred to the County for review and comment consistent with the general plan. Selective, rather than clear cutting, should be promoted, particularly for old growth stands of timber.

Minerals

Objective

- 3.6: To encourage utilization of mineral resources, including geothermal resources, in a manner which provides both short and long-term benefits to residents of the area.

Policies

- 3.6a: Policies and programs which ensure that high temperature geothermal and residential uses are adequately separated should be promoted during the planning period.
- 3.6b: Aggregate mining shall be encouraged in environmentally acceptable locations with suitable hardrock materials and visually protected by local geography.
- 3.6c: Direct use of geothermal heating should be encouraged to enhance local production of agricultural specialty crops, when economically feasible.

Critical Resource Areas

Objective

- 3.7: To promote programs that ensure conservation and protection of the Cobb Mountain Area's unique natural resources.

Policies

- 3.7a: The following sites shall be considered critical resource and conservation areas which require special protection to ensure that environmental damage does not occur:
- a. Boggs Lake
 - b. Boggs Mountain-Big Canyon Creek area
 - c. Cobb Mountain
 - d. La Cienega de Carlos
 - e. Little Falls
 - f. Loch Lomond vernal pool
 - g. Salminas meadow and vernal pool
 - h. Loch Lomond Road vernal pool
 - i. Anderson meadow
- 3.7b: The natural features of creeks, streams, and critical riparian areas or waterways should be protected.

- 3.7c: State and federal land and wildlife management agencies should be encouraged to purchase outright or obtain conservation easements for privately owned critical and unique resource areas.
- 3.7d: A program should be developed which encourages private landowners to voluntarily enter into property tax reducing conservation easements, pursuant to Civil Code Section 815 et. seq., for purposes of protecting wetlands, riparian areas, vernal pools and other critical habitat and resource areas.
- 3.7e: Privately initiated restoration projects for critical resource and conservation areas, riparian corridors and wetlands and wet meadows shall be encouraged.
- 3.7f: The Boggs Lake drainage basin should be protected from potential erosion and sedimentation. Development setbacks, as specified in Figure 18 in Section 6.0, shall be established for the protection of Boggs Lake from the threat of long-term sedimentation and removal of lake-side vegetation and critical edge habitat by development and timber harvesting activities.
- 3.7g: New high voltage electrical transmission lines shall not be located in a manner that may potentially harm the critical habitat of any rare, endangered, threatened or protected animal or plant species. Species that are under consideration for inclusion in either the state or federal rare and endangered species lists are included in this policy.

Scenic Resources

Objective

- 3.8: To protect important scenic resources, including scenic highways and viewshed. This objective is intended to assist in the promotion of the region's tourist industry as well as to ensure a high level scenic quality for Cobb Mountain Area and other County residents.

Policies

- 3.8a: Scenic corridor zoning regulations will be adopted on qualifying parcels along reaches of roads identified in the discussion of scenic resources found in Section 3.8 of this plan.
- 3.8b: County scenic highway status for Bottle Rock Road and State Route 175 should be pursued utilizing state scenic highway standards.
- 3.8c: Protection of scenic viewsheds and qualities shall be provided for dominant peaks and ridges, including, but not limited to Boggs Mountain, Cobb Mountain, Mount Hannah and Seigler Mountain.

- 3.8d: The California Department of Forestry and Fire Protection should be encouraged to preserve the Cobb Mountain Area's scenic quality and viewsheds during preparation and review of local timber harvest plans.
- 3.8e: A special design review program for Cobb Valley's central commercial area should be considered to help promote attractive compatible uses along State Route 175. A community design program for such design review is described in Chapter 6.0 of this plan.
- 3.8f: Appropriate visual screening and highway setbacks shall be secured for industrial and service commercial uses. The use of vegetation species native in the vicinity shall be promoted during development review of industrial and service commercial projects.

Cultural Resources

Objective

- 3.9: To ensure that the cultural resources of the Cobb Mountain Area are adequately protected.

Policies

- 3.9a: Archaeological surveys shall be required in accordance with state law whenever new development could potentially impact unique or significant cultural resources.
- 3.9b: Designated historic preservation sites shall be identified in Figure 20. Efforts to protect such sites shall be referred to the County's Cultural Resource Commission for review.
- 3.9c: Efforts to revitalize the area's mountain and warm spring resort industry should consider applicable cultural resource themes.

4.0 PUBLIC SAFETY

4.1 Fire Hazards

The combination of dense forest, brush, steep mountain slopes, a long dry season, and the proximity of existing development make the Cobb Mountain Area a particularly vulnerable wildland fire hazard area. The California Department of Forestry and Fire Protection classifies nearly all of the planning area as a very high wildland fire hazard area, except for the Red Hills agricultural district which is considered to be a high wildland fire hazard area.¹

The area's declared fire season generally occurs from July 1 through October 15 following a normal rainfall year. The subregion has been historically subject to numerous wildland fires, among them the +9,000 acre Widow Creek burn of 1961. The potential for large and dangerous wildland fires in the area is considered high.

The South Lake County Fire Protection District (FPD), the Kelseyville FPD, and the California Department of Forestry and Fire Protection (CDF) provide fire and rescue services to the area. The South Lake County FPD provides protection to a majority of the planning area, including Cobb Valley, Hobergs and Loch Lomond. The northern portions of the planning area are served by the Kelseyville FPD. The entire planning area is classified as a state responsibility area by CDF. CDF assumes primary wildland fire fighting responsibilities during the annual fire season and also responds to structural fires at that time.

The South Lake County FPD utilizes four fire stations, located at Cobb and Loch Lomond in the Cobb Mountain Area, and at Middletown and Hidden Valley Lake in the Middletown planning area. The District provides structural fire protection and wildland protection along with CDF. District response time in the Cobb Valley area is up to five minutes from the time volunteers arrive at the Cobb station. Response in the Loch Lomond area is of similar duration. The District's Cobb and Loch Lomond stations are both manned by volunteers. An ambulance service is also provided by the South Lake County FPD.

The Kelseyville FPD also responds to both structural and wildland fires within its jurisdiction. The District's stations in Kelseyville and Clearlake Riviera serve the northern portions of the Cobb Mountain Area. Both stations are manned, and the response time to the Wildcat Road area ranges from approximately six to eight minutes. The district also provides ambulance service.

Local CDF stations include the Kelseyville-Cobb and Middletown facilities. A firefighting helicopter is stationed on Boggs Mountain by the state. CDF also provides air tanker attack to assist in fire suppression efforts during the declared fire season. CDF's station response time to Loch Lomond and Cobb Valley is approximately 10 minutes, and to the Hobergs area approximately 15 minutes. More remote portions of the Cobb Mountain area receive considerably longer responses from both CDF and the South Lake County FPD. CDF responses automatically involve a minimum of 5 to 6 engine crews, a helicopter and one or two dozers, unless other statewide priorities cause need for the equipment elsewhere.

Because of the severity of the Cobb Mountain Area's fire hazard potential, comprehensive fire

protection planning should be applied. Typically, local fire agencies provide recommendations on all land divisions, as well as other development projects, based on CDF's Fire Safe Guides.² Each development project should be designed to include adequate road access for fire equipment, as well as adequate water supply, building construction, vegetation clearance, fuel breaks, and greenbelts for cost-effective fire prevention and protection.

Planning for wildland fire protection involves integrating local circulation patterns, vegetation management, and water storage and availability to increase fire safety. Emergency access can be improved by constructing both looped road systems with multiple access points and bridges with adequate structural strength to support fire fighting equipment. Vegetation management techniques are intended to reduce fuel loading and include maintenance of firebreaks and fuel modification, such as thinning and irrigated buffers. On-site water storage can include tanks, ponds, pools, or wells where water is reserved for fire protection purposes. In undeveloped areas, small controlled burns can modify wildland fuels.

4.2 Flood Hazards

Flooding potential in the Cobb Mountain Area is limited because of the upland and mountainous character of the region. Only a few creekways and meadows are subject to flood threats, as storm waters are quickly drained or absorbed by the area's characteristically steep topography.

Kelsey Creek, from Forest Lake downstream to approximately Glenbrook, is the only federally designated 100-year flood boundary in the planning area. The U.S. Army Corps of Engineers prepared 100-year floodplain maps in the early 1970's as part of the Federal Insurance Administration's Flood Insurance Study for Lake County. The purpose of the flood study was to designate areas located in floodways and floodplains subject to inundation during a flood event that can be expected to occur once every 100 years.

In addition to Kelsey Creek, local flooding can occur in many of the planning area's other riparian and wetland meadows. Localized areas along Big Canyon, Cole and McIntire Creeks are subject to seasonal flooding. All seasonal wetlands and vernal pools are subject to extended flooding. Designated floodway fringes (100-year flood boundaries) are shown in Figure 20 in Section 6.0.

Peak rainfall intensity varies substantially throughout the Cobb Mountain Area and is largely related to elevation. Rainfall intensity from approximately 10 to 15 inches per 24 hours can be expected during a 100-year-frequency storm, with the heaviest rainfall at higher elevations. A 10-year-frequency storm can be expected to produce 7 to 10-inch rainfalls during a 24-hour period. A two year frequency storm can be expected to produce 4 to 7-inch rainfall over the planning area during a 24-hour period.

Policies of the Lake County General Plan call for restrictions on development within designated floodway fringe areas, and recommend the following guidelines:³

1. Critical facilities (those facilities which should be open and accessible during emergencies) should not be permitted.
2. Passive recreational activities (those requiring non-intensive development, such as hiking, horseback riding, picnicking) are permissible.
3. Commercial, industrial and residential uses should generally not be permitted, and only if all standards regarding elevation, anchoring, and floodproofing have been satisfied.

4.3 Geologic and Seismic Hazards

Geologic and seismic hazards found in the Cobb Mountain Area include potential volcanic and seismic activity, unstable slopes and slide areas, ground failure, and soil liquefaction. The planning area contains two major geological groups: the Clear Lake volcanics region and the Franciscan formation.

The Clear Lake volcanics region occupies approximately 250 square miles, including most of the area east of the Bottle Rock Road alignment. Volcanics apparently began in the early Pleistocene and ended about 10,000 years ago, covering the existing Franciscan formation in the area. However, more recent volcanic activity probably took place in the vicinity of Roundtop Mountain and Borax Lake north of the Cobb Mountain Area. The Clear Lake volcanics are located over a hot, intrusive magma chamber at a relatively shallow depth of four to five miles. The most shallow portion of this magma chamber is near Mt. Hannah.

Located within the volcanic portions of the planning area, Boggs Mountain is an elongate, rolling highland capped with andesitic lavas which cover approximately five square miles. Cobb Mountain is formed largely of rhyolite which overlays Franciscan rocks forming the principal ridge of the Mayacmas Mountains. Flows of porphyritic lavas, of which Mt. Konocti is most conspicuous, cover about 30 square miles south of Clear Lake. Five miles south of Clear Lake, similar flows from Mt. Hannah, Seigler Mountain, and portions of the adjacent highlands, covering a total of about seven square miles. Obsidian outcrops cover another five square miles of the planning area, most notably near Camel Back Ridge.⁴

The Franciscan formation is most continuously exposed in the Mayacmas Mountains where bedrock units are often closely fractured, highly sheared, locally hydrothermally altered, deeply weathered, and prone to landslides. Franciscan formation rocks constitute a greatly deformed and chaotic assemblage known as a melange, which under natural conditions poses problems to slope stability. Unstable conditions inherent in this melange are accentuated by the steepness of slopes, chemical alteration of the rocks, and numerous fault and shear zones.⁵

Landslides are common throughout the area, although they are especially numerous in the Franciscan serpentine areas. Landslide areas are recognized by topographic expression: hummocky surfaces, distorted drainages, cirque-like scars, or broken rock masses. Factors which combine to cause the landslides include the general steepness of slopes, the depth of the rock mantle, seasonal rainfall, and the sparseness or absence of trees or shrubs. The serpentine soil often is slippery and strongly fractured, and slides very readily. The lava-capped uplands of the region are nearly always skirted by talus slopes or mantles of weathered lava and scattered boulders.

No attempt is made to show the location of all slide areas in the Cobb Mountain area, and further study of the location of slide-prone areas is needed. By far, the largest single slide area originates on the southern flank of Cobb Mountain and extends about two miles to the southeast.⁶

There are several major faults whose movement could cause moderate to severe groundshaking within 50 miles of the planning area. All of these faults are located west of Lake County and include the San Andreas, Mayacama and Healdsburg-Rodgers Creek Faults. In addition to these known active faults, there are several potentially active faults in the Cobb Mountain Area which could cause groundshaking. The most significant of these is the Collayomi Fault. The Mt. Konocti area is included in an Alquist-Priolo special geologic study of earthquake faults which indicates several small faults in the extreme northern portion of the planning area. A map of regional faults is shown in Figure 3.

Evidence now indicates a relationship between microseismic activity and geothermal production in the Geysers. However, these studies show an increase in microearthquakes of only 4.0 or less on the Richter scale, which does not result in dangerous groundshaking.⁷ The subject of induced seismicity is addressed in the Geothermal Resource and Transmission Element.

4.4 Air Quality

The Cobb Mountain Area contains mixed land uses that include geothermal development in proximity to residential and recreational uses. As a result, land use and air quality planning issues may be interrelated within the geographically complex planning area. Local meteorological conditions can create conditions of poor air dispersion during portions of the year.

The primary geothermal resource area (see Section 6.0 for definition) is located in the western portions of the planning area, with major geothermal development occurring adjacent to the Lake-Sonoma County lines. The prevailing weather patterns cause geothermal air emissions to be carried easterly and northerly into residential and recreational areas of the Cobb area. Citizen complaints and concerns have been raised by residents of this area.

Emissions associated with geothermal development include hydrogen sulfide (a toxic gas known for its characteristic "rotten egg" odor), hydrocarbons (precursor to the formation of ozone), carbon dioxide, radon, and varying amounts of light and heavy metals found in the geothermal steam. Emissions associated with development other than geothermal, such as from large stationary engines, truck and auto traffic, unpaved roads, and residential space heating, include oxides of nitrogen, carbon monoxide, hydrocarbons, and particulates less than 10 micrometers in diameter (PM-10).

Seasonally poor meteorological conditions occurring during the late summer and fall months have combined with normal and upset operating conditions to cause excesses of the Ambient Air Quality Standard (AAQS) for hydrogen sulfide in the area north of Cobb Mountain. The AAQS for hydrogen sulfide (0.03 ppm) is based on a determination of an odor nuisance to a large portion of the population. Studies of Lake County Air Quality Management District (AQMD) complaint records indicate that 0.008 ppm of hydrogen sulfide will result in citizen concern.

Standards for PM-10 have also been exceeded during limited monitoring. Sources contributing to PM-10 exceeds include residential wood smoke, engine exhaust, unpaved roads and construction areas, and well drilling construction. Other air contaminant concentrations are to be monitored by the AQMD as geothermal development continues and expands. The most significant unknown air quality management factor relates to the effect of accidental emissions releases and changes in steam quality over time.

Through implementation of existing and developing technologies, the number of hydrogen sulfide exceeds will be reduced as geothermal operations are required to meet more stringent emission levels. Compliance can be achieved by innovative field management, improved abatement technology, and the reduction of untreated steam releases. Occasional exceeds are expected to continue as a result of equipment breakdown and accidental venting of air contaminants. Over the long term, technological change in abatement systems may shift emphasis away from hydrogen sulfide to other components of possible concern, such as sulfur dioxide, arsenic, and other toxics which are associated with alternate abatement processes.

Since the extent of the vapor-dominated geothermal resource area is largely defined, additional population growth can be directed to those areas where the potential for air quality conflicts are minimized. Continued development of these geothermal resources can be expected to be accompanied by increased residential growth, resulting in additional air emissions from automotive, residential, and construction activities.

4.5 Water Quality

Water quality ranges from excellent to poor in the planning area. Generally, surface waters, springs, and groundwater from volcanic bedrock are of good to excellent quality. Water sources from the Franciscan formation, however, are of highly variable quality, including poor-quality mineralized waters. Elevated magnesium and heavy metals, including chromium and nickel, are often associated with Franciscan serpentine soils and sometimes can affect water quality in associated watersheds.⁸

The waters of Kelsey Creek have been shown to contain generally low mineralization and turbidity. High flows slightly increase turbidity and suspended solids in upper Kelsey Creek. Lower portions of Kelsey Creek contain increased turbidity following high flows, indicating the likelihood of increased erosion rates from the lower planning area drainage. Short-term water quality monitoring downstream from the influence of geothermal development have shown detectible and sometimes significant levels of chemicals potentially associated with geothermal development. These elevated chemical levels may also indicate the presence of significant natural sources in the area.⁹ Alder and High Valley Creeks provide generally good water quality, although elevated mercury levels have been observed during high flows in Lee and High Valley Creeks.¹⁰ Water quality data are not available for Cole or Big Canyon Creeks.

The potential for water quality impacts from concentrations of on-site septic systems does exist in the planning area. Both surface and groundwater quality could, over the long term, be impacted where on-site septic density exceeds the ability of the soil mantle to absorb and break down septic effluent. Kelsey Creek in the vicinity of Cobb Valley and an unnamed tributary of Putah Creek near Whispering Pines have shown elevated *Escheria Coli* readings during low flows. These elevated readings, however, do not necessarily indicate that the source of the contamination is from human effluent. Further monitoring of coliform levels in area surface waters will be needed. Further discussion of on-site wastewater disposal systems is found in Section 5.0.

Another potential source of water quality degradation is from non-point sources such as oils and grease from street and parking lot runoff. Control of such non-point water pollution sources can best be achieved by rerouting drainage waters as sheet flows through vegetative filters, such as grassy areas and meadows, before discharge into a waterway. Storage and flood control ponds should be avoided as mechanisms intended to reduce non-point water pollution.

Degradation of water quality from geothermal development in the Geysers has long been a local concern. Potential water quality impacts relate to soil erosion, spills and mishaps, and other releases of toxic or hazardous materials and chemicals into area watersheds.

Geothermal-related soil erosion can lead to increased sedimentation and turbidity which effect fish and wildlife habitat. Erosion rates can be increased from the construction of roads, well pads, power plants, pipelines, and related facilities. Spills and mishaps have been a significant source of water quality degradation from power plant operations, well field construction and maintenance, and trucking accidents. Long term degradation of water quality may occur from dry acid deposition of power plant steam and other steam releases that lead to chemical alteration of soils affecting water quality. Further discussion and policies regarding geothermal-related water quality issues are included in the Geothermal Resources and Transmission Element.

4.6 Noise

The county-wide general plan outlines standards for ambient noise throughout Lake County. Policies for noise abatement and land use compatibility are included in the general plan.¹¹ Significant noise sources and sensitive noise receptor locations are identified. Figure 6 shows Lake County's noise compatibility criteria for various land uses.

The Cobb Mountain Area encompasses a range of noise-sensitive land uses including resort and recreational uses, residential development, and retreats, all of which may potentially be affected by heavy industry in the Geysers geothermal area. Traffic on the area's major highways, State Route 175 and Bottle Rock Road, can also contribute to area noise impacts.

Noise can be simply defined as any sound which annoys or disturbs humans or which causes adverse psychological or physiological effects in humans. Since the perception of noise is subjective, the setting in which the sound is generated is a critical factor. Because the planning area is sparsely populated and historically has been used for retreats and recreation, sound from other than natural sources may be perceived by much of the population as intrusive noise.

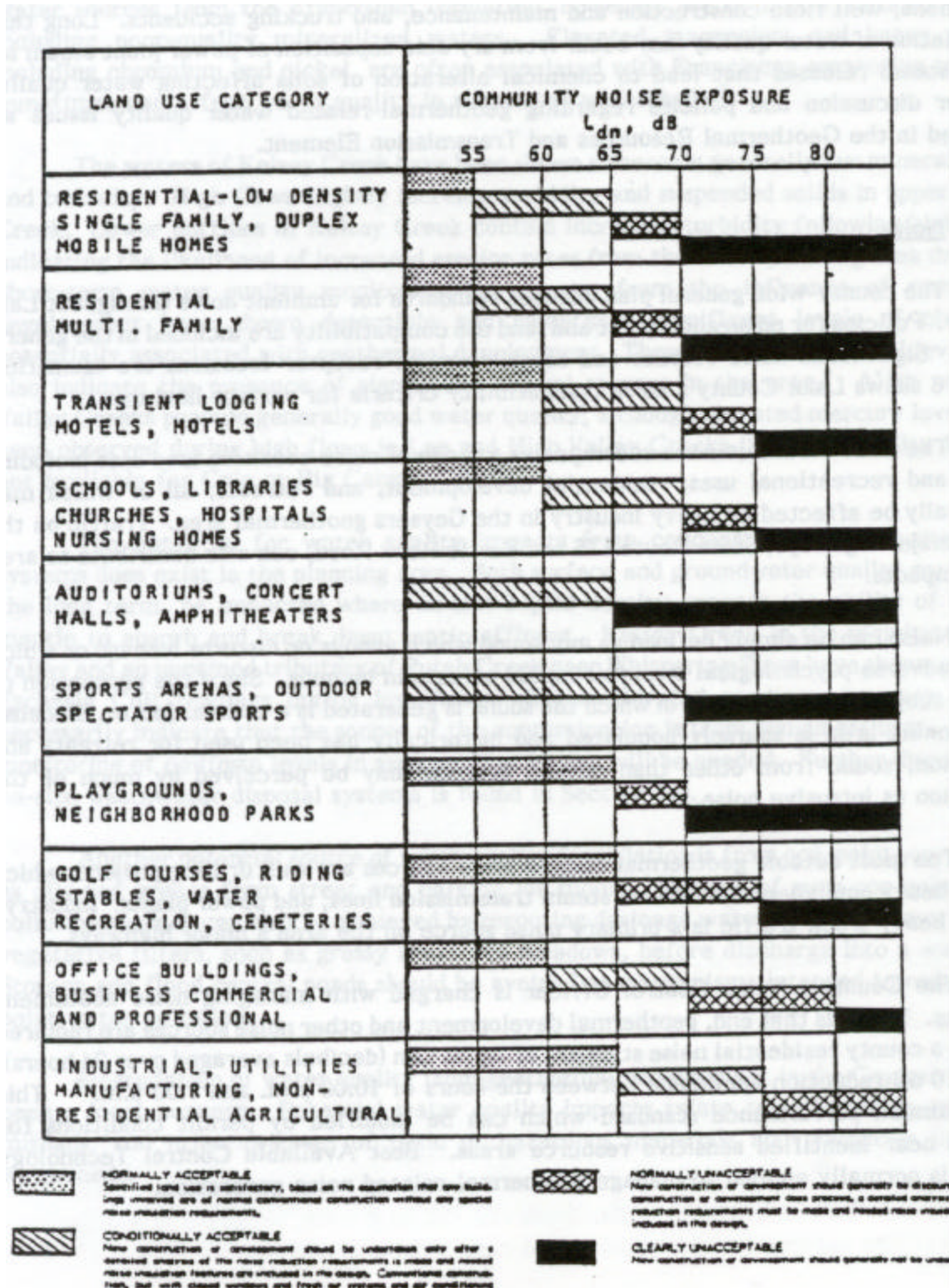
The most notable geothermal-related noise sources are well drilling projects which involve heavy equipment operations, steam transmission lines, and power plants. Industry-related heavy truck traffic is a primary noise source on the area's major highways.

The County's Noise Control Officer is charged with managing noise abatement programs. Towards that end, geothermal development and other noise sources are required to meet a county residential noise standard of 55 dB Ldn (decibels averaged over 24 hours), with a 10 dB reduction applicable between the hours of 10:00 p.m. and 7:00 a.m.¹² This is a minimum performance standard which can be modified by permit conditions for projects near identified sensitive resource areas. Best Available Control Technology (BACT) is normally applied to manage geothermal-related noise generation.

FIGURE 6

Noise Compatibility Criteria

Cobb Mountain Area Plan



Since much of the planning area is mountainous and sparsely populated, sound levels under calm conditions can be extremely low. Measurements indicate the background levels in these remote rural areas range between upper 20 to lower 30 average dB levels. The potential difference between background and permitted noise levels, therefore, may be perceived as extremely significant and in many cases result in complaints even while noise levels are within legal limits.

Techniques for reducing noise include installation of high efficiency "hospital" or "residential grade" mufflers on stationary engines, acoustic barriers, limits to operating schedules, containment of equipment within acoustically treated structures, use of natural barriers for equipment placement, specially designed steam muffler devices, and operating procedures to minimize noise. Under certain conditions, full control of objectionable noise may not be practical due to conflicting requirements primarily related to safety.

4.7 PUBLIC SAFETY POLICIES

The following objectives and policies may be applicable county-wide and as specifically set forth in the Cobb Mountain planning area for the protection and enhancement of public health and safety. These policies shall be applied in coordination with applicable policies found in Sections 3.10 and 5.6 of this plan and those of the general plan.

Fire Hazards

Objective

- 4.1: To apply reasonable and cost-effective measures to reduce the threat to lives and property from structural and wildland fires in the Cobb Mountain Area.

Policies

- 4.1a: The most recent fire hazard criteria of the California Department of Forestry and Fire Protection (CDF) shall be considered for general plan and zoning purposes in the Cobb Mountain Area.
- 4.1b: The adoption of fire safety guidelines provided by the CDF will be considered in areas subject to high and very high wildland fire hazards.
- 4.1c: Comprehensive fire protection plans shall be submitted for review by local fire protection districts and the CDF for development projects in high or very high fire wildland fire hazard areas and subject to the County's subdivision ordinance.
- 4.1d: Implementation of recommendations by the CDF and appropriate local fire protection districts shall be carefully considered when evaluating development proposals in the Cobb Mountain Area.

- 4.1e: Rural residential development in high and very high fire hazard areas shall meet the following fire protection standards unless adequate fire protection standards unless adequate fire suppressing facilities are already available:
- a. Adequate fuel breaks and fuel reduction shall be maintained;
 - b. New storage tanks shall include a stand pipe equipped with a 2.5 inch national hose standard threads accessible to fire trucks;
 - c. Residential access roads and driveways shall not exceed slopes which allow safe passage by fully loaded fire equipment;
 - d. Lots shall be clustered (using the B-5 combining district) to take advantage of fuel breaks and improved access where appropriate to reduce fire danger.
- 4.1f: Proposed subdivisions will include provisions for adequate looped and double access road systems as escape routes for wildland fire emergencies. This policy is applicable to areas with high or very high fire hazards, as defined by the most recent state and/or local fire hazard map.
- 4.1g: Access bridges to both urban and rural residential developments located in high and very high fire hazard areas shall have adequate load capabilities and be wide enough to safely accommodate fully loaded fire safety equipment.
- 4.1h: Bridges which provide primary access to rural areas shall be designed to accommodate fire equipment or shall otherwise provide alternative means of access.
- 4.1i: The utilization of controlled burning programs should be supported in high and very high fire hazard areas as a component of fuel modification and wildlife habitat enhancement, as well as for water conservation.

Flood Hazards

Objective

- 4.2: To take reasonable and necessary efforts to reduce potential flood hazards, particularly in the Cobb Valley and Kelsey Creek area.

Policies

- 4.2a: Floodplain management practice shall be applied in all designated 100-year floodplains. Floodway fringe zoning shall be applied to known floodway fringes in the Cobb Mountain Area.

- 4.2b: Proposed development projects that involve riparian areas, wetlands and wet meadows subject to possible local flooding or seasonal inundation shall include appropriate setbacks from such wet areas.

Geologic and Seismic Hazards

Objective

- 4.3: To lessen risks to life and property from earthquake and other geologic hazards that may affect the Cobb Mountain Area.

Policies

- 4.3a: Development should be strongly discouraged in landslide areas and areas of unstable slope as designated by the state Division of Mines and Geology, the United States Geological Survey or other geological research.
- 4.3b: Updated mapping of existing and potential landslide areas and other geological hazards in the Cobb Mountain Area should be encouraged and supported.
- 4.3c: Geotechnical studies shall be required of development projects in areas determined to have an existing or potential slide problem. Such studies shall be prepared by a certified engineering geologist or other qualified professional and provide sufficient information to determine the extent of any slide problem and the scope of mitigations to be included in the project.
- 4.3d: Portions of parcels with slopes greater than 30 percent which are proposed for development shall have engineered plans for all construction and grading. These plans shall address roads, utility corridors, etc., as well as off-site problems, such as erosion caused by construction, and provide appropriate mitigations.
- 4.3e: Revegetation for slope stabilization shall be required as a condition to development projects when found necessary.

Air Quality

Objective

- 4.4: To protect residents of the Cobb Mountain Area from poor or diminished air quality. It is also the County's objective to maintain air quality for the area's unique natural features and viewsheds.

Policies

4.4a: Land use patterns shall be promoted which reduce air quality problems related to local geography, terrain and air flow patterns.

4.4b: Industrial and commercial activities that have the potential to emit toxic, hazardous or nuisance air contaminants shall be located at safe distances and orientation from residential areas, schools, health care facilities, parks and other sensitive receptors. Furthermore, these activities shall be located in areas which are most conducive to avoiding limited dispersion and direct transport or emitted materials. Such sources shall be required to use Best Available Control Technology (BACT) to control emissions. Toxic or hazardous air contaminants include any chemical constituent regulated by state or federal air quality standards or any chemical constituent listed for review and study by the U.S. EPA or California Air Resources Board.

New development shall comply with adopted energy standards. Encouraging the development of alternatives and improvements to combustion of wastes should be implemented. Air monitoring to determine existing air quality baselines should be conducted prior to major sources locating in the area.

4.4c: District heating systems that utilize low temperature geothermal heat should be encouraged as a way to reduce air emissions from residential wood burning, when feasible.

4.4d: Particulate control measures should be encouraged to limit the generation of additional air pollution.

Water Quality

Objective

4.5: To protect water quality in the Cobb Mountain Area for the long-term benefit of area residents.

Policies

4.5a: Local surface and groundwater supplies in areas of high concentration of on-site wastewater disposal systems constructed prior to July 1, 1985 should be periodically monitored. Such areas include any area where development densities are greater than one dwelling unit per acre.

4.5b: Efforts to document the location and rate of on-site wastewater system failures should be emphasized in the Cobb area.

- 4.5c: Voluntary testing of heavy metal levels should be encouraged for new domestic on-site water wells located in rural areas with serpentine geology.
- 4.5d: General plan amendments, zoning changes and use permit conditions shall consider surface and groundwater management strategies that provide adequate long-term protection for water quality and supply.
- 4.5e: Long-term beneficial uses of water shall be balanced and protected, including water quality maintenance concerns.
- 4.5f: A comprehensive surface water quality monitoring program for the Geysers geothermal production area shall be developed and maintained.
- 4.5g: Control of non-point pollution sources through passive design techniques such as vegetative filters, wetlands and swales in open space settings shall be encouraged and promoted.
- 4.5h: Erosion control programs shall emphasize reduction of stream sedimentation and turbidity.

Noise

Objective

- 4.6: To protect the general population from unnecessary and harmful noise levels and provide extra protection for noise sensitive receptors.

Policies

- 4.6a: Noise-generating uses adjacent to parks, schools, cemeteries, resorts, health care facilities, and religious and educational centers shall comply with Lake County's noise compatibility criteria for sensitive receptors, as shown in Figure IV-20 of the general plan.
- 4.6b: Specific noise abatement criteria and standards shall be set and enforced for geothermal development and related on-going operation in the Geothermal Resource and Transmission Element.
- 4.6c: Best available control technology (BACT) shall be applied to geothermal or other noise generating projects in noise sensitive areas or wherever noise generation may result in levels capable of creating a nuisance.

5.0 COMMUNITY DEVELOPMENT

The community development section of the Cobb Mountain Area Plan provides background and policies for land use, circulation, public services, housing, and economic development. This section, in combination with previous chapters, provides a basis for land use map designations and zoning districts found in Section 6.0.

5.1 Land Use

The Cobb Mountain Area is a predominantly rural area dominated by forests and open spaces. Mountain resorts and residential subdivisions are scattered over much of the area, while facilities for geothermal energy production are also important.

Existing mountain resorts, residential subdivisions, and commercial land uses occupy approximately 2.7 square miles of the 73.5 square mile planning area. Land immediately occupied by facilities used for geothermal energy production, including well fields, pipelines, roads, power plants and storage yards, account for over 250 acres. Additional geothermal land uses include those affected by transmission tap lines, active leaseholds, and buffer zones, which affect approximately 27 square miles.

Agricultural uses account for approximately five square miles, or 6.8 percent of the area. Timber lands account for approximately 27 square miles, or 37 percent, while other rural uses, including open space and watershed lands, range and grazing lands, and low density residential lands, involve approximately 38 square miles, or 52 percent of the planning area. Publicly owned lands include approximately 13.4 square miles of predominantly timbered and open space lands owned by the California Department of Forestry, State Lands Commission and Bureau of Land Management.

Residential, Resort and Commercial Land Uses:

Residential and resort development in the Cobb Mountain Area dates from the 1920's. The most significant period of subdivision activity occurred during the 1950's and 1960's prior to the adoption of the County's subdivision ordinance in 1971. During this period many new parcels were created that have yet to develop. Very little subdivision activity has occurred in the area since 1971.

Most of the planning area's residential development is found in about a dozen subdivided clusters, including the Adams Springs, Cobb Estates, Cobb Valley, Cobb View, Hobergs, Gifford Springs, Glenview, Loch Lomond, Loch Lomond Road, Pine Grove, Salmina-Mt. Hannah and Whispering Pines areas. Nearly 90 percent of the area's existing dwelling units and nearly 80 percent of the planning area's existing parcels are located in the immediate vicinity of these subdivision clusters. Slightly over 46 percent of the parcels located in the planning area's developed clusters have been developed.

A number of Cobb area subdivisions contain substandard lot sizes and improvements, including those for roads, drainage, water supply, and fire protection. The deficiencies of some substandard lots may require merger and consolidation, resubdivision, and other health and safety improvements before development. These deficiencies are discussed elsewhere in this section.

In outlying rural areas, residential development is generally located in the vicinity of watercourses. These residential parcels range widely in size, but are usually five acres or larger. Many rural parcels are undeveloped and are larger than 40 acres. Land west of Bottle Rock Road generally consists of parcel sizes greater than 40 acres, except at a few locations in the vicinity of watercourses.

A number of resorts and retreats are also located in the Cobb Mountain Area. Resorts are found at Howard springs, Loch Lomond, Pine Grove, Salminas, and Whispering Pines. Some of the area's older resorts have become retreats, including the old Hobergs and Seigler Springs resorts. The resort industry is further discussed under recreation and economic development.

Commercial activities are generally retail businesses found near the centers of Cobb and Loch Lomond. Other retail commercial activities are limited in the planning area. Several water bottling operations are also found in the area. Other than geothermal activities, no service commercial or industrial land uses currently occur in the area.

Geothermal Land Uses:

Geothermal development accelerated in the Lake County portion of the Geysers in the middle and late 1970's with major steamfield and power plant development in the Cobb Mountain and Middletown Planning Areas. While geothermal steam has provided a reliable and relatively low-cost source of electrical energy, environmental and safety considerations have required careful planning and development in the Geysers area. In recognition of this, the General Plan includes a Geothermal Element which provides policies for promotion and management of the resource while protecting the environment and public health and safety.

While the general plan does not limit geothermal development to specific land use designations, regulation of geothermal energy activities occurs through case by case review, detailed use permit conditions, and performance standards. Important land use standards affecting geothermal energy development include the requirement that most geothermal wells be located one-half mile from residential areas. Geothermal activities are also typically required to provide a minimum 500 foot setback from "blue-line" streams and water bodies found on U.S.G.S. topographic maps. Buffers between other sensitive resource areas, such as those identified in this plan, are also required.

The general plan promotes the development of direct use applications of geothermal energy. Examples of direct use applications include domestic space heating, greenhouse heating, frost control, and recreational hot springs. Much of the planning area is considered to have high potential for development of direct use geothermal applications.

Rural Land Uses:

Low intensity rural land uses account for a vast majority of the Cobb Mountain Area. Chief among rural uses are watershed and open space, timber production, irrigated and dry land pasture, other agriculture and rural residential uses, and sensitive resource lands.

Watershed and open space lands account for about 50 percent of the area. Productive timber lands account for approximately 37 percent of the area, and include ponderosa pine, douglas fir and black oak dominated forests. Approximately 7,350 acres of timber lands are currently in timber preserve zoning in the planning area. Irrigated and dry pasture lands involve about 5.5 percent of the area, while orchard lands account for slightly more than one percent. Approximately 6 percent of the planning area contains parcels typically associated with rural residential use.

Future Land Use Planning:

Future land use plans for the Cobb Mountain Area should recognize existing development patterns and then provide a logical organization for future development. New growth in existing and future residential subdivisions and commercial centers should be correlated with adequate public service levels, including domestic water, wastewater disposal, circulation, drainage, and police and fire protection. At the same time, future retail commercial development should provide the range of businesses needed to serve surrounding residential communities and subdivisions.

One attraction of Cobb's residential and resort-oriented communities is its relatively pristine mountain forests, expansive views, open space, and wildlife environments. Long-range plans for the area should work to ensure that these natural amenities are maintained so that economic development of the area, in combination with environmental quality, is enhanced.

Areas designated for future residential or commercial development should be subject to careful review and confirmation of the need for such development. As further discussed in Section 5.4, existing developable vacant parcels in the planning area could accommodate a significant amount of growth during the next 20-year period. Adequate water, wastewater disposal capacity, fire protection, and roads, as well as other public services, are important considerations to be reviewed in connection with new development proposals.

In outlying rural areas, residential development should be allowed where conflicts with other uses are minimized. For example, care should be taken that residential development does not encroach upon geothermal development, unique natural and critical resource areas, agricultural and timber producing lands, sensitive watershed lands, and lands unsuitable for development, such as flood or slide-prone areas. Adequate on-site water quality and quantity should be ensured for rural residents, along with suitable on-site wastewater disposal and maintenance. Rural locations in the proximity of existing or future geothermal steam development should be developed for residential uses only after the utmost care has been taken to reduce potential geothermal residential conflicts.

Proven or promising steamfield areas should be designated as primary geothermal resource areas during the life of steamfield activities. Further parcelization should be discouraged in primary geothermal production areas as a way to help reduce potential conflicts between incompatible uses.

5.2 Circulation

Planning for circulation and transportation facilities must be correlated with land use patterns of the General Plan, including the Cobb Mountain Area Plan. This consistency is required so that a rational relationship between proposed land use patterns and the capacity and location of streets and roads as well as other circulation facilities is assured as an area develops over time.

Major circulation features in the Cobb area are oriented towards the movement of people and goods on the area's highways, streets and roads, which are classified functionally as either arterial, collectors, or local facilities. Streets and roads that are more highly classified are designed to carry greater volumes of traffic and provide for a broader range of service needs. Road and highway classifications are used to help plan for new road construction projects and assist in establishing road maintenance priorities.

The Cobb Mountain Area is served by two principal collectors, namely State Route 175 and Bottle Rock Road. Rural collectors such as Harrington Flat, Loch Lomond, Red Hills and Sulphur Creek Roads provide access to remaining portions of the planning area while both public and privately maintained local roads and streets provide access to individual properties. Most roads providing direct access to geothermal production areas in the Cobb Mountain portion of the Geysers are privately maintained, including Coldwater Creek, High Valley and Sawmill Flat Roads. Non-vehicular methods of transportation, including pedestrian, bicycle and equestrian facilities are other modes to be considered in the area's circulation plans. Major utility corridors, such as high voltage electrical transmission lines, are also considered.

Existing Traffic Conditions :

The Cobb Mountain Area's highways and collector roads are, as of 1988, adequate to serve existing traffic volumes. The following table shows recent average traffic volumes at selected locations in the planning area:

TABLE 5

Current Traffic Volumes

Street Segment	24-Hour Daily Traffic
State Route 175 (1986)	
s/o State Route 29 junction	800
n/o Cobb Post Office	1750
s/o Cobb Post Office	2750
Bottle Rock Road (1987)	
n/o Harrington Flat Road	1390
w/o State Route 175 Junction	1385
Gifford Springs Road (1987)	475
e/o State Route 175	
Harrington Flat Road (1987)	545
w/o State Route 175	
Loch Lomond Road (1987)	
e/o State Route 175	305
junction at Shenandoah Ave.	795

Sources: Lake County Public Works Department, 1987 Caltrans, 1986.

Average daily traffic volumes will typically be 10-11 percent higher in the Cobb Mountain Area during summer months when recreation and tourist driving increases. These increases in summer traffic volumes, however, are considerably less than those on Lake County highways which serve Clear Lake or provide through traffic in the county. As an example, traffic on State Routes 20 or 29 typically increases between 20-30 percent during peak summer tourism months.

Recent county road reconstruction projects in the Cobb Mountain Area have been for maintenance and safety purposes. Caltrans' State Transportation Improvement Plan (STIP) provides for several maintenance projects on State Route 175 during the early 1990's. No highway capacity improvements are presently planned in the area. Table 6 shows the approximate timing of near-term street and highway improvements in the Cobb Mountain Area (routine road maintenance is not indicated).

TABLE 6

Near-Term Road and Highway Improvements

Project	Scheduled Date
Loch Lomond Road - resurfacing from Loch Lomond to 1 mile east	1986 (completed)
State Route 175 - culvert replacement at various locations	1988-89
State Route 175 - resurfacing from 0.9 miles E. Kelsey Cr. Bridge to SR 29	1988-89

Sources: Lake County Public Works Department
 Caltrans - State Transportation Improvement Program, 1986

Because of the mountainous character of the planning area, the removal of roadway snow, rock and debris is an important local issue. Several areas of Bottle Rock Road are subject to rock and debris falls which must be frequently cleared. Although the need for snow removal is infrequent, a significant portion of county road maintenance resources must be readily available during periods of snowfall, particularly around Cobb Mountain itself.

Many of the planning area's local roads serve properties which were subdivided prior to the enactment of the County's subdivision ordinance in 1971. As a result, some of these roads do not meet present-day standards for local roads. In some cases, local access roads have not been paved or graveled. Also, a number of these local roads are not included in the County's system of maintained roads and are suffering from lack of maintenance.

Poorly constructed and maintained roads or bridges can also lead to access problems for fire and other emergency responses. For example, load limits for certain bridges on Big Canyon Road are currently inadequate for key fire attack equipment. Problems associated with poorly constructed and/or maintained local roads may include greater vehicle wear and costs, increased erosion and sedimentation into local waterbodies, and access problems for emergencies (such as fire protection).

Three county service areas (CSA's) have been formed to improve and maintain specified county roads in the area. These include CSA No. 9 for Gifford Springs Road, CSA No. 15 for portions of Loch Lomond Road, and CSA No. 17 for Brookside Drive in the Whispering Pines area.

Park and ride lots have gained increased popularity during the past decades throughout rural regions. Carpooling can reduce the costs associated with the long commuter distances often associated with resource related employment. Park and ride lots in the Cobb Mountain Area are usually associated with geothermal projects.

Both formal and informal park and ride lots exist in the area. Only one formal park and ride facility located off Bottle Rock Road at Cold Creek Road has been constructed in association with geothermal development. Informal lots are found on Bottle Rock Road at Sawmill Flat Road and approximately 1.5 miles south of State Route 29 across from the Bottle Rock Industrial Park and at State Route 175 across from the South Lake County Fire Protection District's Cobb station. Other smaller informal park and ride facilities occur in the Cobb and Loch Lomond areas, but they are not utilized as consistently as those just mentioned.

Heavy truck traffic has increased significantly with recent Geysers energy projects, contributing to increased road wear and maintenance needs. In addition to increased heavy truck traffic, the transportation of hazardous and toxic materials related to geothermal development have lead to increased transportation safety concerns on area and regional arterials and local access routes serving geothermal production areas.

Future Traffic Conditions:

Since 1980, traffic increases on Cobb Mountain Area arterial highways have generally exceeded population growth in the planning area. Between 1980 to 1986, State Route 175 traffic volume increases ranged from 55 percent to over 100 percent at selected locations, while the area's population increased by approximately 57 percent. These 1980-1986 traffic and population increases are largely related to growth in large geothermal construction projects and employment during the period.

TABLE 7

Traffic Volume Forecast - 2006

Cobb Mountain Planning Area

Street Segment	24 Hour Daily Traffic
State Route 175	
s/o State Route 29 Junction	1920
n/o Cobb Post Office	4200
s/o Cobb Post Office	6600
Bottle Rock Road	
n/o Harrington Flat Road	3340
w/o State Route 175 Junction	3320
Gifford Springs Road	
e/o State Route 175	1200
Harrington Flat Road	
e/o State Route 175	1090
Loch Lomond Road	
e/o State Route 175	730
Junction at Shenandoah Avenue	1600

Source: Lake County Planning Department

Because of the scattered and low-density character of area communities and subdivisions, the use of a traffic model to forecast future traffic growth is not practical. Except for traffic increases associated with major geothermal construction phases, correlation of traffic and population growth rates can be expected to continue if there are no significant changes in basic land use types during the planning period, and the basic land use mix continues. As an example, unanticipated development of major resort facilities and hotels would likely alter the projected relationship between area traffic and population growth.

Regional traffic increases that lead to through traffic in the Cobb Mountain Area are not expected to be as significant as elsewhere in Lake County, unless the area resort and recreation industry is dramatically increased. Also, increased carpooling in the area may act to slightly reduce the present traffic volume/population ratio. Higher fuel costs during the planning period could induce increased carpooling, particularly if regularly scheduled public transit services are provided to the area. Long-range commuting out of Lake County is expected to have little effect on the ratio between traffic volume and population in the area. The development of bikeways and pedestrian paths will also have little impact on vehicle traffic patterns, but instead will provide much needed alternative access modes, as well as increasing safety for non-vehicular access.

Based on an average annual population increase of 4.3 percent, traffic volumes for Route 175 and Bottle Rock Road can be expected to increase by approximately 140 percent by the year 2006. Increased traffic on collector and local streets and roads will vary considerably depending on local population growth. Table 7 shows projected traffic volumes at selected locations in the Cobb Mountain Area.

Based on forecasted traffic volumes in Table 7, present collector highways in the Cobb Mountain Area have ample capacity to accommodate traffic in the year 2006. Future traffic volumes on collector highways will remain at acceptable service levels through the period, although present levels of service "A" (free flowing conditions) may decline to a "C" level (stable flow conditions) during peak hours in the central Cobb Valley area.¹ The focus of future highway and road projects will be oriented towards maintenance and safety improvements.

Pedestrian, Bicycle and Other Transportation Modes:

Pedestrian and bicycle access has been developed only on a limited basis in the Cobb Mountain Area. Historically, obstacles to non-motorized transportation in the area have included steep topography, distance and separation between the various communities and subdivisions, lack of consolidated community centers, substandard roads, drainage, and other infrastructure problems in many area subdivisions.

While most pedestrian and vehicle access needs can be accommodated in low-density and low-occupancy neighborhoods, there are several areas of concern regarding pedestrian and bicycle access. These areas include access in the vicinity of Cobb Mountain Elementary School and in Cobb Valley along State Route 175 and Bottle Rock Road.

Cobb Mountain Elementary School, located along State Route 175 between Cobb Valley and Hobergs, is connected to surrounding communities by several informal unmaintained pedestrian paths. The school, which serves grades K-5, as well as numerous other community functions, currently contains a single access from State Route 175 between Cobb and Hobergs. The development of pedestrian and bicycle routes which connect the school to both Cobb Valley and the Hobergs area would establish an important transportation link in the area. Also, long-term development of a pedestrian/bicycle path between Pine Grove and Whispering Pines could be associated with recreational developments along Kelsey Creek in Cobb Valley.

Circulation planning also includes providing corridors for major utility facilities such as high-voltage electrical transmission, natural gas and fuel lines. Pacific Gas and Electric Company owns two high-voltage electrical transmission lines which traverse the area from the Geysers to transmission line tie-ins located along State Route 29. Proposals for new utility facilities should include mitigation of economic and environmental impacts. In addition, opportunities to utilize underground utility easements, such as for water lines, for pedestrian circulation purposes should be considered.

5.3 Public Services

Local government's ability to deliver adequate public services is an essential component to accommodating expected growth in the Cobb Mountain Area. Public services provided by Lake County, various special districts, and pertinent private utilities are described below. A general assessment of long-range public services needed to accommodate forecasted population growth is provided in this section.

A. Water:

Domestic water for Cobb Mountain Area subdivisions, resorts, and retreats is provided by numerous public and privately operated water systems. Individual wells and springs provide domestic water for remaining rural portions of the planning area.

Domestic Water Systems:

Thirteen Cobb Mountain Area water systems serve various residential and commercial developments, while seven smaller systems serve local camps and resorts. the area's largest system is Cobb Mutual Water Company, with approximately 500 service connections. The remaining 12 community water systems all serve less than 200 service connections, although Loch Lomond Mutual Water Company is nearing 200 connections. Systems with 200 or more service connections are regulated by the State Department of Health Services, while smaller systems are regulated by the County Health Department. Characteristics of area water systems are summarized in Table 8. Figure 7, located at the end of this document, shows the location of these systems.

As mentioned, nearly all Cobb Mountain Area subdivisions were recorded prior to adoption of the County's subdivision ordinance in 1971. As a result, most of the planning area's subdivisions do not contain full subdivision improvements as called for in the current subdivision ordinance. Many community water systems and their fire flows, local roads, and drainage systems are in need of substantial improvements.

TABLE 8

Water Systems in Cobb Mountain Area

<u>Name of System</u>	<u>Public/ Private</u>	<u>Approximate Service Connections</u>	<u>Estimated Full Build-Out Connection</u>	<u>Service Area</u>
A. <u>Community Water Systems :</u>				
Age of Enlightenment	Private	97	---	Old Hobergs Resort
Adams Springs Water District	Public	21/50	250	Adams Springs
Branding Iron Mutual Water Company	Private	27	31	Branding Iron Acres
Cobb Mutual Water Company	Private	500	900	Cobb Valley, Hobergs
County Service Area No. 7 (Bonanza Springs)	Public	84	200	Loch Lomond Road
County Service Area No. 18 (Starview)	Public	96	275	Starview
Johannine Daist Communion	Private	20	---	Old Seigler Springs Resort
Hill 9 & 10 Water Company	Private	9	9	Diamond Dust Trail
Loch Lomond Mutual Water Company	Private	180	350	Loch Lomond
Mt. Hannah Springs Water Company	Private	32	40	Mt. Hannah Subdivision
Pine Grove Water Company	Private	140	180	Pine Grove
Whispering Pines	Private	to 140	---	Portion of Whispering
B. <u>Non Community Water Systems :</u>				
Camp Indian Meadows	Private	6	---	
Beaver Creek Campground	Private	---	---	
Alpine Meadows	Private	---	---	
Cobb Mountain Lodge	Private	closed	---	
Salmina's Resort	Private	---	---	
Howard Hot Springs	Private	---	---	
Biggi Resort	Private	---	---	

A 1987 study of Cobb Mountain Area water systems concluded that many water systems are in need of added storage facilities and upgraded fire flows for emergency needs. Backup water sources and emergency electrical power would also aid in assuring emergency water supplies. The conversion to metered water systems would aid in water conservation efforts.²

As a consequence of these water system deficiencies, many of the smaller water supply systems in the Cobb Area constrain ultimate development in their respective subdivisions. These constraints on smaller area water systems are often exacerbated by inadequate funding for maintenance needs.³

The study also found that the Whispering Pines area has significant problems pertaining both to water supply and water rights and is in need of an organized and consolidated water system under California Administrative Code Title 22 regulations.

In addition to providing policies for water system improvements in the Cobb Mountain Area, the area plan can propose development thresholds intended to ensure that further declines in area water systems will not occur until a necessary upgrading of substandard water systems is achieved. The intent and purpose of such policies would be to maintain a healthy balance between development and local resources and to avoid costly and sometimes irreversible declines in these resources.

Planning for growth and new development in the Cobb Mountain Area should be provided with a balance towards local water resource needs. Utilization of local water resources should not adversely affect other nearby downstream water needs.

Rural Areas:

In outlying rural areas not served by regulated water systems, domestic water is provided by individual domestic wells and springs. The County Health Department regulates individual on-site water systems by assuring that adequate water quantity is available before issuance of a building permit. The County does not have regulations that deal with water quality on an on-site basis. Where groundwater sources are related to the geology of the Franciscan formation, it is often difficult to find adequate water for domestic uses. In particular, the vicinity of Bottle Rock, Harrington Flat and Sulphur Creek Roads has spotty water availability.

Geothermal Development Areas:

The proximity of geothermal development to local domestic water sources and supplies is also a long-term concern. The critical issue is how best to assure that present and future geothermal activities will not adversely affect water supplies or quality needed for other beneficial uses, including residential, commercial, and downstream uses such as agriculture. On-going water monitoring addressing both supply and quality issues in the Geysers region is needed to determine how water should be allocated and protected over the long-term. Geothermal-related water issues generally include:

- o Surface and groundwater management strategies that should be implemented to protect water supply and quality.
- o The adequacy of existing geothermal industry reinjection sources such as condensate, sump fluids and other production by-products.
- o The use of additional water by the geothermal industry for reinjection based on future steamfield production rates, and the source(s) of this water.
- o The maintenance of all beneficial uses of water.

B. Wastewater Disposal:

Domestic wastewater disposal is by on-site methods throughout the Cobb Mountain Area, except for two small package treatment facilities which serve local retreats. The density of on-site systems varies greatly, as do soil conditions for determining the suitability of these disposal methods.

Although there are currently no known major impacts on area water quality due to reliance on-site wastewater disposal practices, there is concern for the long-term maintenance of local water quality in the planning area. Developed areas with high concentrations of septic systems and areas subdivided with lots of less than an acre are locations of primary concern. It is generally acknowledged that parcels of one acre or more are often needed to avoid creating potential long-term water quality problems.⁴

Water quality monitoring of local surface waters, including creeks and springs, over time could provide information on water quality trends for the area. While surface waters in the Cobb Mountain Area are not expected to meet drinking water standards, extremely high bacteria levels could indicate the need to conduct expanded monitoring to determine the possible existence of septic effluent as a contamination source. Water quality monitoring of private on-site water wells for coliform and/or nitrates can also provide an indication of local groundwater quality. The drinking water standards for coliform is less than 2.12 MPN/100 ml (most probable number/per 100 milliliters) and is 45 mg/l (milligrams per liter) for nitrates.

Besides water quality monitoring, tools available to mitigate the potential for future water quality problems related to concentrated use of septic systems include regulatory and institutional programs which apply a cost-effective program of preventive maintenance for local water quality. Existing regulatory programs for controlling septic density include the County's on-site septic disposal ordinance and the density standards found in the zoning ordinance.

Institutional programs could include formation of special districts to assure adequate maintenance of on-site disposal systems. The goal of such districts would be to reduce potential long-term and cumulative water quality problems that may result from concentrated use of septic systems.⁵ Such on-site wastewater management zones could act as a very cost-effective water quality management tool if they can effectively defer the need for expensive sewer collection and treatment systems.

The area plan can also set policies and criteria for the maintenance of water quality standards. Ideally, programs should be developed and in place early on so that potential public health problems are avoided.

C. Drainage and Erosion:

Developments in high precipitation zones such as the Cobb Mountain Area often face added drainage and erosion problems. Seasonally high water tables can lead to poor septic suitability in riparian areas, wet meadows, and other wet areas. Because of high rainfall intensity, local drainage systems must be designed to handle greater volumes of water. Also, non-point pollution, such as that from roadway oils and greases, leached nutrients from poorly maintained septic systems, fertilizers, and other soil constituents, may be considered while planning for drainage systems in this wet mountain environment.

Erosion from unpaved roads, unprotected or poorly vegetated road cuts, and steep hill or mountain slopes is an added development concern in the Cobb Mountain Area. Severe or long-term erosion problems may lead to restrictions or clogging of designed drainage systems and increased sedimentation of drainage basin waterways and lakes.

Currently, drainage improvements in the area are generally limited to road grading, minor culverts, and bridges. Most subdivision development in the area has occurred on well-drained ridges and hillsides which present few on-site drainage problems if designed properly. However, as development increases, stormwater discharges to downstream areas could present problems if drainage facilities are undersized or not properly maintained.

D. Fire Protection:

Both the South Lake County and Kelseyville Fire Protection Districts provide primary structural fire protection for the Cobb Mountain Area. District response times and station locations are discussed in Section 4.1. The California Department of Forestry also responds to structural fires during the declared fire season as a precaution against wildfires. Fire district boundaries are shown in Figure 8 located at the end of this document.

Structural fire protection efforts often face two common problems in the Cobb Mountain Area: 1) lack of adequate on-site water supply and fire hydrants, and 2) inadequate roads and signage for emergency access to certain areas. Areas of particular concern regarding adequate water supply for structural fire protection include (but are not limited to) the Diamond Dust Trail, Starview, Mt. Hannah Springs, Pine Grove and Whispering Pines areas. The Cobb and Loch Lomond Mutual Water Companies provide the greatest level of fire flow service in the planning area. All water systems in the area exhibit some degree of water supply deficiency when compared with fire flow standards found in the county subdivision ordinance. As a result, all structural fire responses in the area include at least one water tanker with a minimum of 2000 gallons. In addition, local road conditions, such as the Diamond Dust Trail area and portions of the Starview and Whispering Pines areas, can increase emergency response time for structural fires.

Over the long term, improvements to Cobb Mountain Area water systems and certain local access roads can also benefit fire protection. In addition, programs for vegetation clearance and modification around dwelling units will greatly aid in fire safety.

The service capacity of local fire districts is expected to increase in proportion to growth of the planning area. With population growth, the need for manned station personnel and improved response time will increase. Current ISO insurance ratings of Class VI in developed areas with fire hydrants could also be reduced by improved water, access, and response times.

E. Law Enforcement:

The Lake County Sheriff's Department provides law enforcement for the unincorporated Cobb area. The nearest Sheriff substation is located in Middletown. Response time from the Middletown substation ranges from 10 to 15 minutes, and less if a patrol deputy is in the vicinity of the call. The California Highway Patrol provides policing of traffic to unincorporated areas of Lake County. Mutual aid occurs between all local law enforcement agencies and the CHP within the county.

As a rule of thumb, the ratio of Sheriff patrol deputies to population would be approximately one sworn officer for each 1000 residents in a rural county. However, it is noted that the ratio of population to patrol deputies increases significantly during peak summer holiday periods.

The existing ratio of patrol deputies is approximately 0.8 patrol positions per 1000 residents. This ratio of patrol deputies could decrease slightly in the near future as new positions are allocated to expanded jail facilities.

Chief law enforcement concerns in the Cobb Mountain Area include regularity of patrols, control of target shooting near developed areas, and formation of neighborhood watch programs. Sheriff patrol levels are proportioned throughout the county based on population densities. Recent data shows that while the Cobb Mountain Area contains nearly 8 percent of the county's unincorporated population, slightly more than 5 percent of Sheriff's calls for service occurred in the area.

The Lake County Code does have provisions for the establishment of no-shooting zones, including required perimeter setbacks from any area subject to shooting restrictions, in the vicinity of developed areas. Local citizen support for such zones is typically a prerequisite. Neighborhood watch programs are also supported by the Sheriff's Department.

F. Parks and Recreation:

Overall goals and standards for managing and planning the County's park system are found in the general plan. Historically, the Cobb Mountain Area has been the center of a variety of recreation activities, including outdoor pursuits such as hot springs resorts, hunting and fishing. However, no county-owned park or recreation facilities have been developed in the area.

Cobb's outdoor and resort economy declined after the 1950's as improved roads and automobiles coupled with new recreation interests led to increased tourism elsewhere in the state. Many of the area resorts have suffered significant declines or are no longer operated as resorts. Two golf courses, at Adams Springs and Cobb, provide significant recreation for the area.

Public recreation opportunities are presently limited to the County's recent financing of refurbished sports fields located at Cobb Elementary School and limited camping and outdoor uses at Boggs Mountain Demonstration State Forest. Overall, there is a need to rejuvenate both the area's private resorts and develop more public park and recreation opportunities in the Cobb Mountain Area. There is also need for a site for youth-oriented recreation facilities in the area.

The general plan sets guidelines for developing neighborhood and community parks to correspond to community growth. The National Recreation and Park Association (NRPA) acreage standards for determining park and recreation facilities in specific areas are used for planning community-oriented parks as well as regional facilities.⁵ As a general rule, these standards provide that 2.5 acres of park site be developed for every 1000 people in the service area. According to these standards, the Cobb Mountain Area is in need of at least one neighborhood or wayside park and eventually a 5 to 20-acre community park to serve area growth.

Two potential park sites identified in the Cobb Mountain Area include Anderson's Meadow and Forest Lake. Both sites are located at opposite ends of Cobb Valley along Kelsey Creek, and are dominated by wet meadow and waterway features. Because of the sensitive nature of these water-oriented sites, plans for their recreational development should focus on use as passive facilities such as picnic sites, trails, and walkways, as well as improvements for outdoor activities such as fishing and wildlife observation. Costly recreational improvements should be avoided at these sites. The Anderson's Meadow site could be considered for either community or regional park status. The Forest Lake site would be classified as a potential community park site. Financing of land costs could be from a variety of sources, including state parkland grants.

The general plan also supports development of integrated bicycle/pedestrian trail systems that provide access to recreation facilities. As mentioned in Section 5.2, such trail system facilities would complement both circulation and recreation needs in Cobb Valley by linking Whispering Pines downstream to the Anderson's Meadow area and Cobb Valley to the Hobergs area via Cobb Elementary School.

G. Schools:

The Cobb Mountain Area is served by both the Kelseyville and Middletown Unified School Districts. The Kelseyville district serves an area including Adams Springs and Loch Lomond and north of approximately Sulphur Creek and Harrington Flat Roads. Cobb area students in the Kelseyville USD attend facilities located in Kelseyville. The Middletown district serves the remaining portions of the area including Hobergs, Cobb Valley and Whispering Pines. Grades K-6 attend Cobb Elementary School, while junior and senior grades attend schools located in Middletown. School district boundaries are shown in Figure 8 located at the end of this document.

The growth in school enrollment in the Kelseyville USD has approximated county-wide growth during the 1980's (nearly 5 percent annually), while growth rates in the Middletown USD have ranged considerably higher (5 - 12 percent annually). The Kelseyville district has been facing over-capacity problems for a number of years. About 25 percent of the KUSD's classrooms were temporary structures during the 1985-86 school year.

In the Middletown USD, geothermal impact revenues (AB 1905 funds) have played an important role in mitigating potentially serious classroom over-capacity. About 15 percent of district classrooms were temporary structures during 1985-86. The addition of Cobb Mountain Elementary School was a key component to accommodating new K-6 enrollment in the Middletown CSD. Cobb Mountain Elementary currently enrolls some 30 percent of the district's K-6 students, while about 60 percent of the district's 7-12th grade students reside in the Cobb Mountain planning area. As growth continues in the Cobb area, it is likely that new elementary school facilities will be needed as Cobb Mountain Elementary reaches capacity. State standards for new elementary schools require at least 10-acre sites.

H. Library:

Lake County provides and maintains four local libraries. The Middletown branch, which is the nearest public library, is open on a part-time basis. The Redbud, Lakeport and Upper Lake branches are other county libraries which serve residents on a county-wide basis. Bookmobile services are provided weekly in the Cobb Mountain Area. Overall, the county's library system is in need of additional floor space.

I. Street Lighting:

There are no formal street lighting districts found in the Cobb Mountain Area. Because of the rural atmosphere of the planning area, organized streetlight programs are not considered a vital public service to this area. Lighting to improve traffic safety at key intersections is provided at certain locations.

J. Hospital:

The Redbud Hospital District provides services to an extensive area in southeastern Lake County, including a large portion of the Cobb Mountain Planning Area. The District's hospital is located in the City of Clearlake. Lakeside Community Hospital (Lakeport), a private non-profit health care organization, provides services to the western portions of the county, including the western portions of the Cobb Mountain Area. Hospital district boundaries are shown in Figure 9 located at the end of this document.

Redbud Hospital is a 40-bed facility and provides the following services: acute care, emergency treatment, intensive care, physical therapy, respiratory therapy, X-ray, nuclear medicine, pharmacy, and laboratory. Additional services which may be added in the future include: outpatient clinic, cardiac rehabilitation unit and diabetic screening. Lakeside Community Hospital is a 63-bed facility which also provides all the services listed above.

K. Cemetery:

Portions of the planning area are served by four different cemetery districts, including the Glenbrook, Kelseyville, Lower Lake and Middletown districts, as shown in Figure 8 located at the end of this document. The Glenbrook Cemetery District is located entirely within the planning area and serves the Cobb Valley region. The Kelseyville district serves the area north and northeast of Cobb Valley. Both the Lower Lake and Middletown districts serve small portions on the planning area's eastern perimeter that respectively include the Seigler Springs and Big Canyon Creek areas.

The primary source of revenue for cemetery districts is from shared property taxes which can be supplemented by service fees. The Glenbrook district has ample facilities to serve its area for at least several decades. Although the Kelseyville district has ample land, it has had funding shortages in the recent past. It is anticipated that all cemetery districts will be able to provide adequate services over the long term by adjusting fee schedules to cover the cost of services.

5.4 Housing

State planning law requires counties and cities to update their housing elements every five years. A revised housing element was adopted by Lake County in 1987 which set overall housing goals, policies and programs for the next five-year period.

Based on the U.S. Census, it is estimated that approximately 1,650 people were full-time residents in the Cobb Mountain Planning Area in 1980. The area has had a historically high rate of second home development, typically used on a seasonal basis for recreation purposes. An estimated 35 percent of Cobb Mountain area dwellings were used as second homes during 1986. Second home use varied considerably within the planning area, ranging from approximately 10 percent in the Adams Springs-Hobergs area to nearly 60 percent in the Loch Lomond area.⁷

In 1980, there was an average of 2.7 residents per permanent household in the Cobb Mountain Area. Taking into account the area's large number of second homes, however, there were only 1.7 persons per dwelling unit.

Rapid growth in the area during the 1980's has led to the conversion of many second homes to primary residences. In recent years an overwhelming rate of existing residential housing sales have been for conversion to primary residential use.⁸ This trend is expected to continue as geothermal development expands in the area and new residents seek amenities connected to the area's mountain environment.

Land use and housing information shows that approximately 4,100 potential residential parcels existed in the Cobb Mountain Area in 1986, with approximately 1,675 dwelling units, including seasonally used cabins and resort dwellings. 77.3 percent of these units were standard single family units, 11.3 percent were mobile homes, and another 11.3 percent were cabins and other resort dwellings. The area has a very limited inventory of apartments and duplexes.

A number of site development and infrastructure constraints limit the likelihood of full buildout of all existing Cobb Mountain Area parcels. Generally, these constraints include steep slopes, substandard lot sizes, inadequate water systems, poor road access, and lack of fire protection. Assuming that 18 percent of the area's existing parcels will not be developed due to these constraints, then nearly 2,000 vacant parcels would be eventually available for residential construction based on 1986 information. These vacant parcels could represent more than a 100 percent increase in single-family housing if fully developed.

Housing prices vary significantly between different areas within the county. In 1980, the average cost of housing in the Cobb Mountain Area ranged from approximately \$45,000 to nearly \$80,000. Medium household income in the area ranged from 150 percent over the Lake County average in 1980. Senior citizens accounted for 21 percent of the Cobb Mountain area's population in 1980, and 7.7 percent of the area's seniors had income levels at or below the federal poverty level in 1980.

A survey of housing conditions was conducted by the Planning Department during 1986. The survey found that some 3.5 percent of the area's housing was in need of rehabilitation. The most dilapidated housing was found in the Loch Lomond and Whispering Pines areas.

5.5 Economic Development

Economic development efforts require an understanding of local advantages and disadvantages, as well as strong community support for selected programs. In the Cobb Mountain Area, economic development themes should recognize that historic development patterns must be merged with geothermal and residential growth, and at the same time aim at enhancing and preserving the outstanding environmental amenities found in the area.

Long-term economic development advantages include: 1) the attraction of the area's mountain and forest environment; 2) geothermal energy development; 3) the potential for restoration of local resort and recreational uses; 4) the utilization of low temperature geothermal heat for district heating, greenhouses and other direct uses; and 5) improved and expanded retail commercial centers and opportunities to serve the Cobb Valley and Loch Lomond communities.

Long-term disadvantages and constraints to economic development in the area include: 1) substandard water systems and/or substandard local roads in certain older subdivisions; 2) cumulative impacts on the area's viewsheds from geothermal or timber harvest practices; 3) the distance from major employment centers; 4) the lack of suitable sites for heavy commercial and industrial development; and 5) the potential need for sewers if cumulative impacts from septic systems lead to water quality problems. The common features of these disadvantages include their general occurrence in rural mountain economies and their diversion of much-needed capital resources from new economic development.

Economic Development Advantages:

An Attractive Mountain Environment:

The mountain and forested environment of the Cobb Mountain Area provides for many attractive residential settings. Many area residents are willing to commute substantial distances in order to enjoy these mountain amenities. It will be important to maintain the natural attractions of the area as new growth continues. Certain residential communities and neighborhoods in the area can be expected to continue providing strong real estate sales, which help spur discussion of how local amenities can best be provided and maintained.

Additional Geothermal Energy Development:

A range of 630 to 850 megawatts of geothermal power generation is anticipated in the Lake County Geysers during the next 20 year period.⁹ This equals approximately 4 to 6 new power plants, or 250 to 470 additional megawatts of power more than was provided in January, 1988. New power plants, well fields, and maintenance operations will bring both new employment and revenues to the south Lake County region. New residential and commercial development is expected to respond to increased geothermal energy production.

Restoration of Resorts and Recreation Development:

As discussed in Section 3.9, the Cobb Mountain Area has a rich history of resort development. With increasing demand for recreational opportunities from urban area populations, it is expected that over the long term, demand for resorts such as those found in the Cobb Mountain Area will again increase. A key component to revitalization of this resort industry will be the provision of other public recreation opportunities which are compatible with and support resort use in the area. The potential for developing water-related recreation opportunities is considered high in the area, as discussed in Section 5.3F.

Develop Direct Uses of Geothermal Energy:

A number of direct uses for the area's geothermal energy resources have been suggested. These include providing district heating for residential and commercial uses, commercial greenhouseing, and new or expanded warm spring resorts and spas. All of these uses have the potential to increase economic development of the area while limiting environmental impacts. For example, a district heating system could play a major role in reducing the need for firewood for space heating, thus improving local air quality. Agricultural greenhouseing has a potential to create high value-added food and nursery products. Utilization of geothermally produced warm water could be an important component to revitalizing the area's resort industry. While the economics of direct-use applications are not currently as favorable as conventional energy production, such economies are expected to increasingly favor direct-use of geothermal energy during the next 20 years.

Increased Diversity of Retail Businesses:

As the area's residential population grows, increased retail business development is expected to follow demand for readily accessible commercial ponds. Retail commercial development is also likely to be spurred by any significant revitalization of the resort industry. Inherent in the resort focus of economic development is a sensitivity towards developing commercial uses in an attractive manner for economic development. Tools such as commercial design guidelines should be promoted to enhance the overall development character of the planning area.

5.6 COMMUNITY DEVELOPMENT POLICIES

The following objectives and policies may be applicable county-wide and will guide land use, circulation, public services, housing, economic development, and planning programs in the Cobb Mountain area. These objectives and policies shall be utilized in concert with applicable policies found in Sections 3.10 and 4.7 of this plan, as well as those of the general plan.

Land Use

Objective

5.1: To promote orderly growth and development in the Cobb Mountain Area.

Policies

- 5.1a: Existing development patterns should be recognized to logically provide for future development in the area.
- 5.1b: The infilling of existing subdivisions should be a high priority for new residential development. New residential subdivisions should be located contiguous to existing development patterns if public services are available, and if adequate public facilities can accommodate that growth.
- 5.1c: Commercial development adjacent to the Loch Lomond vernal pool shall be proposed as a planned development with sufficient mitigations to adequately protect the vernal pool. Low intensity uses such as mini-storage units may be considered at this location.
- 5.1d: Retail commercial development should be focused in locations that foster and support the creation of community centers.
- 5.1e: Heavy commercial, light industrial, and geothermal service uses should be located at suitable sites which do not present the potential for creating incompatible uses, such as next to existing or planned residential and retail commercial uses.

Objective

5.2: To promote a balanced land use pattern and assure that ample land be designated to accommodate projected uses and growth rates for the next 20 years.

Policies

5.2a: Local and retail commercial uses should be located central to residential areas and accessed by efficient circulation systems.

- 5.2b: Sufficient retail commercial land shall be designated and zoned to serve the needs of local residents.
- 5.2c: Population projections for the Cobb Mountain Area should be reviewed and assessed every five to ten years.
- 5.2d: Building permit data should be maintained specific to the Cobb Mountain Area, as well as other planning areas.

Objective

- 5.3: To provide a mixed land use pattern within the Cobb Valley, Hobergs, Adam Springs and Loch Lomond communities that promotes orderly and efficient development.

Policies

- 5.3a: Land use planning decisions should encourage the efficient and cost-effective development of public services in the planning area.
- 5.3b: The density of new residential subdivisions shall take into account the impacts of full buildout on water supply, fire protection and maintaining adequate areawide water quality.
- 5.3c: Local commercial land uses shall be encouraged to conveniently serve residential areas.

Objective

- 5.4: To encourage land use patterns within the Cobb Mountain Area that promote the maintenance and preservation of the area's natural resources.

Policies

- 5.4a: Land designated for resource conservation purposes shall be provided special protections through such tools as zoning, public purchase, conservation or open space easements, or other applicable legal instruments.
- 5.4b: Proposals to amend the Cobb Mountain Area land use map that increase the total acreage of rural residential-designated land shall be evaluated by the following means:
 - 1. That adequate water with suitable quality will be provided for each proposed parcel.
 - 2. That soils are suitable for on-site disposal of septic wastes.

3. That suitable water storage for fire protection is readily available and fire hazard potential will be minimized.
4. That the proposal will not adversely affect agricultural or timber operations.
5. That the proposal will not impact any important or unique natural resource identified in this plan.
6. That the proposal is outside of the area proposed as a primary geothermal resource area.
7. That the supply of existing vacant rural residential lots is insufficient to accommodate projected growth in rural areas in the Cobb Mountain Area; or, the proposal provides a logical buffer between suburban densities and agricultural, timber or more remote land uses.

Objective

- 5.5: To promote geothermal development which minimizes environmental and land use conflicts and maximizes local benefits to the economy.

Policies

- 5.5a: High-temperature resource operations shall be encouraged in promising geothermal resource areas and discouraged in populated, natural and critical resource conservation areas as defined in applicable plans and ordinances.
- 5.5b: Residential, commercial, or resort encroachment shall be discouraged in the primary geothermal resource area by use of resource-related zoning districts such as rural lands, timber preserve or open space along with a B-Frozen combining district.
- 5.5c: Purchasers of property within or adjacent to high-temperature steam fields should be advised of likely geothermal operations in the area by regularly updated maps available at the Lake County Planning Department as well as by consumer disclosure requirements of the agent or seller of real property.
- 5.5d: Geothermal development located within the boundaries of the primary geothermal resource area shall be subject to the same level of environmental review, mitigation, and compliance monitoring as elsewhere in the planning area.

Circulation

Objective

- 5.6: To assure adequate public access for motor vehicles, bicycles and pedestrians for the orderly growth and development of the Cobb Mountain Area.

Policies

- 5.6a: Street and highway improvements and priorities shall be consistent with the Cobb Mountain Area Circulation Map as illustrated by Figure 16, located at the end of this document. The focus of county road projects should be on maintenance and safety improvements.
- 5.6b: The focus of state highway projects should be on maintenance, rehabilitation, and safety improvements within the planning area.
- 5.6c: Formation of road maintenance districts through county service areas, or equivalent special service entities, should be supported for the paving of private local roads in such areas as Bonanza Springs, Diamond Dust Trail, Pine Grove and Whispering Pines when adequate local support has been demonstrated. Such road improvements shall conform to county standards before being accepted into the county road maintenance system.
- 5.6d: Appropriate building setbacks shall be specified for State Route 175, Big Canyon Road, Bottle Rock Road, Gifford Springs Road, Golf Course Road, Harrington Flat Road, Sulphur Creek Road, Red Hills Road, Seigler Canyon Road and Loch Lomond Road.

Objective

- 5.7: To promote improved bicycle and pedestrian facilities in the Cobb Mountain Area. To provide adequate park and ride facilities and public transportation to serve rural residents of the area.

Policies

- 5.7a: Development of an interlinked pedestrian pathway system shall be a priority between Whispering Pines and the Pine Grove area in Cobb Valley and from Cobb Valley to Hobergs as generally shown in Figure 16.
- 5.7b: Bicycle and/or multipurpose trail facilities, as found feasible, shall be encouraged from Whispering Pines to Glenbrook in the Cobb Valley area and from Cobb Valley to the Hobergs area.
- 5.7c: Park and ride facilities should be encouraged at safe and compatible locations. The geothermal industry should develop and use park and ride facilities built to acceptable standards.

Objective

- 5.8: To require complete mitigation for inter-county regional transportation facilities, including high voltage electrical transmission lines and energy or water pipelines, which do not serve the local population and which provide little or no long-term benefit to the local affected area.

Policies

- 5.8a: Intercounty regional transmission or transportation facilities shall not adversely impact any area identified as a unique critical resource area as identified by Policy 3.7a.
- 5.8b: Intercounty regional transmission facilities shall not adversely impact any area identified as an approved park and recreation facility.
- 5.8c: Intercounty regional transmission and pipeline facilities which are determined by the County to provide little or no long-term benefit to the local affected area shall be required to provide off-setting mitigation that may include:
1. Off-site mitigation funds for local projects that help offset the loss of diminished scenic and/or recreational amenities in the area;
 2. Subventions to compensate for lost property tax revenue due to loss of property value during the life of the project;
 3. Payments for ongoing monitoring programs during the life of the project, and;
 4. Transportation-related mitigations to local communities and areas which are negatively affected by the project.

Public Services

Objective

- 5.9: To correlate new growth with adequate public service levels based on applicable health and safety standards for domestic water, wastewater disposal and management, drainage, and police and fire protection, as well as other public services.

Domestic Water:

Policies

- 5.9a: Priority shall be given to upgrading substandard domestic water systems to ensure adequate emergency fire flows and backup power sources.

- 5.9b: State and federal funding sources shall be actively pursued to help upgrade publicly managed community water systems in the area. County service areas or other similar public financing mechanisms shall be encouraged when engineering studies define upgrading of local water systems.
- 5.9c: The County shall take appropriate measures to protect area water rights in order to assure that long-term growth projections and water needs can be adequately met.
- 5.9d: New residential subdivisions shall provide adequate water for domestic and fire flow purposes and be encouraged to utilize existing nearby water systems.
- 5.9e: Both public and private water purveyors with substandard facilities shall be encouraged to prepare water system master plans which are coordinated with the Cobb Mountain Area Land Use Map. Such master plans shall also be encouraged to develop financing plans for upgrading substandard water systems.
- 5.9f: Geothermal activities shall not adversely affect any water supplies for residential, commercial, agricultural or other beneficial uses downstream.

On-Site Wastewater Management:

Objective

- 5.10: To develop standards and programs that can assure that water quality standards are maintained over the long term in a cost-effective manner.

Policies

- 5.10a: Water pollution investigations should be conducted in areas suspected of containing a significant number of failing on-site wastewater disposal systems which present a potential threat to local water quality.
- 5.10b: Periodic testing of water quality for waterways and selected private water wells located in the vicinity of subdivisions should be conducted where on-site septic system densities are greater than one dwelling unit per acre. Suggested water quality test parameters should include fecal coliform and nitrates. The purpose and intent of such water quality testing will be to provide a low cost early detection water pollution program, allowing ample time to consider alternatives to constructing more costly sewage treatment systems.
- 5.10c: The formation of on-site wastewater management zones pursuant to California Health and Safety Code Section 6950 may be considered when a potential or existing water quality health hazard is documented in areas where on-site septic densities exceed one per acre.

- 5.10d: Medium and high density residential uses should be approved only when adequate on-site wastewater disposal can be demonstrated, including for cumulative impacts. Proposals for medium and high density uses shall be encouraged to provide centralized wastewater treatment facilities such as community leach fields, recirculating sand filters, septic tank effluent (STEP) systems, small diameter gravity (SDG) sewers, variable grade sewer and vacuum sewer systems.
- 5.10e: Parcel splits of less than one acre which propose on-site wastewater disposal methods shall demonstrate to the satisfaction of the Health Department that cumulative and long-term water quality will be maintained in the area.
- 5.10f: The County should encourage the review of alternatives to standard on-site sewage disposal methods which demonstrate to the satisfaction of the Health Department that cumulative and long-term water quality will be maintained in the area.

Drainage and Erosion:

Policies

- 5.11a: Control of non-point pollution sources such as roadway oils and greases should be implemented as opportunities arise.
- 5.11b: Eroding and poorly maintained private roads which serve ten or more parcels should be encouraged to form private road maintenance agreements that assure improved road quality and reduced erosion.

Public Safety:

Policies

- 5.12a: Local fire protection districts should work with area water purveyors to increase fire safety and water supply for existing development.
- 5.12b: Reasonable standards to delineate "defensible space" for residential and commercial structures should be supported in areas defined as State Responsibility Areas by the California Department of Forestry and Fire Protection.
- 5.12c: Lake County should maintain sheriff patrol levels that correspond to population growth in the Cobb Mountain Area.
- 5.12d: Local shooting restriction zones should be considered when supported by the local community.

Schools:

Policy

5.13a: Support for the Middletown Unified School District in obtaining reasonable sites for future school facilities shall be provided as needed.

Parks and Recreation:

Objective

5.14: To provide adequate and diverse park and recreation opportunities that are compatible with private resort and commercial development in the area.

Policies

5.14a: Park and recreation facilities should be developed to serve local needs, as well as help attract tourism and resort uses of the Cobb Mountain Area.

5.14b: Efforts to maintain and expand the playfield and shared recreation facilities at Cobb Mountain Elementary School for community use during non-school hours will be supported.

5.14c: Park facilities shall be created that complement the protection of riparian and other important wildlife habitat while providing for the area's recreation needs.

5.14d: The County shall pursue long-term development of its public parks system in the Cobb Mountain Area. The following are recommended long-term park and recreation facilities, assuming funding is available:

1. A passive use community park site which focuses on day uses such as fishing, wildlife observation and other similar recreational uses;
2. Passive-use regional/community park sites in meadow areas with aquatic resources that provide wildlife habitat, riparian areas, and recreational benefits;
3. The development of a bicycle/pedestrian trail system in the vicinity of Cobb Valley between Whispering Pines and the Anderson Meadow area and from Cobb to Hobergs;
4. Bicycle facilities or multipurpose trails in Cobb Valley; and
5. The development of highway waysides and vehicle oriented picnic sites along portions of State Route 175 and/or Bottle Rock Road.

- 5.14e: Establishment of a land acquisition reserve fund to purchase areas with high park and recreation potential in areas now lacking in park facilities should be considered. The County should seek and accept parkland improvements or donations as they become available for areas requiring park facilities.
- 5.14f: Available state and federal park land, park facility and open space assistance grants should be sought. The County's land acquisition reserve should be utilized for providing local matching funds when required by assistance grants.
- 5.14g: Public fishing access in selected locations should be encouraged along Kelsey Creek upon acquisition of park sites. After park sites identified in this plan have been acquired for public use, additional efforts to seek comprehensive landowner agreements to allow public fishing access to portions of Kelsey Creek should be considered. This policy should be viewed as an effort to help promote tourism and assist the local resort industry.
- 5.14h: Support of private efforts to develop a site for youth-oriented recreation in the Cobb Valley Area should be provided.
- 5.14i: Efforts of the Department of Forestry and Fire Protection to improve recreational features, including camping facilities, in Boggs Mountain State Demonstration Forest should be supported.

Other Public Services:

Policies

- 5.15a: Continued bookmobile services should be encouraged and supported for the Cobb area.
- 5.15b: Lighting from new commercial development shall avoid creating adverse light or glare in residential areas and to road and highway users.

Housing

Objective

- 5.16: To establish a housing program that follows applicable policies and programs set in the most recently updated Housing Element.

Policies

- 5.16a: Housing rehabilitation programs should be considered for areas such as Whispering Pines and portions of Loch Lomond.

5.16b: Proposals for medium and high density development shall be encouraged if adequate wastewater disposal has been documented in locations close to services and compatible with neighborhood character.

Economic Development

Objective

5.17: To provide an increasingly diverse economic base while protecting the area's resources.

Policies

5.17a: The planning area's principal commercial development should be focused in the central portion of Cobb Valley, as shown on the land use map. The Cobb Valley commercial district should encourage basic retail, professional and financial services as well as restaurants and motels which enhance the local resort industry. Other smaller commercial centers should focus on providing local retail commercial services to outlying neighborhoods and communities.

5.17b: A design review combining district should be adopted in Cobb Valley's central commercial area. This design review district should be accompanied by a community design manual which promotes attractive architectural themes and development standards.

5.17c: Unified promotional efforts should be encouraged and supported for the Cobb area resort industry.

5.17d: Preparation of a comprehensive economic development strategy for the Cobb Mountain resort area should be encouraged.

5.17e: Direct use of low temperature geothermal resources should be encouraged when economically feasible. County participation in feasibility studies, project development and implementation, as appropriate, should be considered for projects which have a clearly demonstrated benefit.

5.17f: While tourists would not have access to active steamfields and power plants in the Geysers, improvements should be constructed to provide views of geothermal activity. Installation of directional and interpretive signs, vista points and a geothermal visitors center should be considered to attract tourism and added economic development benefits.

5.17g: Maintenance of viewshed and visual quality shall be considered an important feature in promoting economic development of the Cobb Mountain Area.

Part Three: AREA PLAN

6.0 LAND USE AND ZONING PLAN

The text and policies given above provide the basis for determining land use designations and zoning districts in the Cobb Mountain Area Plan. State law requires that the land use map must be consistent with the text and policies of both the Cobb Mountain Area Plan and the Lake County General Plan. The area plan's zoning districts must be consistent with the designations found on the land use plan map.

This section provides a detailed description of the land use and zoning plan for the Cobb Mountain Planning Area. This discussion also includes a separate focus on the planning area's existing communities found in the vicinity of Cobb Valley and Loch Lomond, and on remaining rural areas, including lands considered for primary geothermal resource uses.

General plan land use designations are shown for the entire planning area in Figure 10, along with special maps for the Cobb Valley and Loch Lomond areas in Figures 11 and 12, respectively. Corresponding zoning districts are shown in Figures 13, 14, and 15. The entire planning area consists of approximately 47,055 acres (73.5 square miles).

Based on the land use and zoning maps, full buildout of the Cobb Mountain Area could accommodate more than 8,000 people. This buildout capacity would easily accommodate the planning area's projected 4.3 percent average annual growth rate to the year 2006, which forecasts slightly more than 6,000 persons.

Note: Figures 10 through 20 are found at the end of this document.

6.1 Community Area Land Use and Zoning

Approximately three-quarters of Cobb Mountain Area lots are located within existing residential-recreational areas of Cobb Valley, Hobergs, Adam Springs, Loch Lomond, and the Salminas area. Together, these community areas, referred to as the Cobb Valley (Figures 11 & 14) and Loch Lomond (Figures 12 & 15) areas, account for approximately 3,218 acres of developed, vacant and open lands. Combined, they provide the Cobb Mountain Area with a central focus which should be recognized in the land use and zoning plans for the area. These communities are central to the area's historic resort and second home development pattern, which is giving way to a commuter-oriented and primary residential character.

Key considerations in designating land uses in the Cobb Valley-Loch Lomond areas are the following:

1. To adequately allocate various land uses needed to foster the community's long-term development.
2. To provide a pattern of land use that encourages the orderly and efficient provision of public services while protecting the public health and safety, particularly for long-term water quality maintenance.
3. To provide ample land for anticipated growth to the year 2006.

Accommodation of Future Growth:

Based on 1986 data, 48.5 percent of the existing lots in the Cobb Valley-Loch Lomond area were built out. Development on approximately 18 percent of this area's vacant parcels, however, is severely constrained due to inadequate water and road systems, fire hazards, substandard lot sizes, or steep topography. If these substandard parcels are deducted from the inventory of developable lots, then the 1986 residential buildout rate in the Cobb Valley-Loch Lomond area was about 59 percent. Based on this assessment, some 1000 developable residential lots were available in the area in 1986.

Based on Figures 11 and 12, buildout of the Cobb Valley-Loch Lomond area could provide approximately 2,500 dwelling units (1100 + 1393 lots x 2.4 = <6,000 persons). If these units were occupied by primary residents at full buildout, then nearly 6,000 people, or about two and a half times the current number of people residing in the same area, could be accommodated there.

Description of Land Use Patterns:

Figures 11 and 14 show land use and zoning for the 2150.4-acre Cobb Valley area, while Figures 12 and 15 show land use and zoning for the 1068.1-acre vicinity of Loch Lomond. Tables 9 and 10 show acreages for each land use designation and zoning district found in the Cobb Mountain Area.

Residential Uses:

Residentially designated lands amount to 1,178 acres in the Cobb Valley and Loch Lomond areas. Most residential land uses involve single-family units in existing subdivisions, with many lots ranging up to 1/2 acre in size. Single-family residential ("R1") zoning accounts for 426.5 acres, while suburban reserve ("SR") zoning accounts for 687 acres in the area. A significant portion of lands designated and zoned for suburban reserve uses contain parcels of less than one acre. The suburban reserve category has been used to allow limited raising of farm animals, and also to set larger lot sizes which help in promoting long-term water quality maintenance. As mentioned, the buildout rate of existing developable residential lots was estimated to be 59 percent in 1986.

TABLE 9

Land Use Designation Acreages

Cobb Mountain Area Plan

<u>Land Use Designation</u>	<u>Acres</u>
Suburban Residential (SR)	455.5
Suburban Reserve (SRe)	937.7
Rural Residential (RR)	2,800.5
Rural Lands (RL)	26,454.7
Local Commercial (CL)	9.8
Community Commercial (CC)	61.5
Resorts (CR)	306.8
Industrial/Heavy Commercial (I)	9.0
Resource Conservation (RC)	7,845.0
Agriculture (A)	3,010.0
Public Lands (PL)	5,139.0
Public Facilities (PF)	25.3
	<hr/>
Total Acreage	47,054.8
	(73.5 square miles)

TABLE 10

Zoning District Acreage

Cobb Mountain Area Plan

<u>Zoning District</u>	<u>Acres</u>
Agricultural Preserve ("APZ")	
"APZ-B3" (80)	80
"APZ-B3" (120)	841
"APZ-B3" (640)	650
Agriculture ("A")	2,169
Timberland Preserve ("TPZ")	500.6
"TPZ-B3" (80)	529
"TPZ-B3" (320)	2,694
"TPZ-B3" (640)	3,673
Rural Lands ("RL")4,777	
"RL-B3" (40)	6,362
"RL-B3" (80)	5,043
"RL-B3" (160)	1,909
"RL-B3" (320)	3,980
"RL-BF"	3,408
Rural Residential ("RR")	2,624.1
"RR-BF"	242.4
Suburban Reserve ("SR")	816.6
"SR-RD"	64.5
"SR-SOS"	20.1
Single Family Residential ("R1")	385.6
"R1-SOS"	40.9
Planned Development Residential ("PDR")	7.8
"PDR-BF"	948
Planned Development Commercial ("PDC")173.1	
Highway Commercial ("CH")	
"CH-DR"	3.1
Resort Commercial ("CR")	189.9
Local Commercial ("C1")	9.8
Community Commercial ("C2")	13.4
"C2-DR"	23.4
Open Space ("O")	788.5
"O-B3" (160)	400
"O-B3" (320)	<u>3,688</u>
Total Acreage	47,054.8
	(73.5 square miles)

All future residential development on undeveloped lands is designated for one-acre minimum lot sizes totaling approximately 140 acres. Some 64 acres are zoned for suburban reserve, with a residential design combining district ("SR-RD"); these include an approved but undeveloped subdivision in the northwest portion of the Hobergs subdivision. Approximately 51 acres located south of Gifford Springs Road and east of Whispering Pines have been zoned for rural residential ("RR") uses in anticipation of the need for future suburban reserve residential development in the area. Another 7.8 vacant acres located adjacent to the Forest Lake area is zoned for planned development ("PDR").

The land use maps do not encourage medium or high-density uses in the Cobb Mountain Area because of the increased potential for these densities to adversely impact long-term water quality. If medium or high-density uses are to be considered, then it will be important to develop sewage collection and treatment systems that serve these land uses.

Significant acreages of rural residential and rural lands uses are also found in and around the residential subdivisions that characterize the Cobb Valley-Loch Lomond areas. These low-intensity land uses act as visual separators and buffers between residential areas, and often include areas characterized by steep slopes, waterways, riparian corridors, or wetlands.

Commercial Uses:

The central portion of Cobb Valley includes the planning area's principal retail commercial district, while smaller local commercial centers are found at Hobergs and Loch Lomond. Local commercial sites are located at Whispering Pines, Adams Springs and near Salminas. A number of resorts are scattered throughout the area.

Community commercial land uses account for 61.4 acres in the Cobb Valley and Loch Lomond areas, while local commercial uses are found on 9.8 acres. Commercial uses in central Cobb Valley include 23.4 acres of community commercial ("C2") zoning, 23.6 acres of planned development ("PDC") zoning, and 3.1 acres of highway commercial ("CH") zoning, located along State Route 175 from just north of the Bottle Rock Road intersection south to the Forest Lake area. Approximately 50 percent of this acreage is vacant or underutilized for commercial purposes. Based on a 35 percent building coverage rate at full buildout, approximately 760,000 square feet of commercial floor space could be ultimately developed on the 50.1 acres of commercial land uses in central Cobb Valley. This square footage would more than meet commercial floor space standards by providing an average of slightly greater than 125 square feet of commercial floor space per Cobb Mountain Area resident at full buildout in the year 2006. The ratio of commercial floor space to population is typically calculated at 85 to 90 square feet per resident.

Community commercial land uses account for 14 acres in Loch Lomond, and could ultimately provide an estimated additional 210,000 square feet of retail commercial floor space. Community commercial ("C2") zoning accounts for 11.9 acres, while planned development ("PDC") zoning accounts for 2.1 acres. A general plan of development for these 2.1 acres of "PDC" should reflect the alpine and resort character found in Loch Lomond, while providing adequate open space, compatible landscaping, and street and drainage improvements.

Local commercial land uses ("C1" zoning) include 6.6 acres located along State Route 175 near Summit Blvd. in the Hobergs area, several parcels near Whispering Pines resort, and single parcels located at Adam Springs and at the northern end of Salminas Basin. The 6.6 acres near Hobergs are intended to ultimately provide local convenience services to residential areas in the vicinity.

109.8 acres of land are designated for resorts in the Cobb Valley-Loch Lomond areas. Over 80 percent of these acres represent areas in which there are recent or existing resort activities. For the most part, active resorts are placed in the resort commercial (CR) zoning district, while former resorts which have been converted to retreats or educational facilities are zoned planned development commercial ("PDC"). General plans of development for converted resorts (such as at Hobergs and Seigler Springs) should ensure that the early Twentieth Century resort-styled architecture is maintained and that any proposed facilities expansion is compatible with the local area.

Planned development commercial ("PDC") zoning is also applied to lands with sensitive environmental resources adjacent to previously approved planned commercial development. Such zoning is applied to open space lands at Forest Lake and on wet meadow lands located west of the Meadow Springs shopping center.

Industrial Uses:

No suitable sites for service commercial or industrial land uses were identified in the Cobb Valley-Loch Lomond areas. Siting criteria for these activities include locating away from central business areas, residential areas, schools and sensitive resource areas such as waterways, wetlands, and steep slopes, which act to constrain service commercial and industrial uses in the area. It should be noted, however, that the area's major industry, geothermal development, does not require commercial or industrial zoning.

Natural Resource Protection and Uses:

Important waterways, environmentally sensitive wetlands, and timber preserve lands are designated for resource conservation land uses and include portions of Kelsey Creek, Jones Creek, Forest Lake, upper Big Canyon Creek, Loch Lomond vernal pool, and the wetlands of Salminas Basin. The zoning of such lands varies depending on adjacent land use designations, conditions related to previous development projects, or status as public lands or timber preserves. Resource protection combining districts for such lands are discussed below. In addition, the plan promotes public park sites where sensitive environmental resources also could provide a recreation value, such as at Anderson's Meadow and Forest Lake. The development of waysides along selected highway corridors is also considered a multiple-use management technique that could provide both recreation and a degree of resource protection.

Protection of Natural Resources and Orderly Provision of Services:

The protection of natural resources and the orderly provision of public services are closely

related in the Cobb Valley-Loch Lomond areas. The Cobb Mountain Area's long-term health, safety, welfare, and quality of life is directly related to the provision and maintenance of adequate domestic water, on-site wastewater management, local road maintenance, erosion control, wildland and structural fire protection, law enforcement, schools, and other public services such as parkland development. The management of on-site wastewater systems and the provision of domestic water, together constitute the most important long-term public service issue facing the Cobb Valley-Loch Lomond areas.

6.2 Rural Area Land Use and Zoning

Rural Land Use Designation:

The land use plan for rural portions located outside the Cobb Valley-Loch Lomond areas includes about 43,836 acres of which 99 percent are designated for low-intensity rural uses (see Figure 10). Some 25,342 acres are designated for rural lands, 7,723 acres for resource conservation, 5,139 acres for public lands, 3,010 acres for agriculture, and 2,188 acres for rural residential uses.

Remaining land use designations for the planning area's rural portion include some 215 acres for suburban reserve uses and 197 acres for resort uses, while 13 acres are devoted to public facilities (CDF Kelseyville-Cobb Fire Station), and 9 acres are designated for industrial/heavy commercial uses (Bottle Rock Road site near Cole Creek).

Zoning in Primary Geothermal Resource Areas:

About 46 percent of the acreage designated for rural lands and nearly all designated public lands in the Cobb Mountain Area are within the Geothermal Resource and Transmission Element's (GRTE) primary geothermal resource area (PGR) (see Figure 17). The PGR is where geothermal development is already taking place, and where residential and commercial development should be discouraged because of incompatibilities with high-temperature geothermal activities. The remainder of the planning area is considered to be in a secondary geothermal resource area where new projects are to be evaluated on a case-by-case basis.

As described below, potential land use conflicts between geothermal and other uses are minimized by use of special lot size requirements within the PGRA. The creation of new parcels is discouraged by the zoning patterns found within the PGRA, and potential residential buildout is limited to existing parcel patterns.

Rural Zoning Districts:

Rural lands ("RL") zoning is applied to about 24,160 acres outside the Cobb Valley-Loch Lomond areas. Zoning for "RL" in the primary geothermal resource area (see discussion above) involves limiting future parcel splits through use of the B-Frozen combining district. For example, lots located in primary geothermal areas are frozen to existing sizes for nearly 10,000 acres (see Figure 13).

Remaining "RL" zoning involves minimum lot sizes ranging from 20 to 70 acres, or 5 acres with the "B5" combining district (in which the overall density of the base "RL" district must be maintained).

Timber preserve ("TPZ") zoning is applied to approximately 7,365 acres in the Cobb Mountain Area. Much of this acreage is designated for resource conservation uses. Acreage minimums range from 40 acres up to 640 acres, depending on the size of individual holdings under timber preserve contracts. Boggs Mountain State Demonstration Forest and Louisiana Pacific Corporation are the largest holders of timber preserve lands in the planning area.

Open Space ("O") zoning is applied to federal and state lands, including those of the Bureau of Land Management and the State of California. Such zoning has also been applied to lands owned by the Nature Conservancy at Boggs Lake and the Adams Springs golf course. Some 4,875 acres are zoned for open space in the planning area, with increased acreage minimums found in primary geothermal or extreme fire hazard areas.

Agriculture ("A") and agricultural preserve ("APZ") zoning is applied to 2,170 acres and 1,570 acres respectively. All agriculturally-zoned lands are found in the Red Hills district, and involve lands which contain substantial amounts of Class III or IV soils and are devoted to orchard, wine grape, or hay and pasture production. Most lands under agricultural preserve contracts are also located in the Red Hills District and are zoned "APZ". Special lot sizes are applied to "APZ" districts based on the size of existing contracts.

Rural residential ("RR") zoning is applied to some 2,582 acres in the Cobb Mountain Area, including the Cobb Valley-Loch Lomond areas. Most "RR" zoning is applied where existing lot sizes are less than 20 acres. Approximately 200 acres of "RR" zoning located in the primary geothermal area is frozen from further parcelization. The "B5" combining district, with 2.5 acre minimums (while maintaining the overall density of the base "RR" district) is applied to many lots outside of the primary geothermal area.

Suburban reserve ("SR") zoning is applied to 215 acres where existing lot sizes range from less than an acre to slightly greater than one acre. The largest area of "SR" zoning outside of the Cobb Valley-Loch Lomond area is found along Loch Lomond Road.

Planned development residential ("PDR") zoning is applied to 948 acres of territory known as the Binkley Ranch, located within the primary geothermal area. This acreage is also frozen from further parcelization. Planned development commercial ("PDC") zoning is applied to approximately 80 acres, including converted resort facilities at Seigler Springs. Resort commercial ("CR") zoning is applied to slightly over 110 acres.

Rural Growth Accommodation:

Based on 1986 data, 22 percent of the Cobb Mountain Area's rural lots are developed with residences. Less than 12 percent of the same area's lots are located within the PGRA. If existing parcels located within the PGRA were deducted from the 1986 inventory of existing parcels, then approximately 25 percent of the area's rural parcels contained residential development, while approximately 780 parcels were undeveloped.

Based on the zoning plan, some 850 undeveloped parcels could be available for residential development in the planning area's rural portions. At full buildout, up to 2,660 persons could be accommodated in these rural portions.

Growth Constraints:

Most of the rural areas of Cobb Mountain contain at least one critical growth constraint. Constraints to rural area growth may be related to water supply, water quality, seasonally high water tables, extreme or high wildland fire hazards, excessive slopes, distance from public services, federal or state ownership, and proximity to primary geothermal resource activities. These constraints often greatly restrict, and in a few cases may prohibit, development.

6.3 Overlay or Combining Districts

The Lake County Zoning Ordinance allows specialized zoning districts to be superimposed on base zoning districts. These overlay zones, which are called combining zoning districts, act to protect specific resources or prevent conflicts with potential safety hazards. The following is a brief discussion of additional combining districts found in the Cobb Mountain Area Plan:

Substandard Older Subdivision ("SOS") Combining District:

The purpose of this combining district is to help ensure that continued development of substandard older "paper subdivisions" will not result in increased health and safety hazards to persons and property from fire, traffic and access problems, landslides, and

other earth movements. The "SOS" district is applied to 61 acres of subdivided land, including all of the Sunset View subdivision (approved in 1942), and portions of the Camp Calso (approved in 1926) and Whispering Pines No. 1 (approved in 1925) subdivisions.

Wetlands ("W") Combining District:

This combining district is intended to preserve and protect environmentally sensitive wetlands which are valued for their plant and animal habitat and natural appearance and character. Areas under this district include Anderson Meadow, Boggs Lake, Loch Lomond and Loch Lomond Road vernal pools, and portions of Salminas basin. They are shown in Figure 19.

Special Lot Size ("B") Combining District:

This combining district provides for specified minimum lot sizes, promotes open space, and protects sensitive resources by clustering residential development. All uses of land in this combining district must also conform with the regulations of the base zoning district. This district is utilized extensively in the area plan's primary geothermal resource area and rural areas prone to extreme fire hazard, steep slopes and/or limited access for fire and other emergency responses.

Mobilehome ("MH") Combining District:

The purpose of this combining district is to provide for mobile homes and other single family dwellings not meeting residential construction standards of other residential zoning districts. The "MH" combining district is applied to the Branding Iron Acres subdivision in the Wildcat Road area.

Residential Design ("RD") District:

This combining district is intended to ensure that the external appearance of residential uses will be compatible and harmonious with surrounding residential properties. This district establishes "residential design construction standards" and a "courtesy review" of proposed residential units by local architectural review committees. The "RD" combining district is applied to approximately 52 acres in the Pine Summit-Hobergs area.

Scenic ("SC") Combining District:

The purpose of this combining district is to protect and enhance views of scenic areas from the County's scenic highways and roadways for the benefit of local residential and resort development, the motoring public, and the recreation based economy of the County. Nine routes are subject to this combining district, as discussed in Section 3.8 and shown in Figure 20. This district is not applied to commercial or industrial zoning.

Floodway ("FW") Combining District:

This combining district regulates land uses for properties situated in floodways and along creeks and streams to ensure an adequate open corridor to safeguard against the effects of bank erosion, channel shifts, increased runoff, or other threats to life and property. This district is also intended to protect the general welfare of the people and property in the event of a one hundred-year flood. Portions of Kelsey Creek between Forest Lake downstream to near Glenbrook are included in this combining district, and are shown in Figure 20.

Floodway Fringe ("FF") Combining District:

This combining district provides land use regulations for properties and their improvements situated in the active flood channel to ensure protection from hazards and damage which may result from flood waters. Portions of Kelsey Creek between Forest Lake downstream to near Glenbrook are included in this combining district, as shown in Figure 20.

Waterway ("WW") Combining District:

The purpose of this combining district is to preserve, protect, and restore significant riparian systems, streams and woodland habitats, protect water quality, control erosion, sedimentation, and runoff, and protect the public health and safety by minimizing dangers due to floods and earth slides. Significant portions or all of the following waterways are included in the "WW" combining district: Alder Creek, Big Canyon Creek, Boggs Lake, Callayomi Creek, Cole Creek, Jones Creek, Kelsey Creek, Lee Creek, Little High Valley Creek, McIntyre Creek, Sweetwater Creek and various tributaries of Big Canyon Creek, as shown in Figure 19.

Historic Preservation Site ("HPS") Combining District:

This combining district provides special conditions for the protection, enhancement, perpetuation, or use of places, sites, buildings, structures, and other objects having special character or special historical value, and protects cultural and archaeological sites with potential for listing on the National Register of Historic Place and/or designation as State Historic Landmarks. The "HPS" combining district includes the Little Red School House and the Hobergs Resort.

Design Review ("DR") Combining District:

The purpose of this combining district is to ensure aesthetic compatibility between community commercial uses and to promote community character through use of community design guidelines. The zoning designation should be accompanied by adoption of community design guidelines which provide criteria for review of development projects within the combining district. The "DR" combining district is combined with all commercially-zoned land within the planning area.

7.0 IMPLEMENTATION

Chapter VI of the Lake County General Plan describes various ways in which the General Plan and the Cobb Mountain Area Plan are to be implemented. While general plans do not directly regulate land use and development practices, by law these plans must be implemented by other actions and measures. Chapter VI describes various regulatory actions and programs to be undertaken to implement the General Plan and its components, including:

- o Zoning and Subdivision Consistency (Page VI-1)
- o Zoning Activities (Page VI-2)
- o Implementation Policy for Specific Areas (Page VI-7)
- o Subdivision Requirements (Page VI-9)
- o Land Capacity/Capability Implementation Policy (Page VI-11)
- o Building Codes (Page VI-17)
- o Specific Plans (Page VI-17)

Chapter VI also describes how procedures such as the California Environmental Quality act implement the General Plan. Other planning implementation tools include general plan consistency findings for public works projects and review procedures for cultural heritage resources. The County's open space action plan is described beginning on Page VI-26. Chapter VI also describes discretionary and special-purpose financing programs that are utilized by the County while implementing the General Plan.

Implementation of the Cobb Mountain Area Plan should follow the programs described in Chapter VI of the General Plan. Because of the more specific nature of an area plan, however, supplemental implementation measures which are not contained in existing County regulations must be developed. Many of the Cobb Mountain Area Plan policies are implemented by the Lake County General Plan actions and programs listed above, and are consequently not included in the following programs.

To implement the Cobb Mountain Area Plan, the following programs are proposed or encouraged. Each program is identified by number along with the responsible agencies, funding considerations, and proposed priorities and time frames. It should be noted, however, that implementation will ultimately depend upon available funds and personnel. Assuming funding is available, it is the County's goal to implement the recommended programs in accordance with the following schedule:

Continuous	--	Ongoing throughout the duration of the plan
Immediate	--	Within one year
Short Term	--	One to three years
Medium	--	Three to five years
Long Term	--	Five to ten years

COBB MOUNTAIN AREA PLAN

IMPLEMENTATION CHART

<u>PROGRAM</u>	<u>RESPONSIBLE AGENCIES</u>	<u>POLICY REFERENCE</u>	<u>COUNTY BUDGETARY IMPACT</u>	<u>POTENTIAL FUNDING SOURCE</u>	<u>PRIORITY/TIMEFRAME</u>
Erosion control for critical erosion areas	Eastlake or Westlake Resource Conservation District, as applicable	Policy 3.2d	No impact on county funding	U.S. Soil Conservation Service and Department of Agriculture	H/5
Boggs Lake protection	Planning Dept., Dept. of Public Works, Resource Conservation District, Dept. of Fish & Game	Policies 3.2e, 3.4a, 3.7f	No impact on county funding	None needed	H/5
Water Resources: study geothermal water needs	Planning Dept., California Energy Commission (CEC)	Policy 3.3c	No impact on county funding	Geothermal industry, CEC grants	M/2
Vegetation/wildlife: protection of rare and endangered species	Dept. of Fish & Game, U.S. Fish & Wildlife Service providing information to Planning Dept.	Policy 3.4b	Ongoing responsibility/no increase in county funding	Mitigation funding sources for Dept. of Fish & Game, private non-profit organizations	H/5
Vegetation/wildlife: surveys of rare and endangered plants	Dept. of Fish & Game	Policy 3.4c	No impact on county funding	Developer contributions, Dept. of Fish & Game	M-H/5
Vegetation/Wildlife: support for local restoration projects	Dept. of Fish & Game, Planning Dept. as advisors only	Policies 3.4d, 3.7e	No impact on county funding	Private sources, in-kind labor, non-profit organizations	M/5

PRIORITY SYMBOLS:

H = High Priority

M = Moderate Priority 2 = Short-term

L = Low Priority

TIMEFRAME SYMBOLS:

1 = Immediate

3 = Medium

4 = Long-term

5 = Continuous

COBB MOUNTAIN AREA PLAN

IMPLEMENTATION CHART

<u>PROGRAM</u>	<u>RESPONSIBLE AGENCIES</u>	<u>POLICY REFERENCE</u>	<u>COUNTY BUDGETARY IMPACT</u>	<u>POTENTIAL FUNDING SOURCE</u>	<u>PRIORITY/ TIMEFRAME</u>
Vegetation/wildlife: Biological resource studies in Geysers	Dept. of Fish & Game	Policy 3.4f	No impact on county funding	Geothermal industry CEC grants	H/5
Agriculture: federal erosion control programs for agriculture	Applicable Resource Conservation District	Policy 3.5b	No impact on county funding	U.S. Dept. of Agriculture, Soil Conservation Service	M-H/5
Critical resources: state/federal purchase of critical areas	Wildlife Conservation Board, Dept. of Fish & Game	Policy 3.7c	No impact on county funding	Wildlife Conservation Board, state park funds, private non-profit organizations	L-M-/5
Critical Resources: voluntary conservation easements	Parks & Recreation Dept., non-profit organizations	Policy 3.7d	Limited impact may occur on county funding	None needed	L-M/5
Cultural Resources: provide archaeological assessments for new development, as necessary	Northwest Information Center (CSU Sonoma State)	Policy 3.9a	No impact on county funding	Applicable project permit fees	M-H/5
Fire Hazards: fire standards in high/very high hazard areas	Building & Planning Dept. in cooperations with CDF and local FPD's	Policy 4.1b	No impact on county funding	None needed	M-H/2

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COBB MOUNTAIN AREA PLAN

IMPLEMENTATION CHART

<u>PROGRAM</u>	<u>RESPONSIBLE AGENCIES</u>	<u>POLICY REFERENCE</u>	<u>COUNTY BUDGETARY IMPACT</u>	<u>POTENTIAL FUNDING SOURCE</u>	<u>PRIORITY/ TIMEFRAME</u>
Geological Hazards: slide hazard mapping	Dept. of Public Works	Policy 4.3b	Will require county funds for study	General fund, AB 1905 funds, state funding	M-H/1
Water Quality: periodic pollution studies in areas of high septic density	Health Dept., Special Districts Office, Regional Water Quality Control Board	Policies 4.5a, 5.3b	Will require county funds for studies	General fund, AB 1905 funds, State Water Resources Control Board grants	M/5
Water Quality: monitor septic system failures	Health Dept.	Policy 4.5b	May require slight increase of staff time/priorities	General fund, AB 1905 funds	H/5
Water Quality: encourage private water quality tests	Health Dept.	Policy 4.5c	No impact on county funding	None needed	H/5
Water Quality: surface monitoring in Geysers area	Planning & Health Dept., Regional Water Quality Control Board	Policy 4.5f	No impact on county funding	Geothermal industry, CEC grants	H/5
Land Use: 5-10 year growth assessments	Planning Dept.	Policy 5.2c	No impact on county funding	None needed	M/4

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COBB MOUNTAIN AREA PLAN

IMPLEMENTATION CHART

<u>PROGRAM</u>	<u>RESPONSIBLE AGENCIES</u>	<u>POLICY REFERENCE</u>	<u>COUNTY BUDGETARY IMPACT</u>	<u>POTENTIAL FUNDING SOURCE</u>	<u>PRIORITY/ TIMEFRAME</u>
Land Use: building permit data base	Building Department	Policy 5.2d	Slightly increased costs for computer equipment and data entry	General fund, building fees	M/2
Circulation: amend setback line exception	Planning Department	Policy 5.6d	No impact on county funding	None needed	M/2
Circulation: develop pedestrian facilities	Dept. of Public Works	Policy 5.7a	Will require county funding	SB 325 local transportation funds, AB 1905 funds	M/3-4
Circulation: mitigation of high voltage transmission lines	Planning Department	Objective 5.8, Policies 5.8a-5.8c	No impact on county funding	Developer mitigation	M-H/5
Public Services: upgrading of substandard water systems	Health Dept., Special Districts, community water purveyors	Policies 5.9a, 5.9b, 5.9e	Potential impacts to cover costs of special studies	AB 1905 funds, state water systems grants, district funds	H/5
Public Services: water pollution and monitoring studies	Health Dept., Special Districts, community water purveyors	Policies 5.10a, 5.10b	Will require county funds for study	General fund, AB 1905 funds	M-H/5

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COBB MOUNTAIN AREA PLAN

IMPLEMENTATION CHART

<u>PROGRAM</u>	<u>RESPONSIBLE AGENCIES</u>	<u>POLICY REFERENCE</u>	<u>COUNTY BUDGETARY IMPACT</u>	<u>POTENTIAL FUNDING SOURCE</u>	<u>PRIORITY/ TIMEFRAME</u>
Public Services: wastewater management zones	Health Dept., LAFCO	Policy 5.10c	Most costs to be recovered by service fees	Service fees	L-H/3-4
Public Services: alternative wastewater systems	Health Dept.	Policies 5.10f	No impact on county funding	None needed	L-M/4
Public Services: private road maintenance agreements	Dept. of Public Works, local fire protection districts	Policy 5.11b	No impact on county funding	Funding needs through private agreements	M-H/2
Public Services: park facilities	Parks Dept.	Policy 5.14d	Will require county funds for acquisition and maintenance	General fund, AB 1905 funds, state park grants	M-H/5
Public Services: park facilities land acquisition fund	Parks Dept., Board of Supervisors	Policy 5.14e	County matching funds for state grants	Various state park grants and funds, Quimby Act funds, other fees and exactions	M-H/5
Public Services: support efforts for youth center	Board of Supervisors, interested private parties	Policy 5.14h	None to slight if county should provide funding commitment	General fund, AB 1905 funds	M/3-4

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COBB MOUNTAIN AREA PLAN

IMPLEMENTATION CHART

<u>PROGRAM</u>	<u>RESPONSIBLE AGENCIES</u>	<u>POLICY REFERENCE</u>	<u>COUNTY BUDGETARY IMPACT</u>	<u>POTENTIAL FUNDING SOURCE</u>	<u>PRIORITY/ TIMEFRAME</u>
Housing: housing rehabilitation program in Cobb area	Board of Supervisors, Planning Dept.	Policy 5.16a	Slight costs to county for administration of program	Community Development Block grants	L/3
Economic Development: comprehensive economic development strategy	Economic Development Corporation, local interest groups	Policy 5.17d	Limited staff time to prepare study	Community Development Block grants, general fund, AB 1905 funds	M/3
Economic Development: geothermal-related tourism	Board of Supervisors, Planning Dept., Economic Development Corp., Geothermal Industry	Policy 5.17f	Only if AB 1905 funds are utilized	AB 1905 funds, CEC grants, industry contributions	M-H/3-4

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APPENDIX A

FOOTNOTES AND REFERENCES

1.0 GENERAL BACKGROUND

Footnotes

1. Lake County General Plan, November, 1981, Page VI-39.
2. Government Code Section 65300.5.

2.0 ISSUES, ASSUMPTIONS, AND PROJECTIONS

Footnotes

1. Lake County General Plan, Page IV-7.
2. Assessment of Population Forecast Methodology for the Cobb Mountain Planning Area, Lake County Planning Department, February, 1987, Page 1.
3. Draft Geothermal Resource and Transmission Element, Pages 1-5.
4. Report 83 P-3, Population Projections for California Counties 1980-2020 with Age/Sex Detail, Department of Finance, August, 1984.
5. Assessment of Population Forecast Methodology for the Cobb Mountain Planning Area, Page 1.

3.0 NATURAL RESOURCES

Footnotes

1. Draft EIR on Unit 21 Steamfield Development Area, Lake County Planning Department, May, 1984, Page 28.
2. The U.S. Soil Conservation Service has developed a classification system which groups soils into eight classes based on the agricultural potential. The eight classes are designated by Roman numeral I through VIII. Class I through soils are considered to have valuable agricultural potential by the Lake County General Plan.

3. Draft EIR on Unit 21 Steamfield Development Area, Page 121.
4. Appropriative water rights are rights acquired by diverting and beneficially using water in compliance with the California Water Code. Since 1914, appropriative water rights in California can only be established by obtaining a permit or license to appropriate water from the State Water Resources Control Board. Once acquired, an appropriative right can be maintained only by continuous beneficial use of the water.

Riparian water rights entitle owners of land within the watershed of a natural watercourse which are either traversed or bordered by the watercourse to share in the beneficial use of the natural flow. In order to divert water under the claim of riparian right, the diverter must use the water on riparian land. No permit is required for such use. The riparian right is neither created by use nor lost by nonuse.
5. Lake County General Plan, Page V-5.
6. Ibid., Page V-8.
7. Estimated by the Lake County Agricultural Commissioner, August, 1987.
8. Conversation with Agricultural Commissioner, August 9, 1987.
9. Ibid.
10. Geology of Lower Lake Quadrangle, Bulletin 166, California Division of Mines, 1953.
11. Creek Management Plan, Lake County Planning Department, 1981.
12. Wetlands are low-lying, waterlogged or shallow water lands (e.g., bogs, marshes, swamps) which usually have a permanently high water table just above or just below the ground. They are an important part of the hydrological cycle, and perform a water quality function by collecting silt, organic, and other materials from stormwater runoff. They may reduce flood peaks by serving as storage areas for floodwaters and may also serve as recharge areas for groundwater.
13. Riparian systems perform several important ecological processes. Besides providing excellent wildlife habitat, they act to physically filter water. Riparian vegetation can withstand high velocities of water and remain intact. As a result, riparian areas literally “comb” out sediments and debris. This water purification process also helps to build banks with the effect of narrowing and deepening channels which formerly were wide and shallow. Riparian areas also buffer and stabilize banks from water erosion. Vegetative grasses, sedges and rushes lay down under high flows, literally forming a blanket over the banks.
Another important function of riparian zones is water storage and groundwater aquifer recharge. Recent research findings suggest that riparian systems can actually reverse the aquifer drainage and lowering of water tables caused by channelization and erosion. Because riparian systems slow the flow of water, they allow the water to spread and soak

into the banks, raising water tables.

Current research is also showing that the repair of degraded riparian zones has beneficial effects on upland vegetation growth. The relationship between increased water tables and upland vegetation is just now beginning to be fully understood.

14. Draft EIR on Unit 21 Steamfield Development Area, Pages 305-306.
15. Handbook of North American Indians, Volume 8- California, Smithsonian Institution, 1978.
16. Draft EIR on Unit 21 Steamfield Development Area, Page 305.
17. An Ethnographic and Historical Cultural Resource Study of the Aminoil, Little Geysers, Ford Flat, Cobb Mountain Geothermal Leasehold, Sonoma and Lake County, Department of Anthropology, Sonoma State University, October, 1978, Page 224.
18. Ibid., Page 222.
19. Ibid., Page 224.

References

Moratto, Michael L., California Archaeology, 1984.

Smithsonian Institution, Handbook of North American Indians, Volume 8- California, 1978.

4.0 PUBLIC SAFETY

Footnotes

1. The Lake County General Plan incorporates the California Department of Forestry's fire hazard severity classification system by including it on the Wildfire Hazard Map.
2. Fire Safe Guides for Residential Development in California, California Department of Forestry, May, 1980.
3. Lake County General Plan, Pages V-41 and V-42.
4. Geology of Lower Lake Quadrangle, Bulletin 166, California Division of Mines, 1953, Pages 34-40.
5. Geology and Slope Stability in Selected Parts of the Geysers Geothermal Resources Area, Special Report 112, California Division of Mines, 1980, Page 1.

6. Geology of Lower Lake Quadrangle, Page 50.
7. Induced Seismicity in the Geysers Geothermal Area, California, Donna Elberhart-Phillips and David H. Oppenheimer, Journal of Geophysical Research, February 10, 1984, Abstract .
8. California Serpentes: Flora, Vegetation, Geology, Soil and Management Problems, Arthur R. Kruckeberg, 1984, Pages 21 and 23.
9. Geysers-Calistoga KGRA-Aquatic Resources Monitoring Program, California Energy Commission, 1983.
10. Draft EIR on Unit 21 Steamfield Development Area, Lake County Planning Department, May, 1984, Page 116.
11. Lake County General Plan, Pages V-124 to V-126.
12. The most common unit of measurement of noise levels is the decibel. Based on a logarithmic scale, the decibel is a measure of the intensity of sound. The threshold of human hearing corresponds roughly to 0 dB, and the threshold of pain is about 14 dE. The “A-weighted” sound level is an adjustment to the dB measurements to account for the fact that human hearing is less sensitive at low frequencies and high frequencies. This weighting is expressed as dBA. Importantly, because decibels are measured on a logarithmic scale, the perceived loudness of a sound does not increase proportionally with the decibels. Rather, a ten dBA increase is subjectively heard as a doubling in loudness.

Ldn is a noise descriptor that represents the 24-hour energy average of the A-weighted sound pressure level. To account for increased sensitivity to nighttime noises, the sound pressure levels between 10 p.m. and 7:00 a.m. are weighted.

References

California Department of Forestry, Fire Safe Guides for Residential Development in California, May, 1980.

California Division of Mines, Geology and Slope Stability in Selected Parts of the Geysers Geothermal Resources Area, Special Report 112, 1980.

California Division of Mines, Geology of Lower Lake quadrangle, Bulletin 166, 1953.

California Energy Commission, Geysers-Calistoga KGRA . Aquatic Resources Monitoring Proqram, 1981.

Goddard and Goddard Engineering, Lake County Air Resources and Geothermal Deveolement . SDecial Working Paper, 1986.

Kruckeberg, Arthur R., California Serpentes: Flora, Vegetation, Geology. Soils and Management Problems, 1984.

U.S. Geological Survey, Research in the Geysers-Clear Lake Geothermal Area. Geological Survey Professional Paper 1141, 1981.

5.0 COMMUNITY DEVELOPMENT

Footnotes

1. “Levels of Service” denote the ability of a roadway to handle peak hour traffic demand. These evaluations consider the effects of road geometrics and traffic volumes on driver speed, safety, convenience, comfort and economy. The desired Level.of Service for rural highways is LOS “C”. LOS “A” denotes few, if any, traffic restrictions while LOS “F” denotes gridlocked conditions.
2. Characteristics of Water Supply and Wastewater Systems in the Cobb Mountain Planning Area, Lake County Planning Department, November, 1987, Page 8.
3. Ibid.
4. Ibid., Page 7.
5. Ibid.
6. Lake County General Plan, Pages IV-94 & 95, and Technical Appendices, Page 43.
7. Assessment of Population Forecast Methodology for the Cobb Mountain Planning Area, Lake County Planning Department, February, 1987, Page 3.
8. Ibid., Pages 3-4.
9. Geothermal Resource and Transmission Element, Lake County General Plan, May, 1989.

References

Lake County Planning Department, Characteristics of Water Supply and Wastewater Systems in the Cobb Mountain Planning Area, November, 1987.

APPENDIX B

Cobb Mountain Area Plan



Design Guidelines for Commercial
and Industrial Development

WHY DESIGN REVIEW?

People who live or vacation in the Cobb area typically enjoy the mountain landscapes, deep valleys, tall evergreen forests, clean air, and pure water that characterize this scenic part of Lake County. The dominant element here is the natural, more than the man-made, environment. Thus, it is important that development complement the natural features that provide such an attraction for residents and visitors alike.

Attractive buildings and landscaping reflect the values of a community, enhance its visual character, attract business activity, and project community pride. Retail and tourist trade in a community such as Cobb can be greatly enhanced by the projection of a positive community image to the traveler.

Typical problems such as sign clutter, deteriorated buildings, and unimaginative, stark building designs are alleviated by the design review process. In order to bring about gradual improvement in the quality of architecture, landscaping, and signs in the community, the Board of Supervisors has adopted a design review process and guidelines for all commercial and industrial projects in Cobb.

The community welcomes well-designed projects, and the county staff is ready to assist developers and builders in making them successful. This handbook was prepared to assist community members and builders with the design review process.



THE REVIEW PROCESS

Overview

The design review process is Intended for commercial and industrial development located in community centers, along scenic transportation routes, or where aesthetic standards are deemed desirable by a developer or a substantial segment of the local population. The Cobb Mountain Area Design Guidelines were specifically drafted to address the general plan and zoning issues identified during the preparation of the Cobb Mountain Area Plan.

The information contained in the booklet should be considered recommended guidelines rather than inflexible standards. In fact, variety and diversity should be encouraged, rather than adherence to a single, rigid theme.

Early Consultation

Before drawing detailed plans, developers or designers may wish to discuss their ideas with representatives of various county departments. While such meetings are optional, planning department staff will be happy to assist in coordinating the project. Early consultation is also recommended to help explain the permitting process and avoid unnecessary delays and expenses. For example, projects involving interior or minor exterior alterations often do not require design review.

The Permit Process

Design review application materials may be obtained by calling 707-263-2221, or contacting the Lake County Planning Department, 255 No. Forbes St., Lakeport, CA 95453. Design review is only applicable on lands zoned to include the design review combining district or as a result of a use permit requirement for a specific commercial, industrial, apartment or condominium project.

The Design Review Committee is available to meet weekly and consists of representatives of several county departments and the local community. All decisions of the design review committee can be appealed to the Lake County Planning Commission and ultimately the Lake County Board of Supervisors.

GOALS AND GUIDELINES

Area—Wide Goals

1. To encourage attractive buildings and landscaping which reflect the values of the community.
2. To project a positive Cobb “village” Image to the traveling public which enhances local business opportunities.
3. To promote architectural diversity and creative, cost—effective design solutions which are compatible with the rural environment of the Cobb Mountain Area.
4. To provide safe and efficient access and parking while minimizing conflicts between vehicles and pedestrians.

Area—Wide Guidelines

Desirable Characteristics:

Attractive color schemes
Interesting surface and texture
Compatible size and style of buildings
Natural materials such as wood or stone
Steep, multi—planed roofs and overhangs
Prominent entries and windows
Facades with varying depths and corners

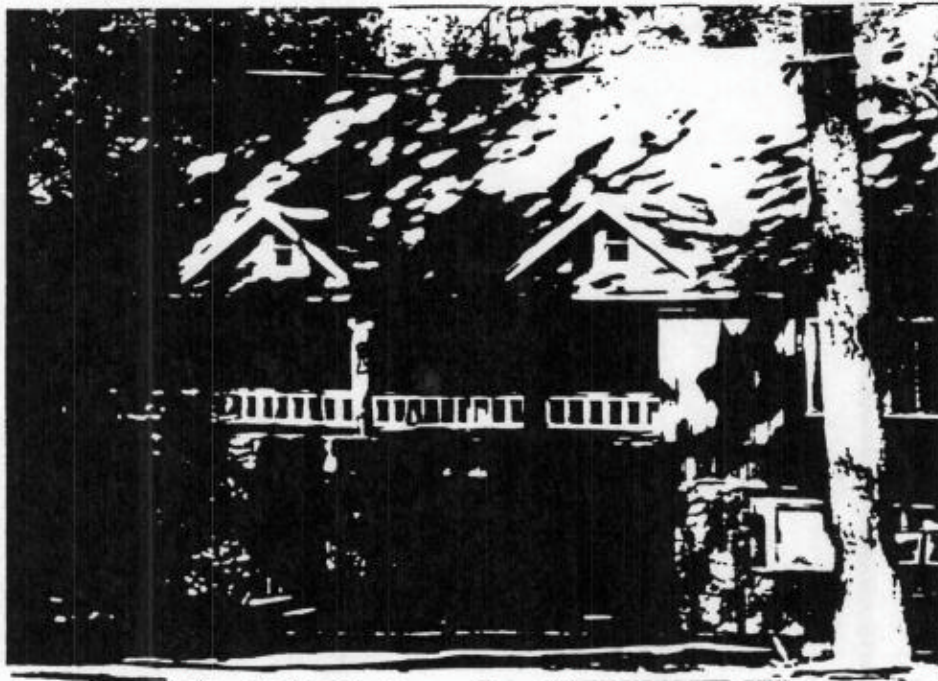
Undesirable Characteristics:

Highly reflective surfaces
Large blank, monotonous exteriors
Unpainted concrete or corrugated metal siding
Square boxlike buildings
Mix of unrelated styles
Unscreened storage and loading areas



Commercial Guidelines

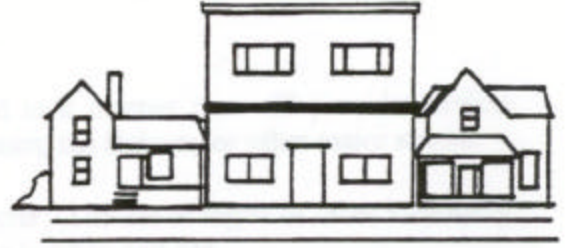
- Building designs should foster the Cobb “village” Image. Typical elements supporting this Image Include alpine or old resort styles, natural wood exteriors, steeply—pitched roofs, balconies, and covered porches.
- New buildings should be largely consistent with local development In terms of scale, height, and setback.
- While no particular color schemes are recommended, In general earth tones on large expanses are encouraged, along with contrasting colors which accent architectural details such as trim, windows and entrances.
- Complimentary color schemes and routine maintenance should be encouraged for existing older buildings with interesting architectural features.
- Roof—mounted equipment and/or duct work should be screened from view.
- Entries should be covered by porches or roof extensions.



Recommended

Discouraged

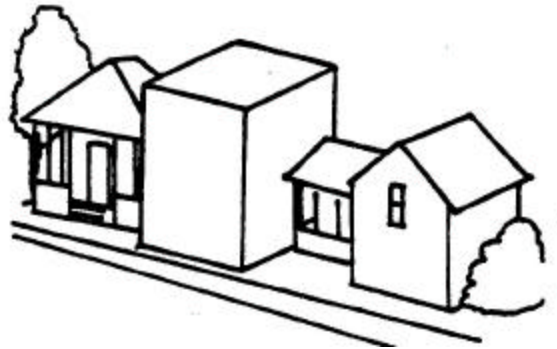
SCALE



Relate the size and proportions of new commercial structures to the scale of adjacent buildings.

Avoid commercial buildings that in height, width, or massing, violate the existing scale of the area.

SETBACK



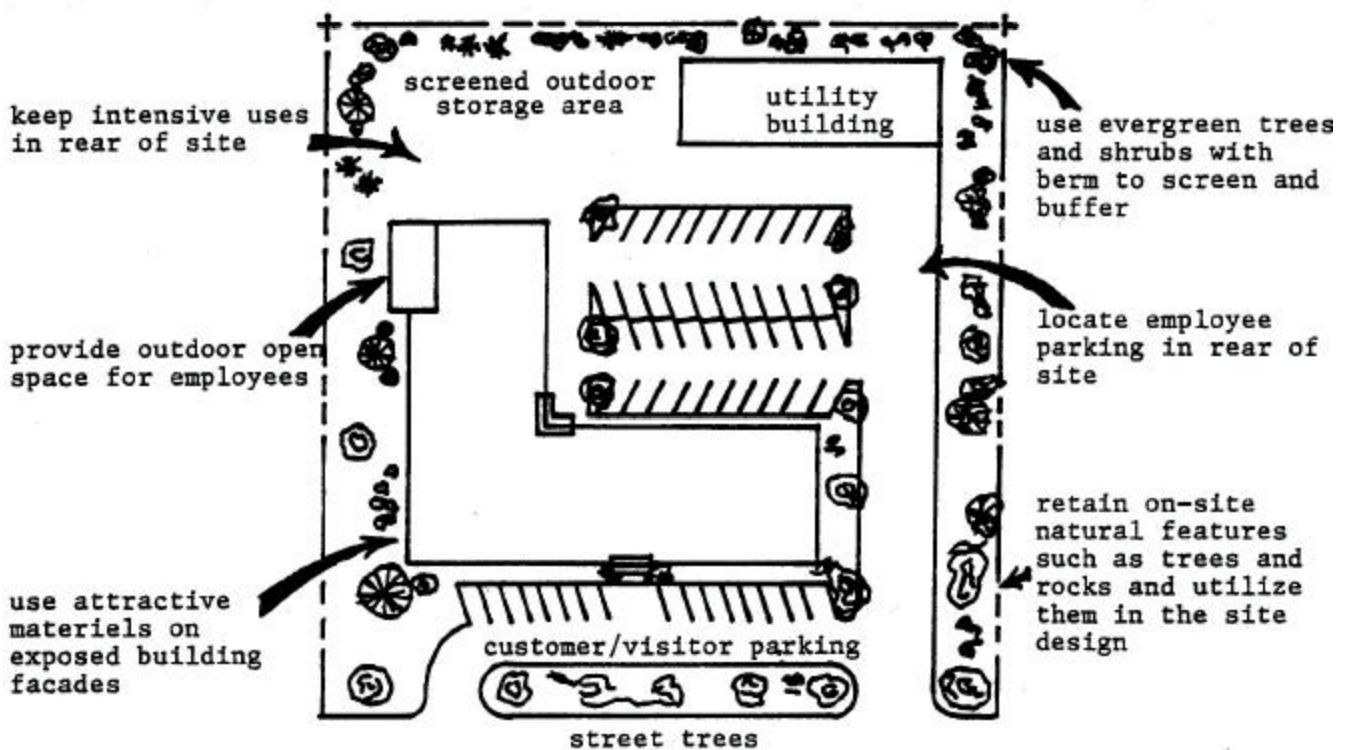
Maintain the historic façade lines of streetscapes by locating front walls of new commercial buildings in the same plane as the facades of adjacent buildings.

Avoid violating the existing setback pattern by placing new commercial buildings in front of behind the historic façade line.

Heavy Commercial/Light Industrial Guidelines

- Storage, loading, overhead doors, and garages should be oriented away from major streets and highways.
- Entries should portray a quality office or storefront appearance.
- Modern metal buildings may be used which incorporate attractive factory-applied color coatings or roof and siding which are designed to look like wood, masonry, tiles, shakes, shingles, or similar materials.
- Rooftop mechanical equipment and/or duct work should be screened or painted consistent with the color scheme of the building.

Industrial Development Concept Sketch



Signs

- Signs with a brief, succinct message are usually more attractive, simpler and easier to read. Cluttered, hard—to—read signs are discouraged.
- Signs should be a harmonious element of the overall building design, using complimentary building materials and colors. Signs should not dominate building architecture through inappropriate sizes, colors, or designs.
- Additional sign standards are found in Section 21-45 of the Lake County Code.



Landscaping

- Existing trees and native vegetation should be retained to the greatest extent feasible.
- Landscaping should consist largely of plants native or well—adapted to the Cobb area. Drought—resistant vegetation is encouraged.
- Parking areas should be landscaped as topography allows.
- Trash bins should be screened from public view to the greatest extent possible.
- Additional landscaping standards are found in Section 21-41 of the Lake County Code.

Circulation and Parking

- Parking areas should be clearly separated from street frontages by landscaping and/or curbs as existing topography permits.
- Parking lot circulation should be clearly marked. Parking areas should be designed with clearly defined ingress and egress.
- Additional parking standards are found in Section 21—46 of the Lake County Code.

Site Preparation

- Site grading should minimize disturbance to existing terrain and drainage patterns.
- Balancing of cuts and fills is encouraged.
- Large cut slopes and abrupt transitions should be avoided.
- Fills should be contoured, and site designs that retain existing trees are encouraged.
- Revegetation of disturbed areas should be completed as quickly as possible.
- Additional grading requirements are found in Chapter 26 of the Lake County Code.

Utilities and Lighting

- Where feasible, utilities should be constructed underground.
- Trash bins should be screened from public view to the greatest extent possible.
- Lighting should be hooded, subdued, and compatible with surrounding development. Sign lighting should be indirect rather than internally illuminated.
- Additional Lighting standards are found in Section 21—41.8(a) of the Lake County Code.

Energy Conservation

- Buildings should be designed for energy efficiency consistent with an attractive public appearance.
- Where solar panels are proposed, it is encouraged that they be integrated into the roof design, flush with the roof slope. Frames should match the roof color. Support solar equipment should be enclosed and screened from view.

CONCLUSION

These guidelines are intended to promote development which fosters community pride and attracts business activity, rather than serve as rigid controls over building design. Projects that are consistent with these guidelines should gain quick design review approval. On the other hand, projects incorporating designs not addressed by the guidelines will be evaluated on a case—by—case basis. These guidelines are Intended to assist community members and builders In reaching a general consensus regarding the design or renovation of future commercial development in the Cobb Mountain Area. However, as with all planning documents, the guidelines should be periodically reviewed and updated to reflect current values.

KS/cmp

APPENDIX C
DRAFT ENVIRONMENTAL IMPACT REPORT
FOR THE
COBB MOUNTAIN AREA PLAN
A component of the Lake County General Plan

State Clearinghouse No. 88091308

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1.0 INTRODUCTION

This draft environmental impact report (DEIR) is intended to provide information to decision makers and the public regarding potentially significant adverse environmental effects that may be caused by approval of the Cobb Mountain Area Plan, a component of the Lake County General Plan. The Area Plan is to be used as a guide by decision makers when considering future development projects in the Cobb Mountain Area. The DEIR identifies and suggests mitigation measures for these potentially significant impacts.

The California Environmental Quality Act (CEQA) Guidelines provide that a DEIR on a general plan can be more general in nature than one for a specific project where more specific plans and impacts are identified. These Guidelines also encourage that the EIR be "built-in" to the general plan, as practicable.

This DEIR includes all the contents required by CEQA. Its contents refer directly to the Cobb Mountain Area Plan, and the reader should review the plan and DEIR together. DEIR Section 4.09 provides a discussion of the potential adverse environmental effects of the area plan, including a policy-by-policy review for such impacts. A number of these policies act as mitigation measures for the growth that is accommodated by the plan. Since the area plan is a long-term planning document, potentially significant cumulative and growth-inducing impacts must be carefully evaluated. DEIR Section provides an evaluation of several alternatives to the proposed area plan.

Inevitably, there are some impacts for which the DEIR cannot find adequate or suitable mitigation measures. Under these circumstances, efforts should be made to either modify the impact by amending the area plan or by proposing factual reasons why the impact should be allowed to override the need for mitigation.

2.0 SUMMARY OF POLICY AND PROGRAM IMPACTS

INTRODUCTION

The following is an analysis of potential environmental impacts of specific policies and programs found in the Cobb Area Plan. This analysis includes evaluation of the plan's three policy sections including: 1) natural resources, 2) public safety, and 3) community development. Each policy and program is analyzed in terms of its potential impacts, mitigation, and alternatives. Many of these policies act to mitigate impacts associated with the densities and growth authorized by the plan. Where policies act as mitigations for plan implementation, no additional mitigations are proposed. Overall impacts of the plan are addressed in Chapter 3.0 of this EIR.

2.1 NATURAL RESOURCE POLICIES

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
3.2a	None	This policy will aid in soil conservation efforts.	The no policy alternative may result in increased soil erosion.
3.2b	None	The policy will assure intergovernmental cooperation when faced with severe soil erosion problems.	Same as 3.2a above.
3.2c	None	This policy is a measure to reduce soil erosion in areas of high erosion potential.	The no policy alternative will result in increased erosion in areas of high erosion potential.
3.2d	None	This policy is a mitigation measure to protect "critical areas" from erosion.	The no policy alternative could result in destruction of several "critical areas" in the Cobb Planning Area.
3.2e	None	This policy is to protect the Boggs Lake Basin.	The no policy alternative could result in the sedimentation of Boggs Lake.
3.3a	None	This policy is intended to help mitigate the potential for future water shortages.	The no program alternative could result in less information on ground and surface water in the Cobb area, and lead to unanticipated water shortages in the area.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
3.3b		This policy assures water availability for existing users.	The no policy alternative may result in loss of water rights.
3.3c		This policy promotes water for the geothermal industry.	The no policy alternative may result in unknown water needs for the geothermal industry.

VEGETATION AND WILDLIFE

3.4a	None	The policy acts as a mitigation could act against preservation of endangered species.	The no policy species are protected by law.
3.4b	None	None are suggested since this policy is consistent with Dept. of Fish & Game policies and the general plan.	The no policy alternative may allow continued infringement into and loss of habitat areas.
3.4c	None	This policy and program serves as a mitigation and is consistent with the general plan.	The no policy alternative would have no measure with the county.
3.4d	None	This policy and program is a mitigation measure to help stop erosion and deterioration of riparian habitat.	The no policy alternative may allow for erosion and preserve riparian habitat.
3.4e	None	All Fish & Game regulations must be complied with.	No policy.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
3.4f	None	This policy provides the ultimate protection of wildlife declines in wildlife species.	The no policy alternative may lead to reduction of wildlife species in the geysers.

AGRICULTURE AND TIMBER

3.5a	New wine grape plantings could lead to additional water demand which competes with other uses. Additional wineries could increase tourism and growth.	Implement Policies 3.5a,	No policy
3.5b	None	The County Planning and Agriculture Departments coordinate efforts with the County Farm Advisor's Office.	- No policy and status quo will likely continue.
3.5c	Could reduce tax revenues to the County while promoting the timber industry.	None needed.	The no policy alternative does not encourage use of this tool slightly for preservation of productive forest lands.

MINERALS

3.6a	None	This policy is a mitigation measure to prevent use conflicts with geothermal similar Lake County uses. Further defines General Plan policies.	Conflicting land uses may occur under the no policy alternative. Further defines industry and adjacent lands.
3.6b	None	This policy is a measure to promote geothermal development for specialty agriculture.	No policy.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
<u>CRITICAL RESOURCE</u>			
3.7a	None	This is a mitigation measure to ensure the protection of critical resource areas and would conflict with the Lake County	The no policy alternative will not ensure preservation of Cobb's resource areas. and with the Lake General Plan.
3.7b	None	This is a mitigation measure to ensure preservation and protection of critical riparian areas.	The no policy alternative could adversely affect critical riparian areas.
3.7c	A slight, but insignificant loss of property tax could occur to the county.	This policy and program is a mitigation tool that can protect critical habitat areas.	No policy. See Policy 3.7c
3.7d	Same as 3.7c above.	Same as 3.7c.	Same as 3.7c.
3.7e	None	This is a mitigation measure to specifically protect existing and endangered species. Their protection, however, is required by law.	The no policy alternative affords less protection in increased potential rare and endangered plant species.
3.7f	None	This is a mitigation measure to protect wildlife habitat.	The no policy alternative could lead to the destruction of habitat around Boggs Lake.
3.7g	None	This is a mitigation measure to protect wildlife habitat.	The no policy alternative may lead to the destruction of wildlife habitat.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
<u>SCENIC RESOURCES</u>			
3.8a	None	None are suggested. The no policy alterna-This policy is a mitigation measure. disruption of scenic vistas/viewsheds.	tive may lead to mitigation
3.8b	None	This policy will help preserve Cobb's scenic corridors.	No policy.
3.8c	None	This policy will promote visual enhancement of Cobb's peaks and ridges.	No policy.
3.8d	None	This policy will encourage interagency cooperation for timber harvest plan review.	No policy.
3.8e	None	This policy will ensure that commercial and industrial development will be compatible with Cobb's scenic beauty.	No policy.
3.8f	None	Same as 3.8b above.	No policy.

CULTURAL RESOURCES

3.9a	None	This policy and program is a mitigation measure cultural	The policy is a re- is a statement of confor-to protect resources. Deletion of the policy would have no effect.
3.9b	None	This policy and program is a mitigation measure to preserve and protect structures in	The no policy alterna-is tive could result in the loss of historic historic structures. Cobb.
3.9c	None	None are needed.	No policy.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
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2.2 PUBLIC SAFETY POLICIES

FIRE HAZARDS

4.1a	None	None are needed. The review of fire issues on a project-by-project basis.	The no policy alternative may result in unsafe development in hazardous fire areas.
4.1b	None	None are needed. The acts to improve developments which are more vulnerable to fire hazards.	The no policy alternative may result in correlation of land use and fire hazard planning.
4.1c	None	This policy is a mitigation measure to help loss from fire areas.	The no policy alternative will not provide prevent-in rural residential guidelines.
4.1d	None	Same as 4.1c, except densities are adequate bridge access in the event of a fire.	The no policy alternative may not promote included.
4.1e	None	This policy is a mitigation measure. development without adequate fire hazard mitigation.	The no policy alternative may allow
4.1f	None	None are needed. The policy acts to improve circulation of land use and fire hazard planning.	Same as 4.12
4.1g	None	This policy is a mitigation measure to assure adequate access.	No policy.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
4.1h	None	Same as 4.1g above.	No policy.
4.1i	<ol style="list-style-type: none"> 1. Slight, temporary air quality impact. 2. Enhancement of some wildlife 3. Increased runoff. 	<ol style="list-style-type: none"> 1. Involve small areas during each burn. Burn under good air quality conditions. 3. Avoid burns during periods critical to wildlife. 	The no policy alternative does not support this critical fire safety practice.
4.2a	None	This is a mitigation measure.	No policy.
4.2b	None	None are suggested.	No policy.

GEOLOGIC AND SEISMIC HAZARDS

4.3a	None	This is a mitigation measure to reduce landslide hazards.	No policy.
4.3b	None	This is a mitigation measure.	No policy.
4.3c	None	None needed.	No policy.
4.3d	None	None. This policy is intended to provide mitigation for development in high sloping areas.	No policy.
4.3e	None	This is a mitigation measure.	The no policy alternative could create additional landslide risk.

AIR QUALITY

4.4a	None	None needed. Correlation of land use and circulation plans are included in the Area Plan.	No policy could lead to slightly reduced air quality.
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<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
4.4b	None	None needed. The policy outlines a comprehensive air quality mitigation program for stationary sources.	The no policy alternative would not support preservation of air quality.
4.4c	None	This is a mitigation measure to reduce air pollution.	No policy.
4.4d	None	None needed.	No policy.

WATER QUALITY

4.5a	None	None. The policy is a mitigation measure.	1. No policy. 2. Piecemeal monitoring surface and subsurface water quality.
4.5b	None	None	1. No policy. 2. Suggest
another.			
4.5c	None	None. This policy is a mitigation measure.	1. No policy. 2. Suggest another.
4.5d	None	None	1. No policy. 2. Suggest
another.			
4.5e	None	None	1. No policy. 2. Suggest
another.			
4.5f	None	None	1. No policy. 2. Suggest
another.			
4.5g	None	None	No policy.
4.5h	None	None	No policy.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
<u>NOISE</u>			
4.6a	None	None needed.	No policy.
4.6b	None	None needed.	No policy.
4.6c	None	This is a mitigation measure.	No policy.

2.3 COMMUNITY DEVELOPMENT POLICIES

5.1a	None. This policy recognizes existing land uses.	None needed.	No policy.
5.1b	Will create additional	Mitigated by circulation	The no policy alternative could allow for disorderly growth and increase the cost of providing services.
5.1c	None	This policy is a mitigation measure to protect the Loch Lomond vernal pool.	The no policy alternative could lead to destruction of the vernal pool.
5.1d	None, this policy will help reduce land use conflicts.	None needed.	The no policy alternative will disperse retail commercial development.
5.1e	None	None needed.	The no policy alternative will lead to land use conflicts.
5.2a	Will reduce travel costs and provide for increased economic viability.	This policy will help mitigate environmental impacts associated with long travel distances.	The no policy alternative could tend to reduce local economic viability.
5.2b	None	None needed.	No policy.
5.2c	None	None needed.	No policy.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
5.2d	None	None needed.	No policy.
5.3a	This policy will encourage development in areas with water and sewer services.	This is a mitigation measure to encourage provision of sewer and water services.	The no policy alternative may allow more development in areas without adequate services.
5.3b	This policy will encourage compact development in areas with services capability.	This is a mitigation measure to assure adequate provision of services.	The no policy alternative may increase costs for providing maintaining services.
5.3c	This policy will assure services are available.	This is a mitigation measure.	The no policy alternative will cause development which may lack adequate urban services.
5.4a	None	This is a mitigation measure to protect Cobb's natural resources.	Under the policy alternative, important natural resources may be infringed upon.
5.4b	None	This policy serves as a mitigation measure to leave large parcels of land in rural densities.	No policy.
5.5a	None	This is a mitigation measure.	The no policy alternative can lead to land use conflicts.
5.5b	None	This is a mitigation measure.	Same as 5.5a above.
5.5c	None	None needed.	No policy.
5.5d	None	None needed.	No policy.
5.6a	None	None needed.	No policy.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
5.6b	None	This policy is a traffic mitigation measure.	No policy.
5.6c	None	None are needed.	The no policy alternative will permit hazardous conditions to continue.
5.6d	None	None needed.	Same as 5.6c above.
5.7a	None	This policy is a mitigation measure to promote pedestrian safety.	Same as 5.6c above.
5.7b	None	This policy serves as a mitigation measure which encourages more efficient circulation.	No policy.
5.7c	None	This policy is a mitigation measure to promote safety on Highway 175 and Bottle Rock Road.	No policy.
5.8a	None	None needed. A separate CEQA review will be conducted before implementation.	The no policy alternative may lead to sig-
5.8b	None	None needed. regional transportation facilities to encroach upon areas identified as community or regional parks.	The no policy alternative could allow
5.8c	None	None needed. This policy provides a specific mitigation program.	No policy could lead to a lack of mitigation of potential impacts.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
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PUBLIC SERVICES

5.9a	None	None needed.	No policy.
5.9b	None	None needed.	No policy.
5.9c	None	None needed.	No policy.
5.9d	None	None needed.	No policy.
5.9e	None	None needed. This policy encourages the provision of public services which are consistent with the general plan.	No policy.
5.9f	None	None needed.	No policy.

ON-SITE WASTEWATER MANAGEMENT

5.10a	None	None needed. health and safety problems.	The no policy alternative may result in increased health concerns while other solutions are studied.
5.10b	None	None needed. This policy relates to 5.10d.	No policy.
5.10c	None	None needed.	No policy.
5.10d	None	Will temporarily mitigate significant health and safety concerns if inadequate septic maintenance occurs.	The no policy alternative may lead to increased health concerns while other solutions are studied.
5.10e	None	None needed.	No policy.
5.10f	None	None needed.	No policy.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
<u>DRAINAGE AND EROSION</u>			
5.11a	None	None needed.	No policy.
5.11b	None	None needed.	No policy.
<u>PUBLIC SAFETY</u>			
5.12a	None	None needed.	Same as 5.12b
5.12b	None	None needed.	The no policy alternative may burden the South Lake County Fire Protection District.
5.12c	None	None needed.	No policy.
5.12d	None	None needed.	No policy.
<u>SCHOOLS</u>			
5.13a	None	None needed.	No policy.
<u>PARKS AND RECREATION</u>			
5.14a	None	None needed.	The no policy alternative does not provide for adequate parks and recreation in Cobb.
5.14b	None	None needed.	No policy.
5.14c	None	None needed.	No policy.
5.14d	None	None needed.	No policy.
5.14e	None	None needed.	No policy.
5.14f	None	None needed.	No policy.
5.14g	None	None needed.	No policy.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
5.14h	None	None needed.	No policy.
5.14i	None	None needed.	No policy.

OTHER PUBLIC SERVICES

5.15a	None	None needed.	No policy.
5.15b	None	Implementation of this policy will reduce adverse light and glare.	The no policy alternative could cause adverse light and glare.

HOUSING

5.16a	None	None needed.	The no policy alternative may lead to further deterioration of existing housing stock.
5.16b	None	None needed.	See 5.4i above.

ECONOMIC DEVELOPMENT

5.17a	None	None needed. This policy is consistent with community development policies found elsewhere in the plan.	The no policy alternative will not relate economic development to land use.
5.17b	None	None needed.	No policy.
5.17c	None	None needed.	The no policy alternative could lead to reduction of Cobb's resort industry.
5.17d	None	None needed.	No policy.

<u>Policy and Program</u>	<u>Potential Adverse Impacts</u>	<u>Mitigation Measures</u>	<u>Alternatives</u>
<u>Program</u>			
5.17e	None	None needed.	No policy.
5.17f	None	None needed.	No policy.
5.17g	None	None needed.	The no policy alternative could lead to deterioration of Cobb's visual quality.

3.0 PROJECT DESCRIPTION AND SETTING

A project description is contained in Section 1.1 (page 1.1) of the area plan, and the relationship of the planning area to the rest of Lake County is shown in Figure 1. A general description of the environmental setting is found in section 3.1 (pages 3.1-3.2 of the area plan. A more detailed description of the area's environmental setting is found in the text of Chapters 3.0, 4.0 and 5.0.

The area plan provides for significant growth during the 20-year planning timeframe. It enables an increase in the planning area population from approximately 2,600 persons to slightly over 6,000 in year 2006 (see Area Plan, Table 1 on page 2.5), a 4.3 percent average annual growth rate during the period. Increased commercial development to serve the area's expected growth is also encouraged by the plan.

While the area plan provides for significant growth, it also includes policies intended to mitigate many of the impacts of the planning area's population growth.

4.0 ADVERSE ENVIRONMENTAL EFFECTS

The CEQA Guidelines require that the level of specificity for an EIR correspond to the degree of specificity of the project. For example, the degree of specificity for a construction project will be greater than for a general plan amendment such as the Cobb Mountain Area Plan. The Guidelines suggest that the EIR for a comprehensive general plan and zoning revision focus on the secondary effects that can be expected to follow from their adoption and that the EIR need not be as specific as specific projects that may follow (CEQA Guidelines Section 15146).

As an effort to make the DEIR more readable, the reporting of potential adverse environmental effects of the Cobb Mountain Area Plan closely follows the contents of the plan. The area plan includes chapters on natural resources (Chapter 3.0), public safety (Chapter 4.0), community development (Chapter 56.0), and mapping descriptions (Chapter 6.0). Any potential environmental effects caused by implementing the area plan (Chapter 7.0) are reported along with the evaluation of applicable policies.

1. Soils, Slope, Drainage and Erosion (Sections 3.2 and 5.3C)

Impacts:

With new area growth and development, the potential for soil erosion and slope instability may increase, particularly on steeper slopes in the planning area. Erosion problems from existing development, particularly from substandard and poorly maintained roads, will continue during the period. Loss of agricultural and timber-producing soils will be negligible as a result of the area plan, since these lands are designated and/or zoned for agricultural timber uses.

Mitigations:

Policies 3.2a-3.2e can collectively act to mitigate most impacts related to steep slopes and soil erosion. The land use and zoning maps guide most new residential development to areas of less slope and erosion potential. The county's grading and subdivision standards also provide a regulatory framework for mitigating these impacts.

2. Water Resources (Section 3.3 and 5.3A)

Impacts:

Increased demand on local water resources will be created by new residential, commercial, agricultural and geothermal development in the area. In some cases, this demand may exceed existing water availability and/or reduce surface flows to downstream uses as upstream groundwater extraction increases. Certain substandard domestic water systems will be faced with chronic or dry year water shortages until necessary improvements are made. Lowered dry season flows in perennial waterways may contribute to declining wildlife habitat.

Mitigations:

Collectively, Policies 3.3a - 3.3c provide a framework for mitigating impacts that area growth may have upon water resources. Policies 5.9a - 5.9f support the upgrading of existing water systems in the area. Loss of wildlife habitat due to the potential for declining low season stream flows is not specifically mitigated by the area plan.

3. Vegetation and Wildlife (Section 3.4)

Impacts:

Impacts on vegetation and wildlife will be largely minimized since the plan directs most new growth into existing residential and commercial areas. The potential for increased utilization and subsequent decline or loss of dry season water resources, however, may have adverse effects on area wildlife habitat, as discussed above under water resources impacts.

Mitigations:

Adherence to area plan policies 3.4a - 3.4f and protections included for waterways, wetlands and natural areas act to minimize potentially significant impacts on vegetation and wildlife resources to insignificant levels. As discussed under water resources impacts, however, the increased demand for dry season water resources may lead to significant declines in low season stream flows and related wildlife habitat.

4. Agriculture and Forestry (Section 3.5)

Impacts:

The loss of agricultural and timber-producing land is considered negligible since the area plan provides protection by designating and/or zoning these lands for agriculture and timber production uses. The only anticipated environmental effects involve potential erosion from agricultural and forestry activities, the possibility of degraded viewsheds because of the potential for clear-cut (or even-age management) forestry practices, and the potential loss of important old-growth timber stands which have special wildlife benefits and values.

Mitigations:

Policies 3.5a - 3.5c provide for efforts to control erosion, viewshed, and habitat protection from agricultural and forestry activities. Although the county's grading ordinance exempts agricultural activities, appropriate soil conservation practices on agricultural soils are encouraged by the plan.

5. Minerals (Section 3.6)

Impacts:

Minerals include geothermal and aggregate resources. Increased development of both high-temperature geothermal energy and hardrock aggregate mining are expected during the life of the area plan. There is potential for high-temperature geothermal activity to degrade local air and water quality, and to increase erosion rates. There may also be impacts on wildlife populations due to locally changed hydrology and vegetation conditions in primary geothermal areas.

Mitigations:

The plan promotes separation of incompatible uses in primary geothermal area where high-temperature steam development is most likely to occur. Policies 3.6 - 5.1e promote such land use separation. Policies also call for extensive monitoring programs in the primary geothermal area, including water resources (Policy 3.3c), biological resources (Policy 3.4f), and water quality (Policy 4.56). Air quality impacts are mitigated by rules and regulations of the Lake County Air Quality Management District. More comprehensive policies are proposed in the Geothermal Resource and Transmission Element of the General Plan. Aggregate mining is promoted at hardrock sites and discouraged in waterways. Together, these mitigations provide a framework for mitigation of potentially significant impacts that may be caused by mineral activities in the area.

6. Critical Resource Area (Section 3.7)**Impacts:**

A number of critical and natural resource areas are identified for special protection. These areas are protected by Policies 3.7a - 3.7g, conservation land use designations, open space zoning, resource combining zoning districts, and other special zoning. Together, these protection features supplement mitigation of potentially significant impacts on the area's vegetation and wildlife, and no significant impacts are anticipated through these protection measures and programs.

Mitigations:

The plan's program for protection of critical resource areas acts to protect and enhance environmental resources. No mitigations are necessary.

7. Scenic Resources (Section 3.8)**Impacts:**

The plan identifies scenic highways, vistas and viewsheds, and sensitive areas, and provides scenic protection policies (Policies 3.8a - 3.8f) and scenic combining zoning. Together, these policies and zoning provide a significant level of protection to the area's existing scenic resources, and no significant environmental impacts are expected.

Mitigations:

The plan's scenic resources and design review policies and zoning provide protection for the area's scenic qualities. Community design guidelines are also included in the plan. No other mitigations are necessary.

8. Cultural Resources (Section 3.9)

Impacts:

The area contains considerable prehistoric and more recent cultural resources. Policies 3.9a - 3.9c promote archaeological studies and enhancement of cultural resources. Appropriate sites are identified for historic protection status.

Mitigations:

The proposed policies, HPS zoning, and subsequent environmental review process provide adequate protection of local cultural resources.

9. Fire Protection (Sections 4.1 and 5.3D)

Impacts:

New growth and development will increase the demand for structural and wildland fire protection by increasing the number of structures and valuable property needing protection, increasing the potential for incidents, and potentially increasing the risks associated with arson. Existing fire protection problems caused by substandard road width, surfaces, and grades, and by substandard water systems could be aggravated by continued buildout in these and surrounding areas.

Mitigations:

Policies 4.1a - 4.1i and 5.12a - 5.12b assure reasonable fire protection standards for newly created parcels in the area. These same policies may lead to minor improvements in fire safety in areas of existing development as specific road, bridge, and water system improvements are provided. In remote areas with steep slopes and very high fire hazard ratings, the area plan provides for large-lot zoning (such as in the Big Canyon Creek area and certain north and northeast areas). Controlled burning, vegetation management, and other "defensible space" programs can also provide an increased margin of fire safety in selected areas. Increased area population may lead to local fire agencies changing from volunteer to manned station personnel, thereby reducing emergency response time. Recent emergency regulations of the State Fire Marshall requiring fire resistant roofing in high and very high fire hazard State Responsibility Areas will also assist fire safety efforts. Lake County's adoption of Class "A" roofing requirements would further fire safety. However, because of the critical fire hazards presented in most of the Cobb Mountain Area, the potential for serious wildland fires in the area cannot be entirely mitigated.

10. Flooding and Drainage (Sections 4.2 and 5.3C)

Impacts:

Portions of Kelsey Creek in the Cobb Valley area are flood-prone and subject to 100-year floods. Other smaller areas that generally include waterways, such as Cole or Big Canyon Creeks, as well as meadows, such as that located at Salmina's Basin, are subject to local flooding during the wet season. Since the planning area consists of mountainous terrain, most areas are not threatened by flooding.

Mitigations:

Policies 4.2a and 4.2b provide for adherence to standard 100-year and local flood protection practices. Areas subject to 100-year floods are provided protective flood plain zoning. No significant flooding impacts are expected to be caused by the area.

11. Geology and Seismic Hazards (Section 4.3)**Impacts:**

Steep slopes and local high slide potential characterizes portions of the planning area. Several areas of high slide potential are located in existing subdivisions, including the Hobergs and Adam springs areas. Slide hazards are found in steeply sloped rural areas, and particularly in the Mayacamas Mountains, which are characterized by Franciscan geologic formations. The area also has potential for several regionally significant faults.

Mitigations:

Policies 4.3a - 4.3e provide for updated mapping and study of landslide hazards and detailed engineering plans for developments in areas of steep slopes. Policy 4.3e requires revegetation for purposes of slope protection. Together, these policies can act to mitigate potential landslide hazards in the area. The Uniform Building Code addresses earthquake standards for area building construction. The County's zoning ordinance regulations reduce densities in rural areas with steep unstable slopes. Grading ordinance regulations also help mitigate potential slide and erosion impacts caused by new development.

12. Air Quality (Section 4.4)

Impacts:

The Cobb Mountain Area currently meets National Ambient Air Quality standards under the federal Clear Air Act amendments. Potential air quality impacts that may occur indirectly as a result of the area plan include increased levels of carbon monoxide and particulate. There is also potential for incidents of elevated sulfur dioxide levels in case of an upset in the Geysers geothermal resource area.

Mitigations:

Policies 4.4a - 4.4d, along with rules and regulations of the Lake County Air Quality Management District, provide sufficient mitigations for potential air quality problems in the area. No significant air quality impacts are expected to occur as a result of the area plan.

13. Water Quality (Section 4.5 and 5.3B)

Impacts:

The area plan provides substantial discussion of potential indirect impacts on water quality caused by increasing numbers of on-site wastewater disposal systems and geothermal development. The plan provides for continued utilization of on-site wastewater disposal systems, while the potential long-term threat to both surface and groundwater water quality remains. The plan also identifies other potential non-point water pollution sources, such as roadway oil and greases and soil erosion, which may degrade surface water quality.

Mitigations:

Together, Policies 4.5a - 4.5h provide a comprehensive policy program for mitigating potential water quality impacts caused by the Cobb Mountain Area development and growth. A major premise of the area plan's water quality program is that on-site wastewater systems can continue to be installed given consideration for adequate maintenance, monitoring and reduction of density.

Although not specifically stated in the area plan, failure of these policies and supporting regulatory programs in avoiding serious water quality impacts could eventually lead to the need for centralized collection and treatment of wastewater in the most highly developed portions of the planning area. In the event that serious water quality problems are found in the area, there may be need to amend applicable text, policies and maps of the area plan.

14. Noise (Section 4.6)

Impacts:

The most significant potential noise impacts in the area result from geothermal resource development and operations. Other noise impacts, such as from motor vehicles, home utility tools, and chainsaws, are considered minimal in the area.

Mitigation:

Ambient noise levels are not expected to degrade significantly during the life of the area plan. existing policies and regulations, as supported by Policies 4.6a - 4.6c, are expected to adequately mitigate any new noise-generating development in the area.

15. Land Use, Land Use and Zoning Maps (Sections 5.1 and Chapter 6.0)

Impacts:

The land use designations and zoning district maps acknowledge the existing development patterns found in the Cobb Mountain Area and provide a comprehensive guide for future land use decisions. Most of the area's new growth is accommodated in existing residential subdivisions and the Cobb Valley and Loch Lomond commercial centers. Approximately 140 acres of new vacant residential land is provided in the area plan, with major consideration towards access, public services and water quality maintenance. The plan provides a combined commercial land use of over 70 acres, not including resorts, and can accommodate slightly over one million square feet of commercial floor space at full buildout, enough commercial land to easily serve the project population. The land use and zoning maps also acknowledge existing resorts and retreats.

A framework for both utilizing and protecting the area's resources is included in the land use and zoning maps. High-temperature geothermal development is encouraged in the plan's primary geothermal resource area, while residential development is discouraged. The planning area's timber, agricultural, waterway, wetland, and other natural resources are protected and identified on the land use and zoning maps.

Potentially significant land use impacts include the loss of wildlands and timber lands to new residential, commercial, and geothermal development. Secondary, or indirect land use impacts may lead to reduced water availability, locally declining wildlife habitat, increased fire hazards, and degraded water quality.

Mitigations:

Land use policies act generally to mitigate direct and indirect land use impacts. Policies 5.1a - 5.4b act to guide orderly growth and development by providing balanced land use patterns which protect the area's natural resources and environment. Existing residential subdivisions and emerging commercial centers are provided land use designations and zoning which reflect concerns for long-term circulation, public service capability, water quality, and resource and environmental protection. These policies and the land use and zoning maps, however, do not mitigate the loss of wildlands and timber lands to new residential, commercial, and geothermal development. Land use policies also do not completely mitigate those potential secondary impacts described above.

16. Circulation (Section 5.2)**Impacts:**

Traffic levels are forecasted to increase in relation to the area's population growth. However, this traffic growth will not significantly degrade the level of service (LOS) on the area's major roadways. At present, LOS is rated "A", and is expected to generally maintain an acceptable LOS "B" at full buildout. (Traffic flow conditions are qualified in a system ranging from LOS "A", with free traffic flows, to LOS "F", with gridlock conditions. LOS "C" is generally considered acceptable in rural areas.)

The most significant potential traffic impacts will occur when existing substandard roads are not improved to accommodate full buildout conditions. These substandard roads will contribute to erosion and stream sedimentation while providing poor access for emergency services and evacuations.

Mitigations:

Circulation Policies 5.6a - 5.8c provide for maintenance of existing road systems with the improvement of bicycle, pedestrian and carpooling facilities. Mitigation is provided for upgrading existing substandard local roads through policy support for the formation of road maintenance districts when locally supported. No significant circulation impacts are expected as a result of the area plan.

17. Law Enforcement (Section 5.3E)

The area plan calls for maintaining current law enforcement levels, assuming no significant future countywide budget constraints. Policy support for the creation of shooting restriction zoning is also provided in the plan. No significant impacts on law enforcement are expected.

18. Parks and Recreation (Section 5.3F)

The area plan proposes several new community/regional parks in Cobb Valley along with development of an interlinked pedestrian trail system, a limited bicycle system and highway waysides and picnic sites. The proposed park sites are intended to focus on environmental as well as recreational amenities. Park and recreation policies 5.14a - 5.14i are not expected to create any significant adverse environmental effects.

19. Schools (Section 5.3G)

Impacts:

Both the Middletown and Kelseyville Unified School Districts serve the planning area. New development and growth in the area is expected to create a need for additional facilities in the Middletown USD, including new elementary school facilities. Impacts on Kelseyville USD enrollment will be slight and are not considered significant.

Mitigations:

State law requires school impact mitigation fees to be assessed for new residential and commercial development. These fees are meant to be utilized to mitigated capacity impacts on local schools to insignificant levels.

20. Other Public Services (Sections 5.3H-K)

Other public services potentially affected by the area plan include library, hospital and cemetery services. No significant impacts are expected on these services.

21. Housing (Section 5.4)

The area plan defers to the Lake County Housing Element for housing policy in the area. The plan supports a housing rehabilitation program in needed areas. No significant impacts on area housing supply, costs, and other housing issues are expected as a result of the area plan.

22. Economic Development (Section 5.5)

Economic development is promoted in the area plan by encouraging the utilization and enhancement of the area's local natural resources, including its attractive environment, geothermal resources, and resort industry. The plan also supports increased diversity of the local commercial sector. The plan specifically promotes formation of a design review program for the Cobb Valley commercial area, utilization of low-temperature geothermal energy, a geothermal visitors center, and restoration of the area's resort industry, while maintaining the attractiveness of the area. While the plan's economic development policies (Policies 5.17a - 5.17g) may lead indirectly to new growth and development, there are no potentially significant environmental impacts expected.

5.0 CUMULATIVE IMPACTS

Cumulative impacts refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

Implementation of the area plan's land use and zoning maps may lead to cumulative impacts over time as overall growth and development result in declining environmental resources that involve wildlife habitat losses, declining water resources quality, and increased wildland fire hazards. These impacts are described in DEIR Section 4.0 under appropriate headings.

6.0 GROWTH-INDUCING IMPACTS

The area plan is growth-inducing because it enables and encourages development according to its policies and the land use and zoning maps. The plan encourages continued infilling and development in existing residential subdivisions, and provides approximately 140 acres for new residential development. The plan also provides for additional commercial development. Geothermal development is encouraged in the plan's primary geothermal resource area. The plan's growth inducement will have potentially significant environmental effects on the area's water resources, water-related habitat, water quality, fire protection, and may result in loss of wildlife habitat and timber resources to residential, commercial, and geothermal development.

7.0 IRREVERSIBLE ENVIRONMENTAL CHANGES CAUSED BY PROJECT APPROVAL

DEIR Section 4.0 identifies a number of potential impacts that may not be mitigated and will lead to irreversible environmental changes in the planning area. These include the following:

- o A decline of the area's water resources caused by increased domestic, commercial, geothermal and agricultural water utilization in the planning area.
- o A decline in the quality of waterway and riparian habitat caused by reduced dry season flows.
- o The possibility of irreversible water quality declines caused by increasing numbers of on-site wastewater disposal systems at densities not suitable for such disposal practices over the long term.

- o Increased threats to fire safety as increased development in high and very high fire hazard areas raises the potential for losses during wildfires.
- o Loss of wildlife habitat and timber resources during conversion of land uses to residential, commercial, and geothermal uses.

8.0 RELATIONSHIP BETWEEN SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM ENVIRONMENTAL QUALITY

The area plan provides for a substantial increase in residential and commercial development, while providing a comprehensive policy and land use program for the protection of important or sensitive environmental resources. The plan identifies areas needing environmental protection through resource conservation, agriculture, open space, waterway, wetland, and unique natural area land use types. Large-lot zoning is provided where incompatible uses such as geothermal activity and residents need separation, in areas with very high fire hazards, and for the purposes of maintaining wildlife habitat.

The plan enables the continued expansion of high-temperature geothermal development in the primary geothermal resource area. While geothermal energy will provide a low-cost source of electrical energy for the life of the plan, requirements for reclamation programs to restore the area after the long-term decline of this energy resource will help to limit long-term environmental impacts caused by geothermal development.

9.0 ALTERNATIVES

CEQA requires that an EIR report any potential alternatives to the area plan, including a "no project" alternative. Besides the "no project" alternative, the feasibility of area plans with slow and very high growth rates are reported.

9.1 NO PROJECT

A "no project" alternative is not considered feasible because state planning law requires that Lake County provide specific zoning which is consistent with the general plan. Without the area plan, a large portion of the Cobb Mountain Area would remain in non-specific "unclassified" zoning, which does not meet the state's minimum planning requirements. Lake County is also under court order to delete all unclassified zoning within a reasonable timeframe.

With a large rezoning program such as that proposed in the area plan, major review and revision of the general plan becomes a necessary ingredient of the plan. The 1981 General Plan calls for development of area plans in order to better specify local issues and policies in the county's communities.

9.2 SLOW GROWTH PLANS

A slow growth plan would involve a population growth rate of near or slightly less than 2.0 percent per year. This growth rate is near the recent statewide growth rate, but is from one-half to one-third the recent Lake County average growth rate. The slow growth rate of 2.0 percent would lead to a year 2006 population of approximately 3,800 persons (as opposed to slightly more than 6,000 persons as projected in the area plan).

The potential for reducing significant environmental impacts from a slow growth rate would decrease slightly in the cases of water resources, water quality and wildlife habitat losses. The potential for other environmental impacts would remain nearly the same as those caused by the area plan. On the other hand, less population may lead to less justification to convert local fire protection from volunteer to manned systems, or for purchasing and developing community park sites.

The feasibility of actually implementing a slow growth plan is considered low because of the existence of many developable lots in the planning area. The slow growth alternative would be considered implementable only if clear evidence of threatened domestic water quality required a moratorium on new development, and construction of a sewer system was considered infeasible.

9.3 VERY HIGH GROWTH PLAN

A very high growth plan would involve a population growth rate of approximately 6.6 percent per year. This rate is the highest growth scenario found in the 1981 General Plan, and would allow accommodation of more than 9,300 persons in the Cobb Mountain Area by 2006. This growth rate is 1.5 times faster than that contained in the proposed area plan.

A plan utilizing the very high growth rate would generally lead to more adverse environmental impacts with greater intensity of these impacts. The ability to mitigate many for these impacts would be less than under the proposed plan. The single most important way to mitigate the impacts of a very high growth plan would be to provide for sewers in the Cobb Valley, Hobergs, Adam Springs and Lomond areas. With sewers, population density could be increased and land resources utilized more efficiently. However, the cost of sewer may be prohibitive because of the area's mountainous terrain, therefore making the high growth rate infeasible without substantial state and federal financial assistance.

10.0 EFFECTS FOUND NOT SIGNIFICANT

In discussions under DEIR Section 4.0, a number of potential environmental effects were found not significant because they were mitigated by existing policies or programs, by the area plan, or through mitigations suggested by the DEIR. These mitigated effects generally included the following:

- o Steep slopes, erosion and related non-point water pollution.

- o Domestic water systems.
- o Vegetation and wildlife habitat not adversely affected by increased utilization of water resources.
- o Agriculture and forestry.
- o Mineral utilization.
- o Geologic and seismic hazards.

11.0 ORGANIZATIONS AND PERSONS CONSULTED

South Lake County Fire Protection District

Lake County Flood Control and Water Conservation District

Lake County Air Quality Management District

Department of Fish and Game

12.0 PERSONS RESPONSIBLE FOR EIR PREPARATION

Lake County Planning Department:

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Report Preparation: Barbara Jo Wise, Planning Office Supervisor

13.0 APPENDICES

Appendix 1 - Initial Study

Appendix 2 - Agency Comments