COUNTY OF LOS ANGELES

GENERAL PLAN

CONSERVATION AND OPEN SPACE ELEMENT

CONSERVATION AND OPEN SPACE ELEMENT

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INTRODUCTION

The Conservation and Open Space Element sets policy direction for the open space related resources of Los Angeles County. These resources include land and water areas devoted to recreation, scenic beauty, conservation and use of natural resources, agriculture, and mineral production. The Element's policies are based on the need to conserve natural amenities, protect against natural hazards, and meet the public's desire for open space experiences.

The State of California declares that open space is necessary to maintain the State economy, for the enjoyment of scenic beauty and recreation, for the protection and use of natural resources, and for the production of food and fiber. State policy discourages premature conversion of open space to urban use. The Element supports this policy and the general policy direction of the General Plan to encourage a more concentrated urban pattern by directing urban growth to environmentally suitable locations.

The conservation emphasis of this Element consists of measures for the conservation, management and use of natural and manmade resources. The open space emphasis addresses biotic resources, agricultural and mineral resources, major outdoor recreation, and public health and safety concerns. The two elements are combined because of the highly interrelated nature of the subject matter. Open space preservation affords a major means of conserving resources. In addition, natural hazards and resources often occur in the same location; therefore, the need to ensure public safety and protect resources requires an integrated and coordinated approach to the management of these lands.

To protect areas of significant natural resources the Element recommends the retention of these areas in non-urban or open space use. Special emphasis is placed on protection of hillside character and significant ecological areas.

BACKGROUND

OPEN LANDS INVENTORY

Los Angeles County contains 2,613,000 acres (4,083 square miles) of land and inland water. Seventy-five percent of this area is either vacant, in agricultural use or existing open space (committed to a long term open space use). The County's inventory of open land in 1980 amounted to almost 2 million acres.

Table 2.1 shows the amount of each type of open land in Los Angeles County by planning area. Ninety percent of the uncommitted open lands (privately owned vacant and agricultural lands) are in the Santa Monica and Santa Susana Mountains, the Puente Hills, the Santa Clarita Valley, and the relatively flat lands of the Antelope Valley. (See Table 2.3 for a capability analysis of this land for urban development.)

TABLE 2.1
OPEN LANDS IN LOS ANGELES COUNTY
BY PLANNING AREA
(In acres)

Planning Area	Vacant	Agricultural	Existing Open Space	Total Open Land
San Fernando	30,800	3,100	8,200	42,100
Burbank/Glendale	17,300	200	10,900	28,400
W. San Gabriel Valley	12,000	400	5,800	18,200
E. San Gabriel Valley	42,900	8,800	14,500	66,200
Malibu/Santa Monica Mtns.	84,100	500	9,600	94,200
West	11,700	100	13,700	25,500
Central	3,600	0	4,300	7,900
East Central	1,800	400	1,200	3,400
Southeast	6,800	1,500	3,400	11,700
South	4,300	1,300	8,100	13,700
Southwest	7,100	1,500	2,900	11,500
Antelope Valley	632,900	66,100	78,100	777,100
Santa Clarita Valley	106,600	8,000	14,400	129,000
Channel Islands	5,300	200	78,000	83,500
National Forests	-	-	649,600	649,600
TOTAL	967,200	92,100	902,700	1,962,000

SOURCE: Los Angeles County Department of Regional Planning, 1975.

Table 2.2 shows the major uses of the County's existing open space. Although nearly one-half of the open land in the County is committed to long term open space and can be considered protected, 80 percent of this area is in the National Forests and on the Channel Islands. Thus, much existing open space is not situated where most people can use it for their daily enjoyment. In the urban area, the 1978 deficiency in local park space amounted to 20,000 acres (based on the adopted County standard of 4 acres per 1,000 persons).

TABLE 2.2
USE OF EXISTING OPEN SPACE
IN LOS ANGELES COUNTY
(In acres)

	Public	Private	Total
Outdoor Recreation	67,800*	4,000	71,800
Natural Areas & Arboreta	43,900	1,100	45,000
Water Supply & Conservation	13,000	200	13,200
Military Reservations	85,700	-	85,700
Other Committed Open Lands	28,500	8,900	37,400
Sub-Total	238,900	14,200	253,100
National Forest Lands	649,600	-	649,600
TOTAL	888,500	14,200	902,700

SOURCE: Los Angeles County Department of Regional Planning, 1975.
*Includes 8,300 acres of local parks and 59,500 acres of regional parks, beaches and specialized facilities.

LAND CAPABILITY AND SUITABILITY

Better use of environmental data can be made in making decisions on the use of vacant and agricultural lands and in developing controls to protect against natural hazards and conserve valuable watersheds, natural habitats, scenic areas, and agricultural and mineral resources.

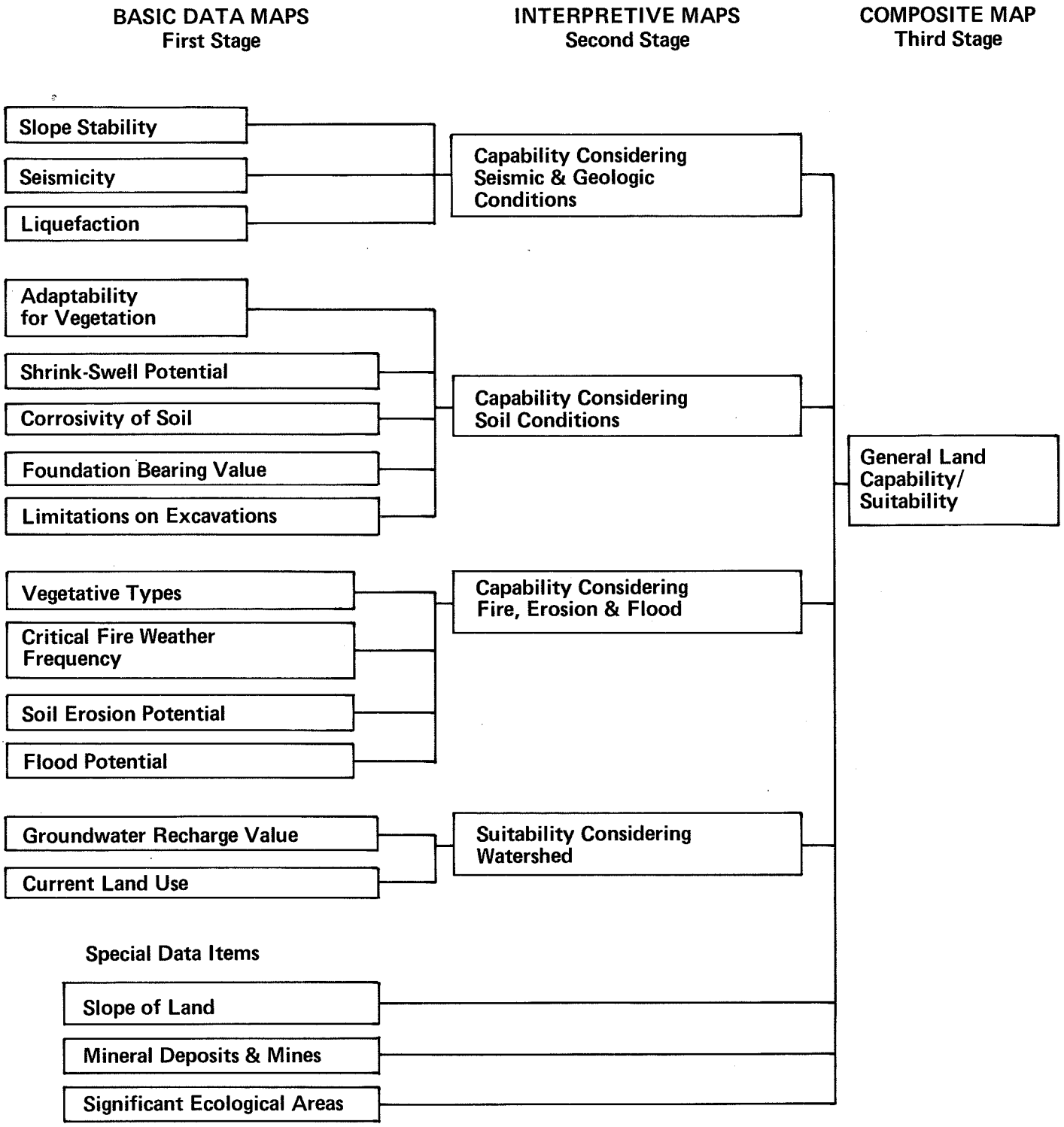
In 1977 the County conducted a comprehensive, scientific computerized study to determine the capability of more than one million acres of vacant and agricultural land to support various land uses. The objective of the study was to help locate areas where urban development would be most appropriate, and, by directing development to these areas, to reduce risks to life and property, decrease the high mitigation costs in areas of natural hazards, conserve natural resources and minimize environmental disruption.

Land capability is the relationship between land development potential and negative environmental factors that reduce this potential, such as fire, flood, seismic and slope stability hazards. Land suitability, on the other hand, deals with other types of factors, including: (1) natural resources requiring protection and (2) existence of urban infrastructure. Figure 2.1 lists environmental factors considered in the study as well as the process used to determine composite capability/suitability ratings. Of course, before land use decisions are made based on these environmental factors many other urban suitability factors must also be considered, including social and economic needs, existing development, the availability of water and other urban services, and the costs of extending services to outlying development.

The key finding of the land capability and suitability study is that little prime or completely problem-free land remains for urban development in the south County. Table 2.3 shows that in the south County less than 50,000 acres of vacant land have a high or moderately high capability for urban development. Another important finding is that much of the remaining vacant land deemed suitable in terms of natural factors (not including accessibility, market factors, etc.) is located in remote areas of the Antelope Valley where the demand for urban development has been significantly less in the past than demand in the south County.

Figure 2.1

PROCESS FOR DETERMINING
GENERAL LAND CAPABILITY/SUITABILITY FOR DEVELOPMENT*



*Urban suitability factors not included in this study are:
accessibility, availability of public services, cost of public services and public need.

TABLE 2.3

CAPABILITY OF VACANT LANDS FOR URBAN DEVELOPMENT

IN LOS ANGELES COUNTY

(In acres)

Level of Capability for Urban Development	South County	North County	Total
High	5,000	263,800	268,800
Moderately High	44,700	154,400	199,100
Moderate	19,700	6,800	26,500
Low	101,800	133,800	235,600
Very Low	63,000	240,400	303,400
TOTAL	234,200	799,200	1,033,400*

NOTE: Study area does not include Santa Catalina Island, San Clemente Island, and the National Forests because of their general status as existing open space.

SOURCE: Los Angeles County Department of Regional Planning, from Environmental Systems Research Institute source material, 1977.

*Includes all vacant land except existing open space and about 26,000 acres of agricultural land in an urban setting. The analysis leading to the designation of Potential Agricultural Preserves included such factors as water availability and historic farming patterns, considered essential to convey a realistic picture of agricultural potential. Using these factors, the Agricultural Commissioner prepared a detailed analysis indicating major areas where agricultural activity was considered viable.

The land capability/suitability study was one of the major tools used to determine where urban development would be most appropriate and where special management provisions would apply. It is intended that the data base used in the study will be updated with new information as it becomes available, as part of Plan implementation.

ENVIRONMENTAL RESOURCES AND NATURAL HAZARDS

Many of the resources and natural hazards, discussed below, were the subject of intensive evaluation as input to the land capability/suitability study.

AIR RESOURCES

Good air quality is essential to all forms of life. Clean air is an environmental asset and an economic resource which encourages residents to live here, permits specialty crop agriculture, and enhances recreation and tourism. These benefits, however, are being threatened because of regional air quality problems.

The concentrations of air pollutants, such as hydrocarbons, nitrogen oxides, ozone, sulfur dioxide, carbon monoxide, and particulates, are high enough to threaten health. Air pollution causes or aggravates emphysema, bronchitis, asthma, lung cancer, and heart disease. It also damages wildlife and vegetation, and reduces visibility.

Several factors contribute to poor air quality. Along with the rapid growth of the region, population has dispersed over a wide area, and the automobile, a major source of air pollution, remains the dominant mode of travel. The dispersal of air pollutants out of the region often is hampered by light winds and persistent temperature inversions which suppress vertical motions in the atmosphere and inhibit the upward dispersion of pollutant emissions. The concentration of pollutants is a particular problem on sunny days when inversion layers are low and winds are slight. In the presence of sunlight, various pollutants react to produce photochemical smog, the region's worst air pollution problem.(1)

Public concern and governmental action to reduce air pollution dates back to the mid-1940's when the City and County of Los

Angeles developed smoke abatement programs. Over the past 30 years, additional measures to improve air quality were taken. Open-air trash burning was prohibited, stringent controls were placed on stationary sources of pollution, and steps to reduce automobile and airplane emissions also were taken. As a result, air quality significantly improved between 1950 and 1977.

Ozone concentrations now rarely exceed .35 parts per million (ppm) (stage two episode), defined as very unhealthful to hazardous, (2) and the number of days-per-year when concentrations exceed .20 ppm have been reduced to under 100.(3) The number of stage one alert episodes, defined as very unhealthful,(4) for ozone were reduced from 213 days in 1956 to 89 days in 1977. The number of carbon monoxide stage one episodes has remained about the same. No carbon monoxide or ozone stage three episodes, defined as hazardous have occurred since 1972.(5) Despite such improvements, air quality appeared to deteriorate in 1979 and 1980 and still remains a major problem. Vigorous cost-effective actions will be needed if pollutant emissions are to be further reduced.

Current controls, which are administered by the Federal and State governments as well as the South Coast Air Quality Management District, reduce automobile and stationary source emissions, and with new technology these controls can be further strengthened. Additional measures have been suggested to substantially improve air quality, such as stricter controls on emissions from small businesses/industries and on heavy duty and fleet vehicles, and stronger inspection/maintenance programs. Although local government has little authority to administer these regulations, Los Angeles County supports them in concept. The coordinated implementation of various elements of the General Plan, particularly land use and transportation can help improve air quality. Land use and transportation strategies are intended to make shorter trips possible by providing services and employment closer to residential areas.

A more concentrated urban pattern can also reduce vehicle trips by encouraging use of public transit for longer trips and bicycling and walking for shorter trips. While local land use may not significantly affect private auto use, it may contribute to reducing vehicle miles traveled and/or the number of trips, contributing to improved air quality. As recommended in this Element, the preservation of non-urban land and major open spaces such as the Santa Monica Mountains and Chino Hills provide areas for the protection of air quality. This is true because open space virtually free of air contaminant emission sources produces lower pollution levels than the same area developed to urban uses.(6)

Air quality regulations should be strictly enforced, and research to determine the most effective means of improving air quality must be supported.(7)

ENERGY RESOURCES (8)

Residential uses, manufacturing, retail services and transportation are all dependent on energy. In Southern California, oil and natural gas meets over 90 percent of all energy demand. The rate of consumption of these two fuels has been rising rapidly over the past decade. Should this trend continue, energy consumption could double between 1980 and the year 2000.

In Los Angeles County, as in the rest of the State, the demand for energy has led to an increasing dependence on out-of-state and foreign sources. Natural gas imports have increased from Texas, New Mexico and to a lesser extent, Canada. As of 1977, Los Angeles County was producing only about 5 percent of its natural gas consumption.

Without new sources of liquified natural gas (LNG) supplementing dwindling national supplies, Los Angeles County could face

natural gas shortages by the early 1980's. This potential shortage could be alleviated by the construction of port facilities to receive shipments of LNG from Alaska and from other nations. Currently, there are no LNG import projects operating in California. Although the Point Conception site has been conditionally selected by the Public Utilities Commission, several locational concerns could delay construction of the facility.

In the past, natural gas was the major fuel used for generating electricity in Southern California, but decreasing supplies have forced local utilities to rely more on petroleum. Some out-of-state utilities have begun using coal-fired generating plants to keep pace with the growing demand for electricity. In California, however, air quality concerns have prevented utilities from burning coal. As a result, coal-generated electricity to serve Los Angeles County must be transmitted from out-of-state sources. According to recent projections, petroleum will be substituted for natural gas in electrical generation plants by 1985. By the year 2000, coal will be substituted for petroleum. In each instance, the shift will be from a "clean" to a "dirtier" source of energy and air quality may be adversely affected.(9)

TABLE 2.4

ENERGY CONSUMPTION PATTERNS

IN LOS ANGELES COUNTY

Sector	Percent of Total Energy Consumed
Residential	20.8%
Commercial & Industrial	48.6%
Transportation	30.6%
	100.0%

SOURCE: Los Angeles County Department of Regional Planning, Background Report for the Energy Element, Part I, The Current Energy Situation (March 1978).

Current energy consumption patterns in Los Angeles County are shown in Table 2.4. The greater mobility of residents and the heavy reliance on automobiles and trucks is evident in the high proportion of total energy consumed for transportation. While Los Angeles County consumes proportionally more energy for transportation than the nation as a whole -- 30 percent of total energy expended as compared to the national average of 26 percent -- this difference is surprisingly small. In fact, Los Angeles County uses approximately 8 percent less energy for transportation than the average for the State of California. Moreover, transportation energy use is projected to drop about 48 percent by the year 2000 if federal regulations for improved auto efficiency are met. In the short run, however, the transportation sector, because it depends almost exclusively on petroleum, is especially vulnerable to fluctuations in oil prices and supply.

Fuel resources are diminishing, and fuel costs are increasing; nevertheless, the demand for energy continues to rise. To conserve resources for the future, energy must be used more efficiently. Innovative conservation programs that encourage prudent use of energy supplies and the use of recycled and renewable resources are needed. The number of vehicle miles per capita traveled must also be reduced. Energy conservation not only conserves petroleum and other resources, but also reduces the need for new power-generating facilities which may produce additional pollution.

But even with an effective conservation program, population growth will increase energy demands. New sources of energy will be needed. Usable energy from the sun, wind, geothermal sources, timber and crop vegetation (biomass), waste products, and the ocean may offer long-range solutions to energy shortages.

WATER RESOURCES (10)

Los Angeles County has three natural drainage systems: the Los Angeles River, the Santa Clara River, and the Antelope Valley

basins. The Los Angeles, Rio Hondo and San Gabriel rivers, with their tributaries, drain the Los Angeles basin and empty into the Pacific Ocean. The Santa Clara River and its tributaries drain the Santa Clarita Valley. In the Antelope Valley basin, there are no perennial streams, but washes such as Big and Little Rock creeks flow from nearby foothills, and disappear into the highly permeable valley soils. In the Santa Monica Mountains, Malibu Creek, a perennial stream, and many intermittent streams provide drainage and valuable habitat. In addition to surface streams, man-made lakes and reservoirs provide storage for fresh water, and offer such recreation as swimming, boating and fishing.

The coastal waters are recreational and scenic assets. They provide habitat for a rich marine life. In addition, these waters are used for commercial fishing, industrial cooling and coastal shipping routes.

Ground water provides about one-third of the water supply. Runoff from foothills and mountains percolates through the soil to underground aquifers. From these aquifers, water is pumped to the surface through wells for local use. Water reclamation projects provide additional water for non-domestic water users.

Because local precipitation is variable and seasonal, local ground water supplies are supplemented with imported water. Water is imported from three major sources: the Owens Valley and Mono Basin via the Los Angeles aqueduct; the Colorado River via the Colorado River aqueduct; and Northern California water via the California aqueduct.

The water supply from all these sources is expected to meet projected demands for urbanization through the year 2000, assuming that Owens Valley water importation continues, flow (although at a diminished rate) from the Colorado River continues, and the State Water project is able to meet contractual obligations.

Water conservation, recycling, and ground water replenishment programs may be required to stretch available water supplies through the year 2000. Such programs should include: the construction of systems to reclaim waste water (for nondomestic uses) and to recapture stormwater runoff; the restructuring of user charges to discourage wasteful water consumption; and public education.(11)

County government, in cooperation with water districts, should encourage developers to plan for dual water systems that will use reclaimed waste water for non-domestic purposes. In addition, water can be saved by irrigating parks, natural landscape areas and agricultural areas from dual systems. Food can be produced through hydroponic farming, replacing soils with nutrient solutions.

Los Angeles County does not have the types of water pollution problems faced in many other parts of the nation. Generally, residents of Los Angeles County enjoy the use of very high quality water at reasonable rates. However, salt-water intrusion, mineral buildup in underground storage basins, oil leakage from drilling operations and other industrial pollutants have impaired the quality of some local water supplies. The mineral content of water from the Colorado River has increased. These problems are presently being addressed, but without adequate precautions they could increase in severity.

AGRICULTURAL AND SOIL RESOURCES

Agriculture is considered a mining-manufacturing process. Plants extract minerals and organic matter from the soil and process them into edible form. Agriculture is different than other mining-manufacturing processes however because the resources extracted are renewable from year to year.

Soil is a mixture of weathered mineral particles and organic material. Soil depth, texture, permeability, water-holding capacity, and nutrient-supplying capability affect plant growth. These factors, along with climate, water supply and proximity to markets, determine where crops can be grown.

The U.S. Soil Conservation Service groups soils into eight classes based on agricultural potential. This classification depends on slope, organic matter, and flooding and erosion hazards. Class I and II soils, often referred to as prime soils, are best for agricultural production. Such soils are deep, generally well drained, and easily worked.

Based on this soil classification system, more than 450,000 acres of prime agricultural soil remain undisturbed by urbanization. However, much of this land is in the Antelope Valley where water costs and climatic conditions limit productivity. Nonetheless, of the 55,000 acres in agricultural production in 1979, 73 percent were located in the north County where large amounts of land are under production in alfalfa and dry farming crops such as barley and sugar beets (see Table 2.6).

In the south County where the climate is exceptional for growing a number of high-value crops, urban growth has eliminated most agricultural acreage. As a result, the remaining agricultural activity has become very specialized, shifting to crops of high value, such as nursery products, cut flowers, vegetables and fruits. Generally, only small amounts of land are needed for these operations.

As shown in Table 2.5, the County recorded $217 million in agricultural cash receipts in 1979. The leading agricultural commodities, in terms of 1979 revenues, were: ornamental trees and shrubs ($70 million), alfalfa hay ($18 million), milk products ($12 million), miscellaneous vegetables ($11 million), indoor foliage plants ($10 million) and bean sprouts ($8 million).(12)

Table 2.6 shows the trend of agricultural acreage production between 1970 and 1975.

TABLE 2.5

VALUE OF AGRICULTURAL PRODUCTION IN LOS ANGELES COUNTY

1975 - 1979

(Gross Cash Receipts, in $1,000)

	1975	1976	1977	1978	1979
Nursery & Cut Flower	$ 62,468	$ 74,660	$ 86,769	$ 97,331	$104,481
Livestock Products	47,489	47,216	44,283	42,401	45,573
Vegetable Crops	20,874	26,632	39,499	33,565	34,309
Field & Seed Crops	13,332	16,016	15,265	17,475	23,210
Fruit & Nut Crops	8,409	9,286	13,725	12,636	9,685
TOTAL RECEIPTS	$152,572	$173,810	$199,541	$203,408	$217,268

SOURCE: Los Angeles County Agricultural Commissioner, Annual Reports, 1975-1979.

TABLE 2.6

AREA IN AGRICULTURAL PRODUCTION IN LOS ANGELES COUNTY*

1970-1979

(In Acres)

	1970	1975	1979	Change 1970-1979
South County	25,029	17,138	15,093	- 9,936
North County	77,759	58,884	40,518	-37,241
TOTAL	102,788	71,022	55,611	-47,177

*Excludes rangeland.

SOURCE: Los Angeles County Agricultural Commissioner, 1980.

To provide for the future production of needed food supplies, there is a need to preserve lands where agriculture (including grazing) is economically viable or which have a high potential based on the presence of prime soils. With possible future shortages of fuel, chemical fertilizers, water and other materials, it is desirable to maintain naturally fertile areas near the source of demand.

BIOTIC RESOURCES

Los Angeles County has a diverse topography of coastline, flatlands, mountains, and desert. Elevations range from sea level to over 10,000 feet. The climate ranges from moist, moderate temperatures along the ocean front to temperature extremes in the mountains and deserts. This variety of environments has produced 24 unique and diverse biotic communities defined as assemblages of plant and animal species in specific physical habitats. They are ecological units where diverse organisms exist together in an orderly, predictable manner in close, complex relationships. They may be located by geographic region as follows:

- Coastline: marine aquatic, coastal dune, coastal strand, coastal salt marsh, sage scrub, chaparral, tidal flats and sea cliff.

- Hill and Mountain Ranges: freshwater aquatic, riparian woodland, coastal and inland sagebrush, grassland, southern oak woodland, mixed chaparral, pinyon woodland, Pacific and Sierran coniferous forests (on higher slopes).

- Desert: Great basin sagebrush scrub, joshua tree woodland, creosote bush scrub, desert rock plant, riparian woodland, shadscale scrub and alkali sink scrub.

- Lowlands and inland valleys: inland sage scrub, southern oak woodland, and grassland (despite intensive development); lowland riparian (in unchannelized streams); and freshwater aquatic.

In Los Angeles County, 64 significant ecological and habitat management areas have been identified representing a wide range of biotic communities (13). Their complex ecological relationships are the subject of scientific study and outdoor educational programs, and the diverse animal and plant life provide the opportunity for activities such as nature photography, birdwatching, insect collecting, and other aspects of nature study and esthetic enjoyment. (More detailed information on these ecological areas is found in Appendix "E" of the Technical Supplement.)

Many biotic resources of the County have been lost due to the encroachment of urban and agricultural development. These resources are especially vulnerable to destruction as a result of unmanaged development.

Since biotic communities are affected by an area much larger than their own boundaries, attention should be directed to the compatibility of future development in areas adjacent to important habitats identified as significant ecological and habitat management areas.

MINERAL RESOURCES

A continuous and assumed supply of minerals for industrial production, construction, transportation, and chemical processing is essential to Southern California's economic well-being. Major local mineral resources consist of oil and deposits of rock, sand and gravel (14).

Most of Southern California's on-shore oil deposits are located in Los Angeles County. In 1979 more than 67 million barrels of oil, amounting to 20 percent of the State's oil production were produced in the County. Wilmington, the most productive oil field produced about 45 million barrels, more than two-thirds of the County's production.(15)

California is the largest producer of sand and gravel in the nation, and the greater Los Angeles area (an area within a 60-mile radius of the downtown Los Angeles Civic Center) is the nation's leading producer for its geographic size.

The County has several deposits of high quality sand and gravel which are located close to the market and available at low costs. The main uses of these products are: portland cement concrete aggregate; asphaltic concrete aggregate; base and sub-base aggregate; and clean fill. Sand and gravel are basic materials for the construction of homes, commercial and industrial buildings, sewers, dams, bridges and highways.

Major sand and gravel extraction sites are found in the alluvial fans of the Big Tujunga Wash in the San Fernando Valley and in the San Gabriel River (Irwindale and adjacent areas). Other sites are in the Santa Clara River and Little Rock and Big Rock washes in the north County. The average annual production for the period 1971-75 for the greater Los Angeles area was 44.5 million tons. Known sand and gravel reserves, defined as commercially recoverable deposits, in the Los Angeles area were estimated at 1,315 million tons in 1976. These reserves will reach depletion shortly after the turn of the century if current patterns of consumption continue.(16)

In the past, valuable sand and gravel reserves have been lost when incompatible urban uses have encroached upon productive areas. To ensure adequate supplies for future production, these resources must be protected and conserved. On the other hand, mineral operations should not be abandoned and left as a scar on the environment. Depleted excavations and drilling sites should be reclaimed for beneficial uses or restored to a natural condition. It is also important to evaluate the extent and commercial potential of additional rock, sand, and gravel deposits in the County. The State of California is now conducting such an investigation, the results of which will permit better identification of sites for preservation and production.

SCENIC RESOURCES

Scenic resources contribute to tourism and the intellectual and emotional development of local inhabitants. A varied landscape invites exploration and stimulates curiosity. Distinctive scenery gives residents a sense of place, heightens the feeling of belonging, and instills a sense of uniqueness and civic pride.

Los Angeles County is endowed with a physical setting of great beauty. The peaks of the San Gabriel Mountains rise 10,000 feet over the basin, and the waters of the Pacific Ocean and broad sandy beaches define the western margin of the land. Stands of pine, fir, and other evergreens cover the higher slopes of the San Gabriel Mountains, and the desert floor of the Antelope Valley is carpeted with fragile wildflowers in the early spring.

The urban setting offers a variety of scenic resources ranging from California bungalows to modern skyscrapers. Many historical sites have been identified by State and local groups. Buildings designed by notable architects and other buildings of special significance offer outstanding examples of many architectural styles. Museums, amphitheaters, schools, and parks also display excellence in both landscaping and design. The developing skyline of downtown Los Angeles is a vivid landscape, and many residential areas in the County such as the Palos Verdes Peninsula, Woodland Hills, Westlake Village, and Flintridge have developed or retained scenic qualities as urbanization took place.

Many scenic drives connect urban areas with natural regions in other parts of the County. For example, Mulholland, in the Santa Monica Mountains, offers spectacular views of the urban pattern, steep canyons, bold geologic formations, and significant ecological areas. Other roads pass through areas of diverse scenery such as the Angeles National Forest and the San Andreas fault zone.

Many scenic resources have been diminished by urban development. In some areas, insensitive hillside grading has been destructive of the natural character of the land, particularly ridgelines. Roads and freeways have sometimes visually separated communities and caused scars on hillsides. Programs are needed to protect scenic resources from unsightly development and urban sprawl. The countywide scenic highway system, for instance, as provided for in the Scenic Highway Element of the General Plan, is designed to increase outdoor scenic and recreational opportunities and protect scenic quality. Also, innovative and sensitive design of development in hillsides can protect natural features such as ridgelines.

CULTURAL HERITAGE RESOURCES

Los Angeles County has numerous archaeological and historical sites from the Indian, Hispanic and American periods of California history. The County also has paleontological sites and important geological formations from periods many millions of years before the first appearance of man.

As we look farther into the past, we must depend upon the local geology and the study of fossil remains for an understanding of past environmental conditions. The source of information regarding more than 90 percent of our cultural history is the artifacts and sites left by older cultures. Native American peoples who lived in Los Angeles County developed a complex culture before the arrival of Europeans as evidenced by many archaeological finds, including occupation sites, temporary camps, chipping stations, quarries, rock shelters, bedrock mortars, burial sites and rock art.

Many monuments to the historical past still abound in Los Angeles County: missions, remains of the great ranchos, routes of early explorers and historical trails. Also still evident are stagecoach

stations, forts, railroad depots, and the homes of prominent people whose lives are a part of the area's history.

The cultural heritage of Los Angeles County is rich and reflects the influence of cultures from almost every continent. The County also has one of the largest Native American populations in the United States.

Our cultural heritage is nonrenewable and irreplaceable. Resources continue to be haphazardly protected, and often there are insufficient funds for saving a threatened site or structure. Programs and procedures to identify and protect our cultural resources are needed. Public awareness of their value should be encouraged, and their public enjoyment should be fostered whenever possible.

RECREATIONAL RESOURCES

The National Forests and Santa Catalina Island are the largest recreational areas in the County. The visitor can hike and camp or sightsee in isolated natural areas abundant in wildlife and vegetation. Large water conservation projects such as Whittier Narrows and Castaic Lake are used for nature study and fishing. State Parks and Recreation Areas in the Santa Monica Mountains, Antelope Valley, and Puente Hills provide thousands of acres for scenic enjoyment and riding and hiking in relatively undisturbed terrain. The State also operates historic parks at El Pueblo de Los Angeles and Pacific Palisades (Will Rogers).

The shoreline is one of the most intensively used recreational resources in the County. It offers swimming, surfing, fishing, boating, and nature study. Long Beach Marina, King Small Craft Harbor, Marina Del Rey, and Avalon Harbor are used by boaters.

A system of regional parks has been developed through County and city efforts. These parks are used for water and field

sports, hiking, biking, and nature study. A local park system complements the regional park system and is designed to meet neighborhood and community outdoor recreation needs (17).

A highly urbanized population generally has more leisure time, a fact that has increased the recreational demands in Los Angeles County and contributed to deficiencies in outdoor recreation facilities. The facilities must serve not only a large and diverse population, but also millions of visitors each year. Because of these reasons, and projected population increases, additional outdoor recreation facilities, especially urban parks, riding and hiking trails, nature areas and water recreation areas will be needed.

In a County geared to mobility, the poor, the aged, the young, and the handicapped have the least recreational opportunities. Greater public access, including improved public transportation, and a wider choice of leisure activities are important in expanding recreational opportunities for all.

Additional outdoor recreational facilities can be provided by developing small parks, integrating open space into redevelopment projects, using completed landfills and abandoned school sites and planning for more bikeways and hiking and riding trails. The Santa Monica and Santa Susana Mountains and the Puente and San Jose Hills should be used for trail systems and recreational connectors. Where compatible with resource preservation, natural and cultural heritage resources may also provide recreational opportunities. The Plan strongly endorses the National Recreation Area for the Santa Monica Mountains as a way to preserve the scenic, recreational and ecological values of one of the County's major open space assets.

GEOLOGIC AND SEISMIC HAZARDS

The land in Los Angeles County, in a youthful stage of geological evolution, is unstable. Many active and potentially active earthquake faults are found in this area.(18) Liquefaction, landsliding, shattered ridges, land settlement, and tsunamis and seiches are other seismic-related hazards found locally. Many areas are subject to local earth movement such as landslides, rockslides, and subsidence. Rocks and soils prone to instability include alluvium, terrace deposits, shale, metamorphic schist and siltstone (see the Seismic Safety Element of the General Plan).

FLOOD, MUDFLOW AND EROSION HAZARDS

Some areas are subject to overflow, inundation, deposition of debris, or erosion caused by flooding. Areas exposed to the greatest flood hazard are in the fire-flood fringe in the foothills of the San Gabriel Mountains, the Malibu coast, the Santa Clarita Valley and the Antelope Valley. The urban area south of the San Gabriel Mountains is relatively free from flood hazard because of the extensive system of flood control channels, dams, debris basins, and storm drains.

Erosion is the wearing away of the land surface by wind, gravity, moving water and other geologic agents. Road construction, grading, changes in water drainage and increased runoff may accelerate erosion. Soil, vegetation and rock eroded by water often becomes a mudflow, a moving wall of debris. The central Santa Monica Mountains and hilly and mountainous areas in the San Fernando, East San Gabriel, Santa Clarita, and Antelope Valleys are subject to mudflow.

WILDLAND FIRE HAZARDS

The frequency of fires in wildlands is determined by the type of vegetation, climate, and weather patterns, and the proximity to human habitation or activities; arson is a frequent cause of wildfires. The major fuels for wildland fires are chaparral, sage, and grasses. When the vegetation dries out in the hot, dry weather of the summer and fall, the area becomes highly susceptible to brush fires. The risk of wildland fires is compounded when isolated development occurs in and near brush-covered areas, particularly hillsides. In steep, rugged hillside terrain, fires spread rapidly (fire is drawn up hillsides from canyon bottoms by updrafts -- the chimney effect), control efforts are thwarted and the cost of fire-fighting goes up. Even with moderate slopes fire-fighting vehicles are no longer effective, and fire-fighting crews and expensive aerial fire-fighting equipment becomes necessary. Wildland fires can destroy property, threaten lives, and damage vegetation, animal habitats, grazing land, and scenic views.

OBJECTIVES

The objectives of the Conservation and Open Space Element are:

- To support local efforts to improve air quality.

- To conserve energy resources and develop alternative energy sources.

- To conserve water and protect water quality.

- To preserve and protect prime agricultural lands, forests, fisheries, significant ecological areas and other biotic resources.

- To protect mineral resources.

- To preserve and protect sites of historical, archaeological, scenic and scientific value.

- To reduce the risk to life and property from seismic occurrences, flooding, erosion, wildland fires and landslides.

- To improve opportunities for a variety of outdoor recreational experiences.

NEEDS AND POLICIES

POLICY STATEMENTS

Improve Air Quality

Air quality in Los Angeles County is severe enough to threaten health. Unfocused development and the dependence of the population on the automobile contribute to the problem.

POLICY

1. Actively support strict air quality regulations for mobile and stationary sources, and continued research to improve air quality. Promote vanpooling, car pooling and improved public transportation.

Conserve Energy

In the face of scarce fuel resources and rising fuel costs, energy must be conserved and new sources of energy found.

POLICY

2. Support the conservation of energy and encourage the development and utilization of new energy sources including geothermal, thermal waste, solar, wind and ocean-related sources.

3. Promote the use of solar energy to the maximum extent possible.

Conserve Water Supply and Protect Water Quality

The supply and quality of local water must be conserved and protected. Otherwise, the County could face critical shortages in the future.

POLICY

4. Protect ground water recharge and watershed areas, conserve storm and reclaimed water, and promote water conservation programs.

5. Encourage the maintenance, management and improvement of the quality of imported domestic water, ground water supplies, natural runoff and ocean water.

Preserve Prime Agricultural Lands

Agricultural production in Los Angeles County provides food products and landscaping materials close to major population centers.

POLICY

6. Preserve significant agricultural resource areas and encourage the expansion of agricultural activities into under-utilized lands such as utility rights-of-way and flood prone areas.

Conserve Natural Areas

The variety and stability of plant and animal communities requires the preservation of important natural habitat areas. These are threatened by land development and the resultant extension of roads through environmentally sensitive areas.

POLICY

7. Preserve significant ecological areas and habitat management areas by appropriate measures, including preservation, mitigation and enhancement.

8. Protect the quality of the coastal environment. Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resource conservation principles.

9. Preserve and restore marine resources emphasizing the shore and near shore zone, especially lagoons and salt water marshes.

10. Support an offshore marine sanctuary from the Mexico border to Ventura County, extending fifty miles seaward.

11. Cooperate with the U. S. Forest Service in developing a comprehensive management program for the National Forests which will maintain high-quality watershed, protect against natural hazards, provide recreational opportunities, and protect fish and wildlife habitats and designated wilderness areas. Encourage public acquisition of private inholdings in the Forests.

12. Protect watershed, streams, and riparian vegetation to minimize water pollution, soil erosion and sedimentation, maintain natural habitats, and aid in ground water recharge.

13. Encourage open-space easements and dedications as a means of meeting scenic, recreational and conservation needs.

14. Encourage maintenance of fisheries through improved commercial and sport fishing practices, habitat improvement programs, and research on fish propagation.

Protect Mineral Resources

In the past, valuable mineral reserves have been lost when incompatible urban uses were moved into productive areas. These reserves must be protected, and potential sites identified. At the same time, mineral production must not be allowed to conflict seriously with the goals of environmental protection.

POLICY

15. Protect and conserve existing mineral resources, evaluate the extent and value of additional deposits, and require future reclamation of depleted sites.

Protect Scenic Resources

Stronger controls are needed to protect scenic resources from unsightly development and urban sprawl.

POLICY

16. Protect the visual quality of scenic areas including ridgelines and scenic views from public roads, trails and key vantage points.

Protect Cultural Heritage Resources

Our cultural heritage is nonrenewable and irreplaceable. These resources must be identified and protected. Public awareness and use of these resources should be encouraged.

POLICY

17. Protect cultural heritage resources, including historical, archaeological, paleontological and geological sites, and significant architectural structures.

18. Encourage public use of cultural heritage sites consistent with the protection of these resources.

19. Promote public awareness of cultural resources.

20. Encourage private owners to protect cultural heritage resources.

Protect Public Safety

Our society places high value on the protection of human life. Development in areas subject to fires, floods, seismic and geologic hazards can result in loss of life and property, and increased governmental costs. Steep sloping lands are particularly vulnerable to fire, landslide, mudslide and erosion hazards. Protection and proper management of lands subject to these hazards are needed.

POLICY

21. Restrict urban development in areas subject to seismic and geologic hazards.

22. Restrict urban development in flood prone areas, and thus avoid major new flood control works. Maintain natural watershed processes by regulating development in tributary watersheds. Minimize increased runoff, erosion, and siltation of streambeds that would limit the uses of streams and water-bodies for recreation and other beneficial water-related uses.

23. Encourage the multiple use of flood prone areas for recreation, agriculture, ground water recharge and wildlife habitat.

24. Manage development in hillside areas to protect their natural and scenic character and to reduce risks from fire, flood, mudslides, erosion and landslides.

25. Discourage isolated development in wildland fire hazard areas and develop stricter brush clearance ordinances to protect existing structures.

Provide Additional Outdoor Recreation Areas

The highly urbanized, diverse population of the County and the millions of tourists who visit the area every year place increased demands on recreational facilities. Deficiencies in outdoor recreation areas have resulted. There is a need for more recreation sites and better public access to recreation facilities.

POLICY

26. Actively participate in the planning for acquisition and development of the Santa Monica Mountains National Recreation Area. Strongly encourage Congress to maintain a funding level

adequate to meet the objectives of the National Recreation Area legislation.

27. Provide low intensity outdoor recreation in areas of scenic and ecological value compatible with protection of these natural resources.

28. Develop local parks in urban areas as part of urban revitalization projects, wherever possible.

29. Encourage improved public transportation to recreation sites.

30. Develop a system of bikeways, scenic highways, and riding and hiking trails; link recreational facilities where possible.

31. Encourage safe conversion of sanitary landfills for recreational use when no longer needed for waste disposal.

32. Support the provision of appropriate areas for off-road recreational vehicles, so as to reduce their impact on environmentally sensitive areas.

33. Support improved public access to coastal recreation areas, including the Channel Islands, consistent with protecting marine and land environments.

Promote Landscaping

Landscaping is needed to provide scenic beauty, make the urban environment more attractive and pleasant, improve air quality (19), reduce energy consumption, and separate and screen urban uses from noise and unsightly views. Properly managed landscaping can improve soil conditions and retard wildland fires. Certain trees are also valuable because of their beauty, age, rarity, unusual dimensions, or historical importance (heritage trees).

POLICY

34. Encourage the maintenance of landscaped areas and pollution-tolerant plants in urban areas. Integrate landscaping and open space into housing, commercial and industrial developments especially in urban revitalization areas. Use drought-resistant vegetation.

35. Support preservation of heritage trees. Encourage tree planting programs to enhance the beauty of urban landscaping.

CONSERVATION AND OPEN SPACE POLICY MAP

The Conservation and Open Space Policy Map (to be found in the back pocket of the Plan) depicts existing and recommended open space of regional significance and areas generally recommended for acquisition by public agencies. The map also depicts areas requiring special management of natural resources or hazards. Together these areas identify open space resources of regional significance. Policies and programs of the General Plan directed toward the management and protection of these areas constitute the Open Space Plan of Los Angeles County.

Legend Explanation

a. Existing Open Space*

Existing open space includes public or private land and water areas devoted to recreational and other uses such as parks, golf courses, beaches and nature preserves. Other existing open space includes National Forests, cemeteries, sanitary landfills, military lands, flood control channels, lands under utility power lines, and other dedicated open areas. While the National Forests are depicted entirely as open space, there are limited private landholdings within Forest boundaries not currently committed to open space uses. Also shown are dedicated open space areas in private developments set aside for scenic and recreational uses. Normally, such areas are not available for public use.

*Due to the scale and generalized nature of the Conservation and Open Space Policy Map, it is conceivable that small privately owned parcels, not intended for open space use, have been included within the Existing Open Space classification. It is not the intent of the Conservation and Open Space Element to preclude reasonable use of such properties. Decisions regarding the most appropriate use of specific parcels in such instances, should be guided by compatibility with open space uses and land suitability criteria.

Existing mineral operations and new, renewed or expanded operations are considered compatible uses within the open space category provided they:

1) Comply with applicable Los Angeles County Codes and Ordinances, and any applicable permits; and

2) Do not significantly degrade other identified open space resources.

Reasonable conditions may be imposed to minimize adverse impacts on the environment while protecting the production and conservation of mineral resources.

The intent of this category is to maintain these land and water surfaces in an open character for public safety, recreation, scenic enjoyment, resource production and for the protection and study of natural ecosystems. Structural improvements may be consistent with this intent if supportive of the primary open space uses.

b. Recommended Open Space

Recommended open space includes proposed national, State and regional parks and recreation areas. These recommended areas are based on current federal, State, city and County proposals; acquisition is subject to available funding.

Within areas recommended for eventual public recreation use under the Recommended Open Space designation, a variety of compatible uses may continue, subject to applicable standards and conditions (see Land Use Element, page III-37). These uses include mineral operations, agriculture, private recreation, and semi-public activities and services.

Existing mineral operations and new, renewed or expanded operations are considered compatible uses within the open space category provided they:

1) Comply with applicable Los Angeles County Codes and Ordinances, and any applicable permits; and

2) Do not significantly degrade other identified open space resources.

Reasonable conditions may be imposed to minimize adverse impacts on the environment while protecting the production and conservation of mineral resources.

c. National Recreation Area*

The Santa Monica Mountains are a unique and valuable natural resource. The mountains possess highly scenic areas, and diverse topographic, geologic and vegetative features. Thus, the mountains afford opportunities for a variety of recreational pursuits. In addition, several of the County's most important significant ecological areas are found here. For these reasons, and especially because of the mountains close proximity to millions of urban residents, a portion of the Santa Monica Mountains is to be acquired as part of a National Recreation Area (NRA). The intent of establishing the NRA is to create a variety of outdoor recreation facilities, and to protect the mountains' scenic resources and wildlife habitats for the enjoyment of local residents and visitors. Further, the intent is to incorporate existing State, County and city parks and anticipated federal land acquisitions into a unified management system generally administered by the National Park Service. While major land

*Boundary reflects National Park Service's Land Acquisition Plan boundaries proposal as of June 1980.

acquisitions are proposed, not all properties within the NRA boundaries are likely to be purchased. For those properties not acquired, this category recognizes the responsibilities of local government to plan in a manner compatible with the management of the mountains as a major recreation area and natural resource.

d. Special Management Areas

The area shown is a composite of special management areas. These areas include the national forests, open space easements, significant ecological/habitat management areas and buffers, hillside management areas, potential agricultural preserves, coastal zone, flood prone areas, and major fault zones.* The intent of this category is to designate those areas where comprehensive management is needed to protect natural and scenic resources, and to minimize the threat to life and property. It is specifically not the intent of the Conservation and Open Space Element to preclude reasonable use of private property in these areas, but to ensure that where development takes place, identified natural resources are protected and natural hazards are avoided or appropriately mitigated. A further elaboration of individual management areas can be found under the Special Management Areas Policy Map description.

*The boundaries of the scenic highway corridor and mineral resource management areas have not been determined to the extent of other Special Management Areas and are, therefore, shown only as symbols on the Special Management Areas Policy Map.

SPECIAL MANAGEMENT AREAS POLICY MAP*

This policy map (to be found in the pocket at the back of the Plan) depicts areas that require special management due to the presence of natural and scenic resources or hazards. Adherence to special criteria for development in these areas is necessary to prevent loss of, or severe damage to, life, property, and the natural environment. The individual special management areas shown on this map elaborate upon the general areas depicted on the Conservation and Open Space Policy Map. General and special conditions for development within management areas are found in the Land Use Element.

Legend Explanation

a. Significant Ecological Areas/Habitat Management

Significant Ecological Areas (SEAs)/Habitat Management areas are ecologically important or fragile land and water areas valuable as plant and animal communities.(20) These areas (21) are classified as one or more of the following: 1) habitats for rare and endangered species of plants and animals; 2) restricted natural communities -- ecological areas which are scarce on a regional basis; 3) habitat restricted in distribution in the County; 4) breeding or nesting grounds; 5) unusual biotic communities; 6) sites with critical wildlife and fish value; and, 7) relatively undisturbed habitat.

This category recognizes the importance of protecting significant natural resources as living laboratories where examples of the County's diverse ecological heritage are preserved for

*Note: Due to the scale and generalized nature of this map, special management boundaries will be determined on a site analysis basis as needed, after a review of more detailed mapping and additional environmental data submitted.

the purpose of public education, research, and other non-disruptive outdoor use. The intent is to preserve these resources in an ecologically viable state.

The identification of specific SEAs, however, does not preclude the need to manage and protect all natural streams, riparian habitats, and larger habitat areas such as the San Gabriel, Santa Susana, and Santa Monica Mountains. Future additions or deletions to identified SEAs may be appropriate, based on updated, more detailed biological surveys, especially where cities or unincorporated communities have made subsequent boundary determinations based on biotic studies and have adopted protective measures. Since identification of significant ecological areas involved only limited field verification, the Plan sets forth a procedure for further verification of specific resources within these areas (see General Conditions and Standards for Development, Land Use Element, page III-43).

Preservation techniques may include County and city land use regulations, density transfers (commonly resulting in clustering), transfer of development rights, open space easements, deed restrictions, private land gifts and public acquisitions. The specific protective mechanism recommended for each SEA requires individual consideration based upon the nature of the specific resource value, land suitability, the degree of threat from urbanization, location within or adjacent to existing open space, and jurisdictional responsibility.

b. Significant Ecological Area Buffers

Areas shown include significant ecological area buffers. The intent is to provide additional protection for adjacent SEAs, since biotic communities are influenced by an area much larger than their own boundaries. In most cases, the boundaries of SEAs have been drawn to include self-contained units. However, in a few cases, it was necessary to designate a buffer zone in adjacent areas where special land use regulations may be appropriate to protect the SEA.

c. Hillside Management Areas

Terrain where the natural slope is 25 percent or greater constitutes hillside management areas, shown in generalized form. The intent of this category is to protect the character and natural resource values of hillsides and to manage new residential development so that the risks from fire and flood hazards, soil erosion, and land slippage will be avoided or mitigated.

d. Potential Agricultural Preserves

Potential Agricultural Preserves indicate major contiguous areas where commercial agriculture is taking place and/or is believed to have a future potential based on the presence of prime agricultural soils. The delineation of potential preserve areas was initially identified by the County Agricultural Commissioner. The Agricultural Commissioner, in consultation with the Regional Planning Commission, will review from time to time the areas depicted as Potential Agricultural Preserves to make recommendations on whether the boundaries should be adjusted based on such considerations as water supply, market demand and current farming practices. Agricultural uses and preserves are encouraged throughout the County and are not limited by the mapped boundaries. The intent is to focus government efforts in these areas to establish voluntary agricultural preserves under the California Land Conservation Act (Williamson Act), or other means, and to discourage the location of uses which would be incompatible with further agricultural production.

Prime agricultural soils are most desirable for inclusion in agricultural preserves. Williamson Act preserves should be at least 100 acres in size; however, if a viable commercial agricultural enterprise exists, the size limit may be waived. Preserve contracts are established for an initial term of ten years.

e. Coastal Zone

The coastal zone, as defined by the California Coastal Act of 1976, extends seaward to the outer limit of state jurisdiction and varies considerably inland. Los Angeles County is responsible for the preparation of Local Coastal Programs for the Malibu coast, Marina Del Rey, El Porto, Los Alamitos, and Santa Catalina Island. The intent of the Coastal Act is to protect and enhance the overall quality of the coastal environment, while providing for increased public access to and along the coast, and to maximize public recreation opportunities consistent with sound resource conservation principles.

f. Scenic Highways

Officially designated and first priority proposed scenic highways, as shown in the Scenic Highway Element, are included in this management area. Scenic highways indicate where special land development standards and zoning requirements are recommended. The intent is to protect scenic and visual resources within a highway viewshed.

g. Mineral Resource Areas

A symbol is used to identify where mining is presently occuring and includes surface operations of major oil and gas fields, and known deposits of rock, sand and gravel. Other areas appropriate for mineral resource management may be added as they are identified. The intent is to: 1) encourage the production and conservation of minerals while addressing concerns related to recreation, watershed, vegetation and wildlife, range and forage, and aesthetic enjoyment during and after mining operations 2) minimize adverse impacts on on the environment, including air pollution, impedance of ground water movement, water quality degradation, damage to plant and wildlife habitat, flooding, erosion, and excessive noise; and 3) require that extractive lands ultimately be reclaimed to a usable condition readily adaptable for alternate land uses, with no residual hazards to public health or safety.

h. Flood Prone Areas

Flood prone areas show general locations where potential flood inundation and erosion could occur during major storms. Floodplains identified by the County Engineer, the Flood Control District, the Army Corps of Engineers, or the Department of Housing and Urban Development are included as "Flood Prone Areas". The designation of flood prone generally includes all the major streams and rivers in the County remaining unchannelized. The intent is to apply appropriate development criteria and standards as well as mitigation measures in order to protect against flood hazards and to avoid the necessity to construct major new flood control facilities. In addition, it is the intent to maintain the natural waterflow and preserve streamside vegetation for erosion control. More specific mapping of Flood Protection Districts is being prepared by the County Engineer-Facilities and Flood Control District. These agencies will map both the existing wash or channel and additional areas as necessary to provide reasonable protection.

i. Major Fault Zones

Areas shown as major fault zones include active and potentially active earthquake faults based on mapping provided by the County Engineer-Facilities and the State Division of Mines and Geology under provisions of the Alquist-Priolo Special Studies Zones Act. The highest ground response or damage potential from a seismic event is expected within these zones and follows a general attenuation curve away from the fault that moves. If a moderate (5.0 Richter scale magnitude) or greater intensity earthquake originates from movement on one of the faults shown, surface faulting, fracturing, and fissuring are likely to occur nearby. The intent is to protect public safety and reduce risks to lives and property.

j. National Forest Management Area

The National Forest management area includes the Angeles and the Los Padres National Forests, and all privately owned land within the boundaries of the Forests. The intent of this category is to depict the area where policy is directed toward the comprehensive management of Forest lands and compatible land use regulation of lands adjacent to the Forests.

The management of National Forest lands is the responsibility of the U. S. Forest Service. Its mission is the stewardship of Forest lands and resources through comprehensive programs which provide recreation and multiple use of natural resources, wilderness areas, and significant habitat areas. The County regulates private land within the National Forests. The General Plan does not encourage development within the Forests, nor does it encourage extension of services to communities not already established in the Forests.

k. Open Space Easements

Areas shown as open space easements include the major portion of Santa Catalina Island. Open space easements are cooperative agreements negotiated between landowners and governmental agencies or non-profit conservation groups permitting regulated public use of private property where full fee acquisition costs are prohibitive. The intent is to depict those areas where policy is directed toward scenic and recreational areas, and to protect natural resources. Structural improvements can include maintenance and improvement of existing structures and construction of lodge, hotel or other public accomodations consistent with the intent and language of the open space easement. To qualify for an open space easement under provisions of the California Open Space Easement Act of 1974, preservation of land must be consistent with the General Plan, provide special benefit to the County, and fulfill one or both of the following:

- Have either scenic value, or be valuable as a watershed or as wildlife preserve; and/or
- Add to amenities of neighboring urbanized areas or help preserve the rural character of the area in which the land is located.

Using the above criteria, areas eligible for open space easements might include: 1) National Forest private inholdings; 2) significant ecological areas/habitat management areas and buffers; 3) hillside management areas with scenic values;* 4) coastal zone; 5) areas adjacent to designated scenic highways; 6) flood prone areas suitable for recreation or wildlife observation; and 7) seismic areas suitable for recreation or seismic education.

Open space easements are granted for a minimum of ten years and property assessments are adjusted downward as compensation for restrictions contained in the contract.

1. Cultural Heritage Resources (Unmapped)

Cultural heritage resources require protection to ensure a sense of continuity with the past. In addition, archaeological sites need the additional protection of anonymity, being too fragile to withstand unregulated contact. Mitigation of damage to archaeological and paleontological resources may include excavation and deposition of specimens in scientific institutions.

Various techniques are available to protect and enhance cultural heritage resources including land use regulations, historic district zoning, conservation and open space ease-

*Land with scenic value is defined as having one or more of the following: varied landform, vista points, rock formations, varied or unique vegetation or water features.

ments, registration in the National Register, transfer of development rights, and public acquisition. In addition, historical preservation groups have been able to preserve historic sites and buildings through private agreements such as restrictive covenants.

CONSERVATION AND OPEN SPACE ELEMENT
FOOTNOTES

1. Environmental Research and Technology, Inc., *A Guide for Considering Air Quality in Urban Planning* (U.S. Environmental Protection Agency, 1974), page 26.

2. An episode is declared when the parts per million count is attained for one hour and predicted to persist for an additional hour.

3. South Coast Air Quality Management District, *Annual Reports,* (1955 to 1975); reports prepared by the Los Angeles Air Pollution Control District.

4. In the South Coast Air Quality Management District, stage 1 episodes occur when the pollution standard index (PSI) reaches 200 PSI (very unhealthful); stage 2 when the PSI reaches 280 (very unhealthful to hazardous); and stage 3 when the PSI reaches 400 (hazardous).

5. Sandra Blakeslee, "Smog Pattern Shifting But Quality of Air Improves" (*Los Angeles Times,* Metro, June 25, 1977), page 1.

6. Los Angeles County Air Pollution Control District, "Relationship of Open Space Area and Air Quality", memo from Mr. John S. Nevitt, Senior Air Pollution Analyst (January 1973).

7. See Los Angeles Cities and County, *Draft Air Quality Management Plan* (June 22, 1978).

8. An Energy Element, to be prepared by the Department of Regional Planning, will discuss these issues in greater detail.

9. This scenario is discussed in detail in "California Energy Outlook", a pamphlet prepared by the California Council for Environmental and Economic Balance (1975).

10. See Water and Waste Management Element for more detailed discusssion.

11. California Department of Water Resources, *Water Conservation in California,* Bulletin No. 198 (May 1976).

12. Los Angeles County Agricultural Commissioner, *Annual Crop and Livestock Report* (1979).

13. See Environmental Systems Research Institute (England and Nelson, Environmental Consultants), *Land Capability/Suitability Study, Significant Ecological Areas Report* (1976); Los Angeles County Department of Regional Planning, *Santa Clarita Valley Areawide General Plan* (July 1977) and *Preliminary Antelope Valley Areawide General Plan* (December 1977); and, Center for Natural Areas, *A Conservation and Recreation Plan for Santa Catalina Island* (Smithsonian Institute, 1976).

14. Other extractive mineral production in the County is minimal, consisting of very limited clay, gold, lime, tungsten and soapstone mining.

15. California Division of Oil and Gas, *Summary of Operations – Oil, Gas and Geothermal Production Statistics* (1979).

16. California Division of Mines and Geology, Abstract from "Aggregates in the Greater Los Angeles Area", California, Special Report 139 (1979).

17. Los Angeles County has an adopted park standard of 6 acres of regional park land and 4 acres of local park land per 1,000 residents.

18. See the Safety and Seismic Safety Elements for additional background material.

19. Dan MacMasters, "Goodby to the Green Grass Lawn?" (*Los Angeles Times,* Home Magazine, October 16, 1977), page 59.

20. See footnote No. 13 above.

21. Three other areas, mapped as open space on the Conservation and Open Space Policy Map, have a potential for partial restoration as significant ecological areas: Baldwin Hills, Rio Hondo Spreading Grounds, and the Tujunga Spreading Grounds.

CONSERVATION AND OPEN SPACE ELEMENT
GLOSSARY

ALLUVIAL FAN
A cone-shaped deposit of alluvium (sedimentary material) made by a stream where it issues upon an open plain.

AQUIFERS
Water bearing rock; an underground layer of porous rock, sand or other minerals, containing water.

ARCHAEOLOGY
The science of recovering data about pre-existing or extinct culture and peoples.

BEDROCK MORTARS
A site used by a pre-existing culture for the processing of special plant foods, such as acorns, by pounding them into large boulders or a rock outcrop.

CARBON MONOXIDE
A colorless, poisonous gas released into the air from incomplete combustion of fuels in the internal combustion engine.

CHIPPING STATION
A special activity site utilized briefly by a pre-existing culture to prepare stone tools.

CULTURAL HERITAGE RESOURCES
All sites, features, burials, examples of rock art structures, ruins, artifacts, remains, chemical traces and other data pertaining to or derived from the activities and presence of pre-existing and/or extinct population at a locality, whether above, on or below the surface of land or water.

DUAL WATER SYSTEMS
Local water systems which utilize reclaimed waste water for outside domestic uses such as landscaping and imported or groundwater for indoor domestic uses.

EASEMENT
A method of acquiring partial use rights of land with no transfer of fee title.

ENDANGERED SPECIES
Any species identified by the state or federal government which is in danger of extinction due to one or more causes.

ENVIRONMENT
The aggregate of all the external conditions and influences affecting the life and development of an organism.

FAULT
A plane of breakage in rock or soil, along which significant offsetting of the two sides of the plane have taken place.

FAULT ZONE
A numerous interlacing of small faults.

FISHERY
A place where fish are regularly caught, or other products of the sea or rivers are taken from the water.

HABITAT
The natural abode or locality of a plant or animal.

HYDROCARBONS
Like carbon monoxide, represents unburned and wasted fuel released into the atmosphere; generally not toxic in amounts found in the air. Sunlight causes a reaction with nitrogen oxides to produce photochemical smog.

LAND CAPABILITY
The capacity of the land to sustain development taking into account all natural factors which may constrain development.

LAND SUITABILITY
The appropriateness of land for urban development, taking account land capability, urban infrastructure, and compatibility of development with environmental values.

LANDSLIDES
Downhill movement of masses of earth material under force of gravity.

LIQUEFACTION
The sudden loss of strength of soils under saturated conditions due to earthquake shock.

MOBILE SOURCE CONTROLS
Air pollution abatement techniques applied mainly to motor vehicles, but may refer to ships, trains, planes, and other sources.

NITROGEN OXIDES
The sum of nitric oxide and nitrogen dioxide; produced when fuel is burned at high temperature in vehicle engines and boilers in industrial operations and electric power plants; causes irritation to eyes, nose and throat; responsible for brown haze over most cities, restricts plant growth and contibutes to photochemical smog.

OZONE
Product of photochemical reaction of hydrocarbons and nitrogen dioxide; forms a thick haze; may cause eye and lung irritation; and has an offensive odor.

OCCUPATION SITE
Site of artifact assemblage; includes a full range of tool types indicative of long term occupancy by a pre-existing culture.

PALEONTOLOGY
The study of fossil remains.

PARTICULATES
Solid and liquid materials directly emitted to the atmosphere; sometimes referred to as aerosols, they are derived from natural sources and man's activities.

PRIME AGRICULTURAL LAND
All land which qualifies for rating as Class I or Class II in the Soil Conservation Service land use capability classification, plus: land which supports at least one animal unit per acre or which returns not less than $200 per acre on an annual basis.

RARE SPECIES
Any species that, although not presently threatened with extinction, is in such small numbers that it may be endangered if its environment worsens.

ROCK ART
Paintings (pictographs) or engravings (petrographs) on rock surfaces.

ROCK SHELTER
A cave or rock overhang which has served as a temporary camp or chipping station for a pre-existing culture.

SCENIC QUALITY
The total impression made by components of a natural or manmade landscape which provide an attractive and memorable visual experience to the viewer; includes natural landforms, water features, rock outcroppings, trees and other vegetation, and rural and urban structures of interest.

SEICHES
The oscillation or sloshing of water in a lake, bay, or other enclosed body of water caused by seismic activity or landsliding.

SEISMICITY
Relates to the general level of earthquake activity in an area.

SLOPE STABILITY
The ability of a slope of soil or rock materials to resist moving downhill.

STATIONARY SOURCE CONTROLS
Air pollution abatement techniques applied to non-mobile sources, usually industrial plants or utility facilties.

SUBSIDENCE
A local mass movement of earth material in which surface material is displaced vertically downward as an areal settlement with little or no horizontal component.

SULFUR DIOXIDE
Chemical combination of sulfur and oxygen; affected by photochemical reactions between hydrocarbons and nitrogen oxides to form sulfuric acid in the atmosphere; extremely corrosive and may contribute to reduced visibility and respitory irritation.

TEMPORARY CAMPS
A site briefly occupied by a pre-existing culture for the purpose of accomplishing a special task, ceremony or activity.

TERRAIN
The physical features of a piece of land.

THREATENED SPECIES
Any species which is likely to become endangered within the foreseeable future.

TSUNAMI
A sea wave generated by a submarine earthquake, landslide, or volcanic activity.