Chapter 6: Conservation and Open Space Element

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I. Introduction

The protection of the County's natural resources and open space areas is vital as Los Angeles County is heavily urbanized, and most of the remaining natural resources and open space areas are located within unincorporated areas. The County must act as the steward for the County's remaining natural resources and open space areas, and preserve and protect this land from inappropriate development patterns.

The Conservation and Open Space Element addresses the General Plan's Guiding Principles by serving as the policy guide for the majority of the County's Environmental Resource Management policies and programs. The Conservation and Open Space Element also addresses issues that are integral to Smart Growth principles and planning for Healthy, Livable, and Equitable Communities, such as water, biological and energy resource management and scenic resource preservation. The Conservation and Open Space Element addresses Sufficient Infrastructure and Community Services by providing a long-range vision to preserve important infrastructure needs, such as the County's water and food production supply. The preservation policies of the County's resources in the Conservation and Open Space Element also contribute to a Strong and Diversified Economy, as they relate to sustainable emerging industries and recreational and scenic opportunities that foster tourism.

The Conservation and Open Space Element guides the long-term preservation and conservation efforts of the County's natural resources and open space areas. The Conservation and Open Space Element addresses the following open space areas: Open Space Resources; Biological Resources; Water Resources; Agricultural Resources; Mineral and Energy Resources; Scenic Resources; and Historical, Cultural and Paleontological Resources.

II. Open Space Resources

This section addresses the County's open space and natural area resources, and provides policies for preserving and managing open space areas through conservation, acquisition, and easements.

Background

The County's open space resources are public and private lands and waters that are preserved in perpetuity or for long-term open space and recreational uses. Existing open spaces in the unincorporated areas include County parks and beaches, conservancy lands, state parklands, and federal lands, such as national forests. Open space resources also include private and other open space lands, such as deed-restricted open space parcels and easements. Various stakeholders throughout the County share the responsibility to manage and preserve the County's open space resources.

Open Space Resources

Table 6.1 shows a summary of the County's open space in acres by category.

Table 6.1: Summary of Unincorporated Los Angeles County Open Space, in Acres

Open Space Category	Acres
Conservancy Lands	48,271.79
County Lands	16,834.24
Federal Lands	679,629.58
Other Open Space	19,912.06
Private Open Space Lands	9,181.03
State Lands	50,893.72
Total Open Space Acreage	824,722.43

Source: Los Angeles County Department of Regional Planning GIS Section

County Lands

The County Lands category includes open space areas owned and maintained by the Los Angeles County Department of Parks and Recreation (DPR): natural areas, wildlife and wildflower sanctuaries, and regional parks with significant natural resources. Examples include: Devil's Punchbowl Natural Area, High Desert Wildlife Sanctuaries, Whittier Narrows Recreation Area, Santa Fe Dam Recreation Area, and Schabarum Regional Park. Please refer to the Parks and Recreation Element for a full discussion on parkland resources.

Conservancy Lands

The County is home to scenic areas and diverse topographic, geologic and vegetative features. State-created and non-profit conservancies play a critical role in preserving many of these areas through the acquisition and preservation of open space areas throughout the County. A list and descriptions of partnering conservancies in the County can be found in Appendix E.

State Lands

The State Lands category includes open space and recreation areas owned and operated by the State. The California Department of Parks and Recreation has been instrumental in providing open space and recreation areas in the County. State parklands preserve important natural habitat areas, while providing both passive and active recreational opportunities that attract users throughout the region. The County is committed to preserving the quality of these areas by planning for compatible uses on adjacent lands. Examples of State Lands include Malibu Creek and Topanga State Park.

Federal Lands

The Federal Lands category refers to all land owned and/or managed by federal agencies.

National Forest

The Angeles National Forest and a small portion of the Los Padres National Forest encompass nearly 650,000 acres of land within the County. The Angeles National Forest stretches across the County in two sections encompassing the San Gabriel Mountain Range, and is 1,018 square miles,

or 25 percent of the entire land area of the County. The U.S. Forest Service is responsible for managing public forest lands. Its mission is the stewardship of forest lands and resources through programs that provide recreation and multiple uses of natural resources, wilderness areas, and significant habitat areas. The U.S. Forest Service prepares and periodically updates the Land and Resource Management Plan as a policy guide for the use of lands in the national forest.

Within the boundaries of the national forests, nearly 40,000 acres are privately-owned. For these parcels, commonly referred to as in holdings, the County retains responsibility for land use regulation.

National Recreation Area

The Santa Monica Mountains National Recreation Area is a part of the National Park System and is managed by the National Park Service. The Recreation Area preserves natural habitats, historical and cultural sites, offers recreational opportunities, and improves the air quality for the Los Angeles basin. Covered by chaparral, oak woodlands, and coastal sage scrub, it is home to many species listed as rare, threatened, or endangered.

Bureau of Land Management Land

The U.S. Bureau of Land Management (BLM) owns thousands of acres of open space land in the northern portion of the County. These primarily desert lands serve to preserve federally-listed endangered and threatened species, and where compatible, provide recreational, agricultural, and mining activities.

Private Open Space

The Private Open Space category includes private, deed-restricted open space parcels established through the development of new residential, commercial, or industrial projects.

The California Open Space Easement Act of 1969 sets forth general conditions governing the creation of recognized open space easements. Agreements or contracts establishing such easements specify the standards and conditions for uses and activities permitted within the area covered. Open space dedications are defined as privately-owned lands that have been set aside for permanent open space as part of a larger land development proposal. Commitment of such lands to open space use in perpetuity is typically assured through deed-restrictions or dedication of construction rights secured at the time of development permit approval. Within dedicated open space areas, standards and conditions for use are specifically set forth as conditions of the zoning permit or subdivision tract map.

Other Open Space

The Other Open Space category identifies open space with the potential to function as wildlife habitat or a recreational resource without compromising its primary function. These areas include easements along flood management channels, dams, drainage basins, utility easements (excluding major electric transmission lines), private golf courses and closed landfills.

Open Space Resources Policy Map

The Open Space Policy Map, Figure 6.1, aids decision-makers in identifying and maintaining open space lands and water bodies in an undisturbed state for public recreation, scenic enjoyment, resource production, and for the protection and study of natural ecosystems. Open Space Resources are part of the County's Special Management Areas Overlay and are regulated through

Open Space Resources goals and policies, and associated ordinances. For more information on the Special Management Areas Overlay, please refer to the Land Use Element.

Please refer to Appendix E for a list and description of the County's open space and natural areas.

Figure 6.1: Los Angeles County Open Space Areas

Issues

1. Open Space Preservation

Increased population growth and ongoing development activities continue to impact the County's open space areas. Open space areas are vital for the recreational, scenic and wilderness opportunities they provide. Leap frog development and sprawl affects the ability to preserve biotic diversity and to provide appropriate recreational amenities. Because of sprawling development, the County's open space areas are increasingly fragmented or isolated, which decreases connectivity.

2. Open Space Acquisition and Planning

The acquisition and conservation of open space areas is a challenging and expensive endeavor. Additionally, there is no coordinated master plan in the County to acquire, manage and preserve the County's remaining open space areas. Working in partnership with conservancies and other stakeholders that can purchase and acquire open space land is an important part of the County's open space acquisition strategy. A coordinated and collaborative effort to manage and fund a countywide open space master plan is needed to adequately protect the County's remaining open space areas.

Goals and Policies for Open Space Resources

Goal C/OS 1: Open space areas that meet the diverse needs of the County.

- Policy C/OS 1.1: Support the acquisition of new open space areas throughout the County.
- Policy C/OS 1.2: Implement programs and policies that enforce the responsible stewardship and preservation of open space areas throughout the County.
- Policy C/OS 1.3: Create an established network of open space areas that provide regional connectivity, between the southwestern extent of the Tehachapi Mountains to the Santa Monica Mountains, and from the southwestern extent of the Mojave Desert to the Puente Chino Hills.
- Policy C/OS 1.4: Increase and improve access to open space and natural areas for all users.
- Policy C/OS 1.5: Protect natural resources, natural areas, and open spaces on park properties.
- Policy C/OS 1.6: Prioritize open space acquisitions for lands that contain unique ecological features, streams, watersheds, woodlands, grasslands, and/or offer linkages that enhance wildlife movements and genetic diversity.

Goal C/OS 2: Effective collaboration in open space resource preservation.

- Policy C/OS 2.1: Establish new revenue generating mechanisms to leverage County resources to enhance and acquire open space and natural areas in the County.

- Policy C/OS 2.2: Participate in the development of multi-benefit open spaces throughout the County.
- Policy C/OS 2.3: Improve understanding and appreciation for natural areas through preservation programs and educational facilities.
- Policy C/OS 2.4: Collaborate with public, non-profit, and private organizations to acquire and protect open space land.

III. Biological Resources

The biotic resources found in the County are some of the most diverse in the country. They represent unusual or relatively undisturbed examples of the original plant and animal species that are indigenous to the County, and in many cases are not found outside of Southern California. Maintaining these resources is important, as new plant or animal species may still be found within a few miles of major urban centers, and the scientific and economic values of such biotic diversity is immeasurable.

Background

The County began to inventory biotic resources and identify important areas of biological diversity in the 1970s. The primary mechanism of the General Plan to conserve biological diversity is the Significant Ecological Area (SEA) Program. The SEA Program allows the County to implement many of its conservation goals and policies through biological resource assessments and land use regulations.

Significant Ecological Areas (SEAs)

SEAs are defined as ecologically important land and water systems that support valuable habitat for plants and animals, and are often integral to the preservation of rare, threatened or endangered species and the conservation of biological diversity in the County. An Ecological Transition Area (ETA), a subset of an SEA, identifies areas where the natural ecological features or systems have been degraded as a result of past or ongoing land use activities, but are deemed functionally integral to the SEA.

Conservation of the County's biotic diversity is the main objective of the SEA Program, and connectivity between important natural habitats plays a vital role in maintaining biotic communities. The SEAs are not preserves, but areas where facilitating a balance between new, appropriately designed development and resource conservation are important in the County.

SEAs are part of the County's Special Management Areas Overlay Map and are regulated through General Plan goals and policies, and the Significant Ecological Area Ordinance. There are 31 SEAs in the County, as depicted in Figure 6.2, which identify diverse habitats from the ocean to the Mojave Desert. The SEA boundaries encompass ecological systems that include areas outside of the County's jurisdiction, such as cities and the national forest. For more information on the Special Management Areas Overlay, please refer to the Land Use Element. For background information on the SEA Program and descriptions of the SEAs, please refer to Appendix E.

A balance between development and the conservation of the County's unique biotic diversity can be achieved through an additional level of environmental review that proposed projects must undergo when located within an SEA. This review is conducted by members of the Significant Ecological Area Technical Advisory Committee (SEATAC), an advisory committee to the Regional Planning

Commission. The SEATAC members specialize in various areas of biology. Prior to the project design phase, SEATAC will review the biological resources and constraints and recommend a site design that will reduce or avoid impacts to sensitive resources. The process is designed to provide careful evaluation of projects within SEAs to ensure that the ecological function of the SEA is maintained.

Figure 6.2: Los Angeles County Significant Ecological Areas (SEAs)

Regional Habitat Linkages and Wildlife Corridors

The SEAs play a critical role in identifying the County's biotic diversity, and providing an opportunity to connect these areas with similar areas of biological importance in adjacent counties. For example, the Puente Hills SEA identifies a regionally significant open space that connects the Puente Hills in Los Angeles County with the Chino Hills in Orange County. Similarly, the Santa Monica Mountains, Santa Susana-Simi Hills, Santa Clara River and Santa Felicia Creek SEAs identify important connections to habitats in Ventura County. The San Andreas SEA identifies the regionally significant connection between the Santa Clara River watershed, the San Gabriel Mountains, the Antelope Valley, and the Tehachapi Mountains. The Antelope Valley SEA identifies connections between the San Gabriel Mountains and the Mojave Desert, which provide wildlife movement opportunities along the drainages into vast open areas in Kern and San Bernardino Counties.

The County's SEAs are part of a greater habitat linkage that extends beyond the County boundaries and is part of an expansive system of habitat linkages. Figure 6.3 schematically identifies the regional habitat linkages that connect biologically sensitive resources in the County to resource areas in adjacent local jurisdictions. The areas depicted are based on national forest boundaries, the County's SEAs, and a series of missing linkage design studies conducted by the South Coast Wildlands Project, which is a non-profit organization dedicated to ensuring functional habitat connectivity across diverse wildland networks.

Figure 6.3: Regional Habitat Linkages

Forests

The national forests located within the County contain extensive biological resources. Two thirds of the Angeles National Forest has slopes steeper than 60 percent, with elevations ranging from 1,200 to 10,000 feet above sea level. Forests include a variety of vegetative communities, ranging from semi-desert to dense woodlands that support thousands of species of plants and animals. There are 240 miles of perennial rivers and streams, as well as 19 lakes and reservoirs. The forests not only support biotic communities, but play a major role in the health of major watersheds. The forest floor allows rainfall and snowmelt to replenish groundwater basins, providing the County with approximately 13 percent of its annual water supply. Surface water runoff fills streams and rivers, which support riparian habitats. Activities that occur in the forests have a potential impact not only on biotic resources, but also on the quality of local water supplies. To protect these forest functions, the U.S. Forest Service has identified two thirds of the forest as sensitive watershed areas.

Coastal Zones

The biological resource value in the coastal zones, which include San Clemente Island, Santa Catalina Island, Marina del Rey, and the Santa Monica Mountains, is significant. The study and management of these resources are more rigorous than any other area in the County and any land disturbance is regulated through Local Coastal Plans and Programs, in conjunction with the

California Coastal Commission. For more information on the biological resources with the coastal zones, please refer to Appendix E.

Wetlands

Wetlands and habitats associated with water bodies are areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support vegetation that is typically adapted for life in saturated soil conditions. Examples of wetlands include swamps, marshes, bogs, vernal pools, and playa lake areas. However, wetlands can also remain dry for long periods of time, making their identification and management potentially difficult. Wetlands contribute to water quality and the overall health of watersheds in several ways. They slow water flow, decrease erosion, filter water runoff, and provide habitat for many endangered plant and animal species.

Woodlands

The County's oak woodlands are an important resource that provides an abundance of aesthetic, ecological, and economic benefits to County residents. Oak woodland habitats are the most diverse terrestrial ecosystems in California. Similarly, riparian woodlands, California walnut, juniper, and Joshua tree woodlands provide habitat for multiple species within a concentrated area.

Issues

1. Preservation of Biotic Diversity

Development continues to be the main cause of species decline in the Southern California region, where approximately 20 percent of the species on the federal endangered species list are found, and habitats for 39 (14 percent) of these species are found in the County. The U.S. Fish and Wildlife Service under the Endangered Species Act protects federally-listed species, as does the California Department of Fish and Game (CDFG) for state-listed species. However, as plant or animal species are linked to a larger ecosystem for survival, the State recognizes that each local jurisdiction should bolster all species of wildlife for their intrinsic ecological values. The County uses this holistic approach in its preservation goals and policies for biotic and ecological resources, and through the SEA program, where the County identifies and protects biotic communities and ecological systems rather than individual species and their habitats.

2. Forests Preservation

The Angeles National Forest is the largest area of dedicated open space in the County, where a vast number of wildlife species depend for protection, foraging, and breeding. The County is responsible for the land use regulation of the nearly 40,000 acres privately-owned within the Forest boundary. Much of this land is in remote locations, subject to a high degree of natural hazards, and lacks adequate access to paved roads and water supply. The County does not encourage development in the national forests, and regulation is coordinated closely with the U.S. Forest Service.

3. Coastal Resource Preservation

Biological resources in coastal zones are identified through Sensitive Environmental Resource Areas (SERAs), which contain terrestrial or marine resources that, because of their characteristics and/or vulnerability, require special protection. SERAs are comprised of the following sub-categories: Environmentally Sensitive Habitat Areas (ESHAs); Significant Woodlands and Savannahs; Significant Watersheds; Malibu Cold Creek Resource Management Area; and Wildlife Migration Corridor.

SERAs are not intended to function as isolated preservation areas, but rather as areas subject to strictly enforced environmental resource protections and land use regulations.

Biological resource management and regulation on Santa Catalina Island is implemented through the Santa Catalina Island Local Coastal Program. Island resources, such as SEAs, are identified in the Local Coastal Program and are subject to restrictive development regulations. Any changes to the SEA boundaries or associated regulations require an amendment to the Local Coastal Program and certification by the California Coastal Commission.

Land use regulation and jurisdictional authority in the Santa Monica Mountains Coastal Zone involves many public entities. In the unincorporated areas, biological resource protection is implemented through the Malibu Land Use Plan and the Malibu Coastal Program District, and by both the County and the California Coastal Commission.

4. Wetlands Preservation

The Federal Emergency Wetlands Resources Act establishes a national wetlands conservation program, which requires states to include wetlands in their Comprehensive Outdoor Recreation Plans for management and preservation. California has lost over 90 percent of its original wetland areas, and the County has lost 95 percent. The County is dedicated to preserving its remaining wetlands and supports the wetland reclamation and conservation efforts of numerous non-profit organizations. In addition to County policy and regulation, projects that are subject to CEQA and located in a wetland are forwarded to applicable state and federal agencies for further review and permitting requirements.

5. Woodlands Preservation

Various types of woodlands are found in the County, including riparian woodlands; California walnut woodlands in the San Gabriel Valley and Puente Hills; juniper, and Joshua tree woodlands in the Antelope Valley and oak woodlands countywide. The long-term health of the County's remaining woodlands is threatened by a number of factors, primarily infrastructure and development. Protecting the County's remaining woodlands through policy and regulation will help retain these valuable biological resources.

6. Urban Wildland Interface

The area where the edge of the forest and other natural open space meets development is called the urban wildland interface. The urban wildland interface is often under development pressure due to its proximity to the scenic and recreational amenities of wild and open space areas. The County discourages development in the urban wildland interface because development requires the removal of vegetation around structures for fire protection, which may require vegetation removal on adjacent forest or parkland; erosion from hillside development may occur; and mountainous terrain subjects structures to severe fire hazards and to potential landslides due to seismic activity.

Goals and Policies for Biological Resources

Goal C/OS 3: Biologically-diverse ecological systems, including riparian resources, wildlife corridors and woodlands, preserved in perpetuity.

- Policy C/OS 3.1: Participate in inter-jurisdictional collaborative strategies that protect biological resources.

- Policy C/OS 3.2: Consider the following in the design of a project that is located within an SEA, to the greatest extent feasible:
    - Preservation of biologically valuable habitats, species, wildlife corridors and linkages;
    - Protection of sensitive resources on the site within open space;
    - Protection of water sources from disturbance to maintain the ecological function of riparian habitats; and
    - Placement of the development in the least biologically sensitive areas on the site.
- Policy C/OS 3.3: Require that development within an SEA be designed to meet the SEATAC recommendations, to the greatest extent feasible.
- Policy C/OS 3.4: Maximize and preserve the ecological function of the County's diverse natural habitats, including coastal sage scrub, annual and perennial grasses, Joshua tree, juniper, California walnut, riparian woodlands, including western sycamore, and oak woodlands.
- Policy C/OS 3.5: Restore degraded streams, rivers, wetlands and other significant riparian resources to maintain ecological function.
- Policy C/OS 3.6: Preserve special status species, their associated habitat and wildlife movement corridors through the administration of the SEAs and other programs.
- Policy C/OS 3.7: Limit development in areas with identified significant ecological resources, such as SEAs.
- Policy C/OS 3.8: Maintain watercourses, riparian habitats, and wetlands including blue line streams, vernal pools and other drainages, in a natural state, unaltered by grading, fill, or diversion activities.
- Policy C/OS 3.9: Preserve and sustainably manage the County's forests and woodlands.
- Policy C/OS 3.10: Discourage new development in the urban-wildland interface.
- Policy C/OS 3.11: Ensure compatibility of development in the national forests in conjunction with the U.S. Forest Service Land and Resource Management Plan.
- Policy C/OS 3.12: Require that development mitigate 'in-kind' for unavoidable impacts on biologically sensitive areas within the County, and permanently preserve mitigation sites.

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[Text Box]

Oak Woodlands

As defined by the California Department of Fish and Game, an oak woodland is an oak stand with a greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover. Associated with that canopy cover and connectivity are over 300 vertebrate species and more than 5,000 invertebrates, as well as hundreds of native understory plant species. The County is supporting the Resource Conservation District of the Santa Monica Mountains in its preparation of the Oak Woodlands Conservation Management Plan through the provision of technical advice from the Fire Department and Department of Regional Planning.

IV. Water Resources

The arid climate and landscape of the County requires that water be managed as an invaluable resource. The County recognizes that the effective management and preservation of its water resources is vital to preserving a high quality of life for County residents and businesses.

Background

Water Sources

The three major types of water sources in the County are major surface water, groundwater, and recycled water.

Major Surface Water

Most major surface waters serve as storage facilities. Lakes and reservoirs receive rainwater and snowmelt from rivers, streams, and imported supplies from aqueducts, holding them until the water is needed. Most of the County's major surface waters are controlled by man-made facilities. For example, a series of dams and spreading grounds are used to capture close to 80 percent of the water that flows from the San Gabriel Mountains and through the San Gabriel River. Some of these surface waters support fish and wildlife and provide recreation areas for County residents that are compatible with flood management and water conservation operations.

Due to the County's climate patterns, streams and rivers receive intermittent heavy winter rainstorms and little summer or fall precipitation, which affects the consistency of water flow. Small tributaries are also highly sensitive to pollution, and the cumulative impacts of polluted runoff and unnatural levels of silt degrades the water quality of these waterways to a much greater extent than a high volume river with continuous flow. The County works within its jurisdiction to improve the health of rivers, streams, and minor tributaries to enhance overall water resources, groundwater recharge, and wildlife habitat.

Groundwater

Groundwater is a crucial component of local fresh water supplies. Groundwater is the water beneath the Earth's surface that can be collected with wells, tunnels, or drainage galleries, or that flows naturally to the Earth's surface via seeps or springs. Eight major groundwater basins provide about one third of the County's overall water demand, except during times of drought. A reduction or decline in groundwater quantity or quality is detrimental to water users countywide, especially to the hundreds of households in rural areas who depend solely on private wells. Water accumulates

beneath the ground in saturated zones, or aquifers, which are referred to as groundwater basins. These aquifers can hold millions of acre-feet of water and extend for miles. Basins fill with water as a result of snowmelt, rain, and surface flow percolating through the soil.

Recycled Water

Recycled water is used primarily for recharging groundwater aquifers through spreading operations and injection at seawater barriers. Other uses of recycled water include irrigation of landscaping, most commonly in parks, golf courses, and for roadway medians; supplying industrial processes, such as cooling and transportation, washing, and rinsing; filling artificial and decorative ponds and lakes; and flushing toilets in large, non-residential buildings. The County Sanitation Districts operate reclamation plants throughout the County and are the largest producers of recycled water. Other producers of recycled water include the cities of Burbank, Glendale, Los Angeles, Santa Monica, and the Central, Las Virgenes, and West Water Districts. Three of these plants in the southern portion of the County are capable of delivering over 50,000 acre-feet of treated water each year to spreading grounds and injection wells to combat saltwater intrusion into groundwater basins from the Pacific Ocean. In the Antelope Valley, recycled water is used for agriculture and supports large bird populations at Piute Ponds.

Watersheds

A watershed is an area or region that, by its land characteristics, contributes to the flow of water, sediments, and dissolved materials from the land into a common river, lake, groundwater basin, ocean, or other water body. A watershed encompasses all interrelated functions of the water cycle, surface flow, soil movement, vegetation, and wildlife occurring in a land area that is naturally bounded by mountain ridgelines. Sub-watersheds are a smaller geographic section of a larger watershed unit within a drainage area. It is a vast undertaking to analyze the health of watersheds. However, individual watersheds are monitored to better understand the connections between their natural functions and human activities.

The County manages the following major watersheds, which are comprised of many sub-watersheds, as shown in Figure 6.4. For descriptions of these major watersheds, please refer to Appendix E.

- Antelope Valley Watershed
- Los Angeles River Watershed
- San Gabriel River Watershed
- Santa Clara River Watershed
- Santa Monica Bay Watershed

Watershed Management

Watershed management is a comprehensive approach to effectively protecting and restoring a watershed's natural resources and water quality, particularly the biological function of riparian habitat and aquatic systems. Watershed management integrates flood protection with water quality and conservation, and preserves existing open space for habitat and recreation.

Because a watershed encompasses many jurisdictions, water quality and natural resource issues are best managed at a regional or watershed level. The Los Angeles County Department of Public

Works has taken a leading role in engaging local stakeholders and local jurisdictions in an effort to generate partnerships, collaborate with educational and professional institutions, and develop and implement Watershed Master Plans throughout the County. These plans incorporate measures to maintain flood protection standards and provide assistance in the event of flooding, encourage watershed management practices, and improve the quality of water that flows to rivers, lakes, and the ocean.

Figure 6.4: Los Angeles County Major Watersheds

Water Regulation

The federal government established the Clean Water Act (CWA) in 1972 to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" with the goal that "wherever attainable water quality should provide for the protection and propagation of fish, shellfish, and wildlife, and provide for recreation in and on the water." The State Water Resources Control Board and the Regional Water Quality Control Boards, through the Ocean Plan and the Basin Plan, respectively, implement portions of the CWA by designating water bodies and their existing and potential uses as beneficial uses, and set forth policies that protect them from degradation.

In 1949, nine California Regional Water Quality Control Boards were established to protect the quality of receiving waters from adverse impacts of wastewater discharges. The Porter-Cologne Water Quality Act, also known as the California Water Code, enacted in 1969 by the State of California authorized the State to adopt, review, and revise policies for all water bodies in the State. The State also directed the Regional Boards to develop the Basin Plans to address water quality issues and protection for inland water bodies. The Basin Plan for Los Angeles was adopted in 1975 and is comprised of the Water Quality Control Plan for the Santa Clara River Basin and the Water Quality Control Plan for the Los Angeles Basin, with the latest amendment to the plan completed in 1994. The Antelope Valley, in the northeastern portion of the County, is under the jurisdiction of the Lahontan Regional Water Quality Control Board. The Lahontan Basin Plan took effect in 1995, replacing three earlier plans.

Under the California Water Code, the State Water Resources Control Board adopted the California Ocean Plan in 2005 to protect water quality for the use and enjoyment of the public through the control of the discharge of waste into the ocean. The beneficial uses to be protected include "industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting."

The Los Angeles and Lahontan Regional Boards' Basin Plans and the State Water Board's Ocean Plan protect the water bodies by designating them with beneficial uses and implementing programs to protect such uses. There are 24 beneficial uses developed and defined by the State and the Regional Boards designated to water bodies as "existing" or "potential." Examples of beneficial uses include: municipal and domestic supply; water contact recreation; and preservation of biological habitats. A complete list of all the beneficial uses can be found in the Water Quality Control Plan Los Angeles Region (1994), the Water Quality Control Plan for the Lahontan Region (1995), and the California Ocean Plan (2005). These documents can be found on the State Southern Water Resources Control Board web site at http://www.swrcb.ca.gov.

National Pollutant Discharge Elimination System (NPDES)

In 1987, an amendment to the Clean Water Act effectively prohibited the discharge of pollutants to waters of the United States from stormwater, unless such discharge is in compliance with a NPDES Permit. The NPDES is a permitting program that established a framework for regulating municipal, industrial, and construction stormwater discharges into surface water bodies and stormwater channels.

The Los Angeles and Lahontan Regional Water Quality Control Boards are responsible for implementing the federally-mandated NPDES program in the County through the adoption of an Order, which is effectively the NPDES Permit for that region. The Los Angeles Regional Board's Permit designates 84 cities within the Board's region as permittees, and the County as the principal permittee of the NPDES Permit. The NPDES Permit defines the responsibilities of each permittee to control pollutants, including the adoption and enforcement of local ordinances and monitoring programs. The principal permittee is responsible for coordinating activities to comply with the requirements set forth in the NPDES Permit, but is not responsible for ensuring the compliance of any other permittee. The County's Stormwater Ordinance requires that the discharge, deposit, or disposal of any stormwater and/or runoff to storm drains must be covered by a NPDES permit.

For the unincorporated areas, in accordance with the NPDES Permit, the County implements a Standard Urban Stormwater Mitigation Plan (SUSMP) at the project site level to address pollutants generated by specific activities and types of development. The main purpose of this planning program is to identify new construction and redevelopment projects that could contribute to stormwater pollution, and to mitigate run-off from those projects by requiring that certain Best Management Practices be implemented during and after construction. Moreover, the SUSMP prevents erosion by controlling runoff rates, protecting natural slopes and channels, and conserving natural areas.

For more information on the County's two Regional Water Quality Control Boards and their NPDES programs, please visit the State of California Environmental Protection Agency web site at http://www.swrcb.ca.gov/rwqcb4 and http://www.swrcb.ca.gov/rwqcb6.

Areas of Special Biological Significance (ASBS)

Ocean areas requiring the protection of marine species or biological communities from an undesirable alteration in natural water quality are designated by the State Water Resources Control Board as ASBSs. There are 34 areas designated as ASBS. Of those, six are located within the jurisdiction of the County. Five ASBSs in the County are located off the coasts of the Channel Islands (one along the coastline of the San Clemente Island and four along the coastlines of Santa Catalina Island). The sixth ASBS (designated as "ASBS-24") is located along the coasts of Ventura and Los Angeles Counties, extending from Mugu Lagoon to Latigo Point. About two thirds of ASBS 24 lies along the coastline of the County.

Federal and state policies prohibit the discharge of pollutants into areas identified as ASBS. Specifically, the provision in the California Ocean Plan requires that "waste shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas." The County owns and maintains dozens of storm drains that discharge into ASBS-24.

Issues

1. Water Quality

The U.S. Environmental Protection Agency has found that close to 218 million Americans live within 10 miles of a polluted lake, stream, river, or coastline, and most of the County falls within this category. The cost of cleaning polluted water bodies is significant. Water quality regulation and implementation programs are beginning to make a difference, but without major public awareness and behavioral changes, the clean up process will remain an ongoing challenge.

Because approximately one third of the County's local water supply is drawn from groundwater basins, the quality of this water source is critical. Contamination from past industrial and agricultural practices, saltwater intrusion, urban runoff, and leaking from contaminated underground storage tanks has decreased usable groundwater supplies throughout the County. Federal and state agencies, such as the Environmental Protection Agency and Regional Water Quality Control Boards, are working to improve the quality of groundwater by identifying contaminants, initiating clean-up efforts, and bringing enforcement actions against polluters. To reduce pollution in the future, each city and the County are implementing water pollution prevention programs appropriate for their jurisdiction.

Section 303(d) of the CWA requires states to identify and establish a list of water bodies for which technology based effluent limitations required by section 301 of the CWA are not stringent enough to attain and maintain applicable water quality standards. These water bodies on the 303(d) list are termed "impaired water bodies." For each water body identified in the 303(d) list, states are required to develop Total Maximum Daily Load (TMDL), which is the maximum amount of a pollutant that a water body can receive and still attain water quality standards. Any pollution above that maximum TMDL has to be "budgeted," meaning that the remaining pollution is allocated for reduction among the various sources of the pollutant in order to regain the beneficial uses of the water body.

The majority of the water bodies in the County, including rivers, lakes, coastal estuaries, bays, and beaches, are in violation of the CWA and are placed on the 303(d) list. More than a dozen different pollutants including metals, nutrients, bacteria, organics, pesticides, trash, and other contaminants are found in the County's water bodies in amounts significantly above established water quality standards.

2. Groundwater Depletion

In the southern portion of the County, the natural recharge process is severely hampered by impervious surfaces, or surfaces that do not permit the absorption of fluids, which are associated with urbanization and development. In the open space areas of the northern portion of the County, where substantial percolation occurs, water demand is so great that annual precipitation and spreading ground operations are not sufficient to recharge the basins.

In an effort to mitigate groundwater depletion, water agencies throughout the County have developed strategies to artificially recharge groundwater. One strategy involves purchasing imported water or utilizing recycled water and injecting it back into the water basins. Another strategy diverts imported water to designated spreading grounds, where it can percolate back into the water basins. In an effort to reduce imported water supplies, the County also diverts some of its treated stormwater into spreading grounds to replenish the groundwater supply.

3. Watershed Impacts

The General Plan recognizes the importance of utilizing a watershed-based planning approach. Rivers, streams, and other drainage courses can be greatly affected by land use planning within the watershed. The specific issues impacting water bodies within each watershed must be taken into

consideration, including pollutants of concern, TMDLs, natural ecology, and potential for hydromodification.

Goals and Policies for Water Resources

Goal C/OS 4: A protected and clean supply of water resources.

- Policy C/OS 4.1: Require compliance with adopted Municipal Separate Storm Sewer System, General Construction, and point source NPDES permits.
- Policy C/OS 4.2: Require compliance with NPDES stormwater permit requirements.
- Policy C/OS 4.3: Require compliance with all approved TDML implementation and compliance plans for impaired water bodies.
- Policy C/OS 4.4: Manage the use of septic systems adjacent to aqueducts, reservoirs and other sources of water to limit impacts to water bodies.
- Policy C/OS 4.5: Manage and prevent future hydromodification in County water sources.
- Policy C/OS 4.6: Improve the health of rivers, streams, and minor tributaries to enhance overall water resources and groundwater recharge.
- Policy C/OS 4.7: Eliminate point and non-point source water pollution.

Goal C/OS 5: Effectively manage water resources to reduce groundwater depletion.

- Policy C/OS 5.1: Require low impact development features to reduce downstream stormwater impacts.
- Policy C/OS 5.2: Protect natural groundwater recharge areas and artificial spreading grounds.
- Policy C/OS 5.3: Participate in the creation and implementation of programs and policies to conserve groundwater resources.
- Policy C/OS 5.4: Promote the development of multi-use facilities for stormwater quality improvement, groundwater recharge, flood management, and other compatible uses.

Goal C/OS 6: Watersheds that are healthy and protected from harmful impacts.

- Policy C/OS 6.1: Ensure healthy and productive watersheds for future generations.
- Policy C/OS 6.2: Support the preservation, restoration and strategic acquisition of open space to preserve natural streams, drainage channels, wetlands, and rivers which are necessary for the healthy function of watersheds.
- Policy C/OS 6.3: Support the preparation and implementation of watershed and river master plans.
- Policy C/OS 6.4: Consider specific issues impacting water bodies within each watershed, including pollutants of concern, TMDLs, natural ecology, and potential for hydromodification in water management planning.

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Low Impact Development (LID)

LID is an ecosystem based approach to stormwater management that utilizes a site's pre-development hydrology. LID uses design techniques, such as maintaining recharge areas, buffer zones, open spaces, and drainage courses. It also utilizes infiltration swales, grading strategies, and open drainage systems to infiltrate, filter, store, and detain stormwater runoff close to its source as opposed to conveying and treating it in large and costly end-of-pipe facilities. LID employs techniques that reduce the use of pipes, ponds, curbs, and gutters in subdivisions and other infrastructure improvement projects.

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Integrated Regional Water Management Plans (IRWMP's)

Integrated Regional Water Management Plans (IRWMP's) define a clear vision and strategy for the sustainable management of water resources within a specific region delineated by one or more watersheds. IRWMP's generally contain an assessment of current and future water demand, water supply, water quality, and environmental needs. They address the challenges for delivering a stable and clean supply of water for the public, addressing stormwater and urban runoff water quality, providing flood protection, meeting water infrastructure needs, maximizing the use of reclaimed water, enhancing water conservation, and promoting environmental stewardship.

During the planning process, all stakeholders, including water distributors and purveyors, regional waterworks and sanitation districts, local public works departments, environmental organizations, non-profits, and other vested interests work together to develop common goals, objectives, and strategies. Since water related issues are addressed on a regional, watershed basis, these plans are instrumental in building consensus amongst the various stakeholders in the development and prioritization of an action plan that is complementary and leverages inter-jurisdictional cooperation, resources, and available funding. There are four IRWMP regions in the County:

Antelope Valley IRWMP;

Upper Santa Clara River IRWMP;

Greater Los Angeles County IRWMP; and,

Los Angeles Gateway Region.

For more information on the IRWMP's, please go to http://www.avwaterplan.org, http://www.scrwaterplan.org, or http://www.lawaterplan.org, respectively.

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Total Maximum Daily Load (TMDL) Implementation Plan

The TMDL Implementation Plan provides a schedule for responsible jurisdictions to implement systems, programs, and Best Management Practices (BMPs) to comply with progressive pollutant reduction schedules. As of March 2008, 15 TMDLs are in effect, and the remaining 35 TMDLs that are expected to be established by 2012 are being developed by the Los Angeles Regional Water Quality Control Board. The development of each TMDL results in an amendment of the Basin Plan, and subsequent inclusion into the National Pollutant Discharge Elimination System (NPDES) Permit program. The County is engaged in taking actions to mitigate the impact that urbanization has caused on its water resources and the environment.

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Hydromodification

Hydromodification is one of the leading sources of impairment in streams, lakes, estuaries, aquifers, and other water bodies in the country. Three major types of hydromodification activities--channelization and channel modification, dams, and stream bank and shoreline erosion--change a water body's physical structure as well as its natural function. These changes can cause problems such as changes in flow, increased sedimentation, higher water temperature, lower dissolved oxygen, degradation of aquatic habitat structure, loss of fish and other aquatic populations, and decreased water quality. It is important to properly manage hydromodification activities to reduce non-point source pollution in surface and ground water.

V. Agricultural Resources

Agricultural land is an important resource in the State of California and in Los Angeles County. Much of the agrarian land in the County has been developed. Therefore, agricultural land is viewed as a non-renewable resource that needs to be protected from conversion and encroachment of non-agricultural uses.

Background

The County produced over $270 million in agriculture products in 2006. Table 6.2 summarizes the dollar value of the crops and farm products produced in the County. Nursery products remain the number one crop produced in the County. Harvested acreage for vegetable crops dropped 30 percent from the previous year, and the County saw production losses from vegetable crops, field crops, and dairy and livestock production. Production gains were seen in fruit and nut crops and nursery products.

Table 6.2: 2006 Value of Los Angeles County Agricultural Crops and Commodities

Commodity	2006 Value
Nursery Products (Indoor plants, ornamental trees, etc.)	$191,879,000
Cut Flowers and Decoratives	$581,000

Fruits and Nuts (Strawberries, avocados, cherries, apples, etc)	$26,674,000
Vegetable Crops (Root vegetables, herbs, greens, etc.)	$33,146,000
Field Crops (Alfalfa, grain hay, rangeland)	$11,176,000
Livestock Production	$6,228,000
Apiary (Honey, beeswax)	$1,211,000
Forest Products (Firewood)	$20,000
Total	**$270,915,000**

Source: 2006 Los Angeles County Crop and Livestock Report

The emerging trend for agriculture in the County is one of less farming and of less land being used for agricultural activities. The 2002 U.S. Census of Agriculture counted a total of 1,543 farms in the County, which is a seven percent decrease from the previous 1997 Census. The Census shows a similar decreasing trend in the total number of acres used for farming. In 2002, the total number of acres in the County used for farming was 111,458, which is a 17 percent decrease from the 1997 Census. Although the average size of the farms in the County is 72 acres, the majority of the County's farms are 50 acres or smaller.

The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service classifies soils into eight categories based on agricultural potential. This classification depends on factors, such as slope, organic matter, flooding potential, and erosion hazards. From this classification, prime soils (Class I and II soils) are identified for agricultural production. Based on this system, the California Department of Conservation Farmland Mapping and Monitoring Program identifies state farmland ideally suited for agricultural use. The program does not affect local land use decisions, but is an identification tool that can be used for policy purposes by local governments.

Agricultural Resources Areas (ARA)

Agricultural Resource Areas (ARA) are areas where the General Plan promotes the preservation of agricultural uses. The ARA consists of areas that have been historically farmed in the County. In addition, the ARA includes farmland identified by the State Department of Conservation, including Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland. The ARA excludes the following: Sensitive Environmental Resource Areas; Significant Ecological Areas; Hillside Management Areas; areas with potential for soil erosion; areas with adopted Specific Plans; Rural Town Centers and Rural Town Areas, as described in the Antelope Valley Area Plan; and areas of fewer than 40 contiguous acres.

Figure 6.5, Agricultural Resource Areas Map, identifies areas where the County promotes the preservation of agricultural uses.

Figure 6.5: Los Angeles County Agricultural Resource Areas

Issues

1. Agricultural Land Use Compatibility

Increased population growth and accompanying development will result in the conversion of farmlands to non-agricultural uses. This is problematic in the northern portion of the County, which contains most of the farmland in the County and is also experiencing the most rapid population growth. As development in the County expands from urban centers into agricultural areas, conflicts between land uses may occur. Residents of new housing developments often voice concern over odors, dust, and pesticides from neighboring farms. Land adjacent to agricultural areas must be regulated to allow compatible land uses that will minimize these impacts.

2. Sustainable Agriculture

Certain agricultural practices have been identified as being major contributors to pollutants that impact air and water quality. Policies to promote agricultural production must also address air quality, water quality, water supply issues and other issues related to sustainability. Sustainable agricultural practices, such as organic farming, and limiting development in Agricultural Resource Areas, can help mitigate the potential impacts of agricultural production.

Goals and Policies for Agricultural Resources

Goal C/OS 7: Productive farmland that is protected for local food production, open space, public health, and the local economy.

- Policy C/OS 7.1: Protect Agricultural Resource Areas, and other land identified as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance by the Department of Conservation, from encroaching development and discourage incompatible adjacent land uses.

- Policy C/OS 7.2: Limit non-agricultural uses in Agricultural Resource Areas, other land identified as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance by the Department of Conservation.

- Policy C/OS 7.3: Encourage agricultural activities within the Agricultural Resource Area Overlay.

Goal C/OS 8: Sustainable agricultural practices.

- Policy C/OS 8.1: Support agricultural practices that minimize and reduce soil loss, minimize pesticide use, and prevent water runoff from affecting water, soil, and air quality.

- Policy C/OS 8.2: Support innovative agricultural practices that conserve resources and promote sustainability, such as drip irrigation, hydroponics, and organic farming.

- Policy C/OS 8.3: Support farmer's markets throughout the County.

- Policy C/OS 8.4: Support countywide community garden and urban farming programs.

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Sustainable Food Systems: Organic Farming, Urban Farming, and Community Gardens

Embodied in the principles of sustainability, sustainable agriculture refers to the production of food without the depletion of the Earth's resources or polluting of the environment. Sustainable agriculture addresses the social, economical, and environmental effects of farming. For more information on organic farming practices, please visit the National Sustainable Agriculture Information Service web site at http://www.attra.org.

Organic farming is a form of agricultural production that avoids or largely excludes the use of synthetic fertilizers, pesticides, herbicides, plant growth regulators and livestock feed additives. Organic farmers use crop rotation, crop residues, animal manures, other beneficial organisms, and mechanical cultivation to maintain soil productivity and control pests. Organic farming is considered environmentally responsible in that the exclusion of chemicals prevents the spread of these toxins into the air, water, soil, and food stuffs. There are an estimated 75 million acres of organic farmland in the world. In the United States, "organic" foods must be certified by the USDA. Any food that claims it is organic or organically produced must attain this certification. In the County, there is a limited amount of organic farming, reaching only 111 acres in 2006.

Urban farming refers to the practice of cultivating, processing and distributing food in, or around a village, town or city. Urban farming can be practiced as a food producing activity, for income, and in some cases simply for recreation. However, urban farming contributes to food security and food safety in two ways: first, it increases the amount of food available to people living in cities; and, second, it allows fresh vegetables and fruits and meat products to be made available to urban consumers. Because urban farming promotes local food production and distribution, urban farming activities are generally seen as sustainable practices. For more information on urban farming, please visit http://www.urbanfarming.org.

The American Community Garden Association allows a broad definition of what a community garden entails. Community gardens have been shown to provide a catalyst for neighborhood and community development, beautify neighborhoods, preserve or create urban green space, and create income opportunities and economic development. For more information on community gardens, please visit http://www.communitygarden.org/.

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VI. Mineral and Energy Resources

The Mineral and Energy Resources section of the Conservation and Open Space Element addresses the use and management of valuable energy and mineral resources in the County, and the increasing importance of the conservation of these resources for future users. The demand for energy resources in the County is high, and projected growth in the region will continue to strain the County's energy and mineral supply.

Background

Mineral Resources

Mineral resources are commercially-viable aggregate or mineral deposits, such as sand, gravel, and other construction aggregate, oil, and natural gas. California is the largest consumer of sand and gravel in the country, but is also a major producer, generating approximately one billion dollars worth of mineral resources annually. The Los Angeles Metropolitan Area produces and consumes more construction aggregate than any other metropolitan area in the country. In light of projected growth, a continuous supply of minerals for urban infrastructure is essential to the Southern California economy.

The County depends on the State of California's Geological Survey to identify deposits of regionally-significant aggregate resources. These clusters or belts of mineral deposits are designated as Mineral Resources Zones (MRZ-2s). Four major MRZ-2s are designated in the County and are shown in Table 6.3: the Little Rock Creek Fan, Soledad Production Area, Sun Valley Production Area, and Irwindale Production Area. The Soledad and Little Rock Creek MRZ-2s contain significant deposits that can provide for future needs through the year 2046. However, the Sun Valley MRZ-2 is near depletion, and the Irwindale MRZ-2 is expected to approach depletion in 2017. The County's MRZ-2s are shown in Figure 6.6, the Los Angeles County Natural Resource Areas Map.

Table 6.3: Geologic Inventory of Mineral Resources in Los Angeles County

Production Region	Aggregate Reserves as of 1999	Per Capita Consumption Rates	Estimated Depletion Year
Irwindale Production Area	250 Million Tons	4.0 Tons	2017
Little Rock Creek Fan	250 Million Tons	12.7 Tons	2046
Soledad Production Area	160 Million Tons	9.9 Tons	2046
Sun Valley Production Area	20 Million Tons	2.4 Tons	Unknown

Source: California State Mining & Geology Board, Aggregate Resources in the Los Angeles Metropolitan Area, 1999

Figure 6.6: Los Angeles County Natural Resource Areas Map

Oil and Natural Gas Resources

Small-scale oil production still occurs in many parts of the County, including the Baldwin Hills and the Santa Clarita Valley. The California Division of Oil, Gas, and Geothermal Resources (DOGGR)

permits and tracks each operating production well and natural gas storage well and ultimately monitors the decommissioning process. The County's involvement is limited to zoning and land use regulations that protect surrounding communities from oil production impacts. Strict standards for the installation, operation, and decommissioning of oil derricks are necessary to protect natural resources and prevent excessive grading in hillside areas.

Energy Resources

Energy in California is produced from a variety of non-renewable and renewable natural resources, including oil, natural gas, and hydrologic, wind, and solar power. Although non-renewable energy resources (oil and natural gas) generate a majority of its energy, the State has one of the most diverse portfolios of renewable energy resources in the country. Renewable energy is derived from resources that are regenerative and cannot be depleted, such as wind and solar power. For this reason, renewable energy sources are fundamentally different from fossil fuels, such as coal, oil, and natural gas, which are finite and also produce harmful greenhouse gases and other pollutants. Aside from existing oil and natural gas deposits, the State's topography and climate easily lend themselves to the production of energy from hydrologic, wind, solar, and tidal power. There are significant opportunities for the County to produce energy from renewable sources.

Figure 6.5, the Los Angeles County Natural Resource Areas Map identifies potential renewable energy sources in the County. More information about solar energy can be found on the County's web site at http://lacounty.solarmap.org.

Mineral Resource Zone Regulation and Conservation

The California Department of Conservation protects mineral resources to ensure adequate supplies for future production. The California Surface Mining and Reclamation Act of 1975 (SMARA) was adopted to encourage the production and conservation of mineral resources, prevent or minimize adverse effects to the environment, and protect public health and safety. An important component of SMARA requires that all surface mine sites be reclaimed to a productive second use upon the completion of mining (Public Resources Code, sub-sections 2712 (a),(b), and (c)).

In a joint regulatory effort, SMARA authorizes local governments to assist the State in issuing mining permits and monitoring site reclamation efforts. To manage mining resources, the County has incorporated mineral resource policies into the Open Space and Conservation Element. In addition to these policies, Title 22 of the Los Angeles County Code (Part 9 of Chapter 22.56) requires that applicants of surface mining projects submit a Reclamation Plan prior to receiving a permit to mine, which must describe how the excavated site will ultimately be remediated and transformed into another use.

Issues

1. Development in Mineral Resource Areas

Mineral Resource Areas include existing surface mining activities, identified by the State Mining and Geology Board, and areas suitable for the production of energy resources, including crude oil and natural gas. Many issues arise from the incompatible development of land around a Mineral Resource Area. Mineral resource extraction activities often garner community complaints due to perceived environmental threats and extraction operations. The General Plan protects the County Mineral Resource Areas, as well as the extraction of these activities, by encouraging compatible land uses in surrounding and adjacent areas.

2. Energy Conservation

Energy demand for transportation and non-transportation uses, including gasoline, electricity, heating, and cooling will continue to increase as the County's population grows. Energy consumption patterns demonstrate that County residents consume proportionally more energy for transportation than the rest of the State. Low-density, automobile-dependent communities place high demands on the County's declining energy resources. The Mobility Element policies promote rail, bus, carpool, bicycle, and pedestrian modes of transportation as alternatives to the single-occupant automobile, and the Land Use Element policies promote the efficient development and use of land to reduce consumptive land use patterns.

In addition, state and county building codes determine energy efficiency requirements for building construction. Changes to building codes over the years have resulted in substantial improvements in energy efficiency. This has translated into less energy required to light, cool, and heat buildings. In addition, green building techniques, such as the use of passive solar orientation, recycled building materials, improved insulation, energy star appliances, and onsite, small-scale renewable energy generation have contributed to energy conservation.

Goals and Policies for Mineral and Energy Resources

Goal C/OS 9: Locally available mineral resources to meet the needs of construction, transportation, and industry.

- Policy C/OS 9.1: Protect MRZs and access to MRZs from urban development and discourage incompatible adjacent land uses.

Goal C/OS 10: Mineral extraction activities that are conducted in a manner that minimizes impacts to the environment.

- Policy C/OS 10.1: Require mineral resource extraction activities to comply with County regulations and state laws and guidelines, such as the Surface Mining and Reclamation Act (SMARA), and the State Division of Oil, Gas and Geothermal Resources regulations.
- Policy C/OS 10.2: Encourage the recycling of abandoned mineral extraction sites to productive second uses.
- Policy C/OS 10.3: Require appropriate levels of remediation for all oil and natural gas production sites based on possible future uses.
- Policy C/OS 10.4: Restrict and regulate the installation, operation, and decommissioning of oil derricks to protect natural resources and prevent excessive grading in hillside areas.

Goal C/OS 11: Sustainable management of renewable and non-renewable energy resources.

- Policy C/OS 11.1: Expand the production and use of renewable energy resources.
- Policy C/OS 11.2: Encourage the effective management of non-renewable resources, such as ensuring adequate reserves to meet peak demands.
- Policy C/OS 11.3: Encourage new development to employ sustainable energy practices, such as utilizing passive solar techniques and/or active solar technologies.

- Policy C/OS 11.4: Require maximum amounts of energy conservation in new development and municipal operations.

Goal C/OS 12: Energy efficiency and conservation through development and design techniques.

- Policy C/OS 12.1: Support the design of developments that provide substantial tree canopy cover and utilize light colored paving materials and reflective roofing to reduce the urban heat island effect.

- Policy C/OS 12.2: Require green building policies, low impact development, and drought tolerant landscaping in all development activities.

- Policy C/OS 12.3: Encourage development to optimize the solar orientation of buildings to maximize passive and active solar design techniques.

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Renewable Energy

In 2005, 73 to 90 percent of utility generated electricity output was natural gas fired, while renewable energy sources provided more than 10% of all electricity in California. When large hydroelectric facilities are included, that share jumps to more than 27 percent. In response to the Global Warming Solutions Act of 2006, the California Renewable Portfolio Standard Program, an initiative of the California Energy Commission, calls for this share to increase to 33 percent (not counting large hydroelectric facilities) by 2020. Potential renewable energy generators in the state include solar, wind, tidal, small-scale hydroelectric, geothermal, fuel cells, biomass, and landfill gas reclamation.

An important trend of renewable energy production focuses on the development of onsite energy generation. Onsite energy generation utilizes renewable energy technologies for onsite energy production. Onsite energy generation promotes investment in renewable energy infrastructure, creates an income generating use where utility companies buy back excess power, and relieves stress and dependence on the existing electrical grid's infrastructure.

The California Energy Commission is charged with the increased development of the renewable energy sector in California. There are several programs in the state that facilitate the development of renewable energy production, as well as energy conservation, including rebates for solar, wind, and fuel cell technologies, public education, and funding research and development of emerging renewable energy technologies. More information can be found on the California Energy Commissions Renewable Energy Programs web site at http://www.energy.ca.gov/renewables.

VII. Scenic Resources

The County recognizes that the coastline, mountain vistas, and other scenic features of the region are a significant resource for the County. This section of the Open Space and Conservation Element addresses the preservation of the County's valuable designated scenic areas, vistas, and roadways.

Background

The County's scenic resources consist of designated scenic highways and corridors (or routes), and County-recognized scenic hillsides and ridgelines.

Official State Scenic Highways and Corridors

The State Scenic Highway Program was created in 1963 to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The Los Angeles County Scenic Highway Plan was created to conform to the State Scenic Highway Program. According to State guidelines, a highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

To be designated as an official State Scenic Highway, the County must create a Corridor Protection Program, which must be adopted by the County's Board of Supervisors. Each Corridor Protection Program must contain the following five elements related to preserving the nominated scenic highway:

- Regulation of land use and density of development;
- Detailed land and site planning;
- Control of outdoor advertising;
- Careful attention to and control of earthmoving and landscaping; and,
- Attention to design and appearance of structures and equipment.

For more information on highway nominations for official State scenic designation, please visit the California Department of Transportation Scenic Highway Program web site at http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm.

The County contains three official scenic highways, as seen in Table 6.4 and Figure 6.7.

Table 6.4: County Official State Scenic Highways

Highway	Location
Angeles Crest Highway-Route 2	From 2.7 miles north of I-210 to the San Bernardino County Line.
Mulholland Highway (2 sections)	From CA 1 to Kanan Dume Rd. From West of Cornell Rd. to East of Las Virgenes Rd.
Malibu Canyon–Las Virgenes Highway	From CA 1 to Lost Hills Rd.

Figure 6.7: Los Angeles County Scenic Highways

Hillside Management Areas, Scenic Viewsheds, and Ridgelines

Other scenic resources in the County include scenic hillsides, scenic viewsheds, and ridgelines.

Hillsides

The San Gabriel Mountains, Verdugo Hills, Santa Susana Mountains, Simi Hills, Santa Monica Mountains and Puente Hills play a major role in physically defining the County's diverse communities.

They not only create dramatic backdrops against densely developed suburbs and communities, but also provide extensive environmental and public benefits to County residents.

The vast majority of the native plant and animal species within the County reside within the hilly and mountainous terrain. Mountain lions, bobcat, black bear and deer are among the larger animals that inhabit these areas, indicating by their presence that smaller mammals and vegetation within the food chain are stable. A high number of heritage oak trees, 100 to 600 years old, occur in many of the County's oak woodlands and further indicate the biological significance of these areas.

In addition to their scenic beauty, undeveloped mountains and hills serve to protect the overall health of watersheds. They provide natural drainage systems, which play a role in water quality, slope stability, stormwater runoff, erosion control and groundwater replenishment.

Scenic Viewsheds

A scenic viewshed provides a scenic vista from a given location, such as a highway, a park, a hiking trail, or even from a particular neighborhood. The boundaries of a viewshed are defined by the field of view to the nearest ridgeline. Scenic viewsheds in the County vary by location and community and can include ridgelines, unique rock outcroppings, waterfalls, ocean views or various other unusual or scenic landforms.

Ridgelines

There are numerous ridgelines that provide dramatic views for unincorporated areas. The General Plan supports the protection and preservation of the County's significant ridgelines, and allows individual communities to identify and regulate their ridgeline resources. To identify significant ridgelines, the following criteria must be considered:

- Topographic complexity;
- Uniqueness of character and location;
- Presence of cultural or historical landmarks;
- Visual dominance on the skyline or viewshed, such as the height and elevation of a ridgeline; and,
- Environmental significance to natural ecosystems, parks, and trail systems.

Figure 6.8 identifies the County's Hillside Management and designated Ridgeline Management Areas.

Figure 6.8: Los Angeles County Ridgelines and Hillside Management Areas

Issues

Protection of Scenic Resources

Southern California has lost many of its scenic resources due to a variety of human activities. In the absence of adequate land use controls, many scenic resources have been adversely affected by unsightly development and sprawl. The visual pollution associated with the proliferation of billboards, signs, utility lines, and unsightly uses detracts from and often obscures many of the County's scenic resources. Another factor that significantly affects visual quality is air pollution. Man-made sources of

air pollution, particularly tailpipe emissions from cars and trucks, contribute to the reduction of visibility and to the deterioration of some vegetation and wildlife.

Hillside Regulation

The geologic instability of the County's mountain ranges is apparent in the numerous earthquake-induced landslide and liquefaction areas in the County. A majority of the mountains and hilly terrain in the County is steeply sloped land of 25 percent slope, with a large portion of this area greater than 50 percent slope. Development of terrain this steep is costly and the public costs associated with years of safety and public services in certain areas can be prohibitive. The highest and best use for some mountainous terrain may be as an airshed, watershed and natural habitat.

In addition, hillside development has the potential to change natural drainage systems and remove the native vegetation that once slowed water runoff. The removal of vegetation eliminates the natural containment of runoff. Water cannot then percolate into the soil, and instead gathers velocity as it flows down the hillside, causing accelerated erosion. Erosion that is accelerated beyond its normal rate can deposit silt into streams and lakes, which can adversely affecting water quality, smother vegetation, and trigger landslides.

To conserve the natural beauty and public benefit of hillsides, land use activities that may result in environmental degradation are subject to regulations and design guidelines that limit hillside development based on slope, soil, natural drainage channels, and seismic and fire hazards. The Hillside Management Conditional Use Permit (CUP) is a regulatory vehicle to consider potential environmental degradation and hillside alteration in areas where the slope is 25 percent or greater.

The Hillside Management CUP allows clustering development at the base of the slope, limiting grading, and ensuring that the drainage configuration remains as natural as possible and will not adversely impact the area below the site. Hillside design guidelines are referenced during the pre-development and permit processing phases to minimize hillside alteration, preserve ridgeline silhouettes, determine traffic circulation and building placement by topography, and incorporate trails where appropriate. By imposing these design conditions, a more sensitive development will occur in the County's hillsides in a manner that respects the natural topography and biological resources of the area.

Goals and Policies for Scenic Resources

Goal C/OS 13: Protected visual and scenic resources.

- Policy C/OS 13.1: Protect the County’s scenic resources through land use regulations that mitigate development impacts.

- Policy C/OS 13.2: Manage development in Hillside Management Areas (25 percent slope or greater) to protect their natural and scenic character and minimize risks from natural hazards, such as fire, flood, erosion, and landslides.

- Policy C/OS 13.3: Consider the following in the design of a project that is located within an HMA, to the greatest extent feasible:

    - Public safety and the preservation of hillside resources through the application of safety and conservation design standards;

    - Maintenance of large contiguous open areas that limit landslide, liquefaction and fire hazards and protect natural features, such as significant ridgelines, watercourses and SEAs.

- Policy C/OS 13.4: Protect the County's ridgelines from incompatible development that diminishes their scenic value.
- Policy C/OS 13.5: Reduce light trespass, light pollution and other threats to scenic resources.
- Policy C/OS 13.6: Require development to be designed to create a consistent visual relationship with the natural terrain and vegetation.
- Policy C/OS 13.7: Require grading to conform to the existing terrain.
- Policy C/OS 13.8: Prohibit outdoor advertising and billboards along scenic routes, corridors and other scenic areas.
- Policy C/OS 13.9: Incorporate roadside rest stops, vista points, and interpretive displays into projects in scenic areas.

VIII. Historical, Cultural, and Paleontological Resources

Historical and cultural resources are an important part of the County's identity and contribute to the local economy. This section sets forth goals and policies for the management and preservation of historical, cultural, and paleontological resources in the County.

Background

Cultural heritage resources include historic buildings, structures, artifacts, sites, and districts of historic, architectural, archaeological, or paleontological significance. They may be locations of important events that were turning points in the history of the County, or be unique structures or groups of structures possessing distinct architectural features that depict a historical period of the County. Officially-recognized resources are integral parts of the built and natural environments, and must be considered in County land use actions. There may be other sites and structures that have not been identified and that have importance to local communities. In such cases, a community-based plan may designate these sites or structures as locally significant.

The County's cultural heritage resources are non-renewable and irreplaceable. The County aims to promote public awareness of their value, and their public enjoyment should be fostered whenever possible. To this end, the County promotes cooperative efforts between public and private organizations to identify, restore, and preserve these resources.

Cultural and Historical Resources

The County embraces the importance of protecting cultural heritage resources and is guided in development decisions by federal, state, and local programs that officially recognize these resources. The following legislative tools improve the protection and enhancement of historic and cultural structures in the County:

Local

- Los Angeles County Historical Landmarks and Records Commission reviews and recommends cultural heritage resources in the unincorporated area for inclusion in the State Historic Resources Inventory.

State

- The California State Parks Department's Office of Historic Preservation maintains the State Historic Resources Inventory, a compilation of all resources formally determined eligible for or listed in the National Register of Historic Places, the California Register of Historical Resources or designated as State Historical Landmarks or Points of Historical Interest.

- CEQA provides guidelines for the identification and protection of archaeological sites, artifacts, and paleontological resources. If a project threatens an archaeological or paleontological resource, the project is required to provide mitigation measures to protect the site or enable study and documentation of the site. Assessment of these resources requires a survey prepared by a qualified archaeologist or paleontologist.

- The State Historical Building Code (SHBC) is a set of regulations adopted in 1979 that was created to improve the protection and enhancement of historic structures. The intent of SHBC is to protect California's architectural heritage by recognizing the unique construction problems inherent in historic buildings and offering an alternative code to deal with these problems. The SHBC provides alternative building regulations for the rehabilitation, preservation, restoration, or relocation of structures designated as historic buildings. SHBC regulations are intended to facilitate restoration or accommodate change of occupancy so as to preserve a historic structure's original or restored architectural elements and features.

Federal

- The Federal Archaeological Resources Protection Act of 1979 protects archaeological resources and provides requirements for permit issuance to excavate or remove archaeological resources.

- The Native American Heritage Act of 1992 provides guidelines for the protection of Native American remains and artifacts.

- The National Register of Historic Places the National Register of Historic Places is the official list of the country's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources.

- National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Today, fewer than 2,500 historic places bear this national distinction.

Historical Resource Sites

The State of California designates historic resources as Historical Landmarks or Points of Historical Interest and lists them in the California Register of Historical Resources. Historical Landmarks are resources of statewide significance and Points of Historical Interest are resources of local

significance. Many of the resources listed in the California Register are also of national significance and are listed in the National Register of Historic Places.

The County has many Historical Landmarks and Points of Historical Interest in its jurisdiction, including the remnants of vast ranchos, routes of early explorers, historic railroad lines, and the homes of prominent people who shaped local history. The State Historical Resources Commission administers the California Register, which lists 506 historic resources throughout the County. While the great majority of these resources are located in cities, 13 are located in the unincorporated areas of the County. Figure 6.9 displays the location and designation of the 13 historic resources in the unincorporated areas.

Figure 6.9: Historical Resource Sites in the Unincorporated Areas

Issues

Land Use Compatibility and the Importance of a Local Process

The primary threats to the County's cultural and historical resources are incompatible land uses and development on or adjacent to the County's cultural heritage resource sites, a lack of a County registry, and the limitations of state and federal programs for historical protection.

Incompatible land uses and development adversely affect cultural sites by degrading the historical nature of the site through incompatible design features that are not historically appropriate, allowing development that blocks views or hinders the public's enjoyment of a particular cultural site, or development that removes or demolishes significant historical features on existing buildings.

In addition, a local registry or landmarks commission, which can be crucial to a successful historic and cultural preservation program, is needed in the County to identify cultural and historic resources not identified by state and federal programs. A local process also encourages the participation of stakeholders who are familiar with the historic and cultural resources within their communities.

Goals and Policies

Goal C/OS 14: Protected cultural heritage resources.

- Policy C/OS 14.1: Mitigate all impacts from new development on or adjacent to historical and cultural heritage resources sites to the greatest extent feasible.
- Policy C/OS 14.2: Support an inter-jurisdictional collaborative system that protects and enhances the County's cultural heritage resources.
- Policy C/OS 14.3: Support the preservation and rehabilitation of historic buildings.
- Policy C/OS 14.4: Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004).
- Policy C/OS 14.5: Promote public awareness of the County's cultural heritage resources.
- Policy C/OS 14.6: Ensure proper notification and recovery processes are carried out for development on or near historical and cultural heritage resource sites.

[Text Box]

Senate Bill (SB) 18

Senate Bill 18 (2004) requires California cities and counties to contact and consult with California Native American tribes prior to amending or adopting a General Plan or Specific Plan, or designating land as open space. SB 18 requires city and county governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places through local land use planning. SB 18 provides California Native American tribes an opportunity to participate in local land use decisions at an early stage in the planning process for the purpose of protecting, or mitigating, impacts to sites of cultural significance. Involving tribes early allows for ample consideration of cultural places in the context of broad local land use policy, before individual site specific, project level land use decisions are made by a local government.

Table 6.5: Conservation and Open Space Element Implementation Actions

Program	Location in Part III
Green Streets Initiative	See Smart Growth
Habitat Conservation Plan Mitigation Land Banking Program Open Space Land Acquisition Strategy Oak Woodlands Conservation Management Plan Sustainable Food Systems Ordinance Transfer of Development Rights Program Water Quality Initiatives Watershed and River Master Plans Scenic Resources Ordinance Agricultural Resources Ordinance Significant Ecological Areas Ordinance Hillside Management Areas Ordinance Mineral Resource Zones Ordinance	See Environmental Resource Management
Community Design Guidelines Historic Preservation Ordinance Urban Greening Program Solar Energy Orientation Study	See Healthy, Livable and Equitable Communities

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