



Chapter 6: Resource Conservation

R A N C H O C U C A M O N G A G E N E R A L
P L A N

Introduction

In real estate, it is said that location is everything. Rancho Cucamonga residents are proud of their City's favorable location and setting, and its diverse environment. The City features views of picturesque snow-topped mountain peaks, foothill canyons flowing with creeks and streams, open spaces with natural habitat blanketing the foothills, and a few vineyards and citrus groves that serve as a reminder of the agricultural heritage of the region.

Contained within this environment are valuable natural resources. For example, canyon creeks provide precious water sources, open spaces foster wildlife diversity, and alluvial fans from the mouths of the canyons have supplied mineral resources. Rancho Cucamonga is fortunate to have access to these resources because they are important to the City's environmental health and long-term sustainability.

This Chapter focuses on preserving, protecting, conserving, re-using, replenishing, and efficiently using Rancho Cucamonga's limited natural resources that include water, open space, sensitive habitat, agricultural lands plus flora and fauna. This Chapter also includes discussion about the management of energy resources and green building opportunities as they relate to quality of life and sustainability issues. Such issues are also a policy focus of Healthy RC.

Chapter 6: Resource Conservation

This Chapter consists of the following sections:

- Open Space Resources
- Mineral Resources
- Agricultural & Cultural Resources
- Water Resources
- Energy Resources
- Green Buildings
- Wildlife Resources

Achieving Our Vision

The vision for Rancho Cucamonga includes the preservation and conservation of natural resources that comprise the local environment. These natural resources include open spaces, water resources, energy, and wildlife. The City of Rancho Cucamonga's vision for resource conservation is reflected in the following Spirit of Rancho Cucamonga Guiding Principles:

The Spirit of Community

- Through programs such as Healthy RC, we inspire a lifestyle that embraces a Healthy Mind, Body and Earth. We support lifelong learning and enrichment, active and healthy living, and environmental sustainability. These values are reflected in our programs and facilities for our residents and businesses. The high quality of services the City provides strengthens community bonds and contributes to healthy lifestyles.

The Spirit of Heritage

- We promote the use of citrus and vineyard plantings to remind us of our agricultural past.
- Our outstanding views of the mountains, the varied natural topography of the area, and the trails that allow us to access these open spaces are an asset and must be preserved.

The Spirit of Leadership

- We have a strong dedication to community planning. The quality of our built environment is by design. Our government leads by example. We are committed to achieving higher standards for community development, architecture, and landscaping. Our streetscapes reflect the high-quality development that we demand while embracing the concept of water conservation and ease of maintenance.
- We promote sustainable neighborhood and building design.

The Spirit of Tomorrow

- Rancho Cucamonga will lead the way to a healthy environment. We are committed to environmental sustainability, which means meeting the needs of the present while conserving the ability of future generations to do the same.
- We are dedicated to a sustainable balance in land use patterns (residential, business, educational, agricultural, recreational, open space, and historic uses) and supporting transportation.
- We are proactive in the design and use of lands within our Sphere of Influence, being vigilant in maintaining open space wherever possible.

Open Space Resources

Open space is defined as any parcel or area of land that is essentially unimproved and devoted to uses such as natural resource preservation, managed production of resources, outdoor recreation, and public health and safety. Open spaces can be found throughout the City. Natural open spaces are primarily located in the hillsides and Sphere of Influence areas of the City, while urban open spaces, such as developed parks and open plazas can be found in the built areas of the City.

Preservation of open space benefits environmental sustainability and promotes the Healthy RC Initiative. Open space allows the recharge of groundwater basins, which provide a clean source of water for everyday use to the Rancho Cucamonga community. Open space provides plentiful opportunities for recreational activities such as hiking and bird watching as well as areas of scientific and educational value. Preservation of open space serves to protect views and retain a connection to our environmental and cultural history. Open space also provides protection from natural hazards such as flooding and wildland fires. And finally, open space is not just limited to the hillsides; within the urban area, open space provides softening and contrast to the built environment, active and passive recreational opportunities, view corridors, and general enhancement of the overall visual quality of the City.

Established Open Space Areas

Approximately 31 percent, or 8,224 acres, of the Planning Area is devoted to open space, including parks, undeveloped parcels, conservation areas, and flood control/utility corridors, as shown in Figure RC-1: Open Space and Conservation Plan. Hillside Residential and Very Low-density Residential areas (two dwelling units or less per acre) also contribute to the rural character within the northern portion of the City and Sphere of Influence area (see Chapter 2, Figure LU-1: Land Use Plan).

Open space in Rancho Cucamonga provides the following benefits:

- **Open Space: Preservation of Natural Resources.** In an effort to protect wildlife and biological resources within Rancho Cucamonga, conservation areas have been established in Rancho Cucamonga's Planning Area. These conservation areas are intended to protect the alluvial fan sage scrub habitat and the wildlife it supports by preserving open space land in its natural state. See the Wildlife Resources section (page RC-26) in this Chapter for more information regarding conservation areas and protection of wildlife resources.
- **Open Space: Managed Protection of Natural Resources.** Open space areas and expansive spreading grounds allow the recharge of groundwater basins, which are a critical resource for the Cucamonga Valley Water District. These areas need to be protected because the Cucamonga Valley Water District obtains a large portion of its water supply from the groundwater basins. Rancho Cucamonga's Sphere of Influence also has limited aggregate resources (sand and gravel), which are found in alluvial fans at the opening of canyons. These are important resources to the construction industry from which Rancho Cucamonga and the region have greatly benefited. However, this resource must be properly managed so that we can protect important habitat areas, allow for appropriate redevelopment, and avoid future land use conflicts. See the Mineral Resources section (page RC-8) in this Chapter for more information.

- **Open Space: Outdoor Recreation.** Rancho Cucamonga has developed hundreds of acres of parks and recreational areas in the City. These range from large community parks that offer sports activities and extensive, passive open space areas to smaller neighborhood parks that offer neighborhood-scale amenities. These diverse outdoor recreational opportunities are an important component of Rancho Cucamonga’s quality of life. See Chapter 5: Community Services for more information regarding parks and special use facilities.

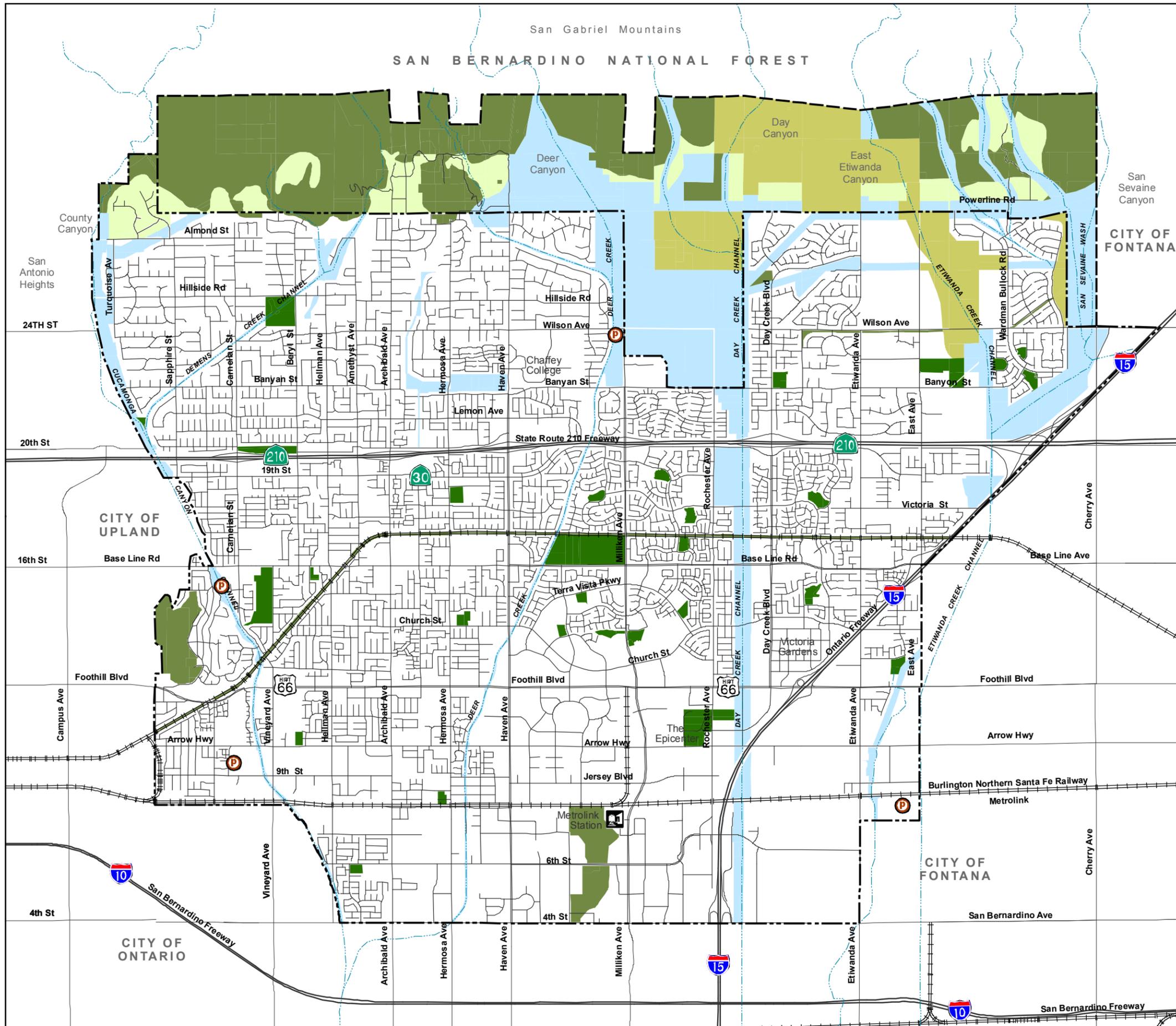
The North Etiwanda Preserve, which functions as a conservation area for the protection of wildlife habitat, also serves as an outdoor recreation area that allows for hiking, bird watching, and enjoyment of the natural outdoors. Residents can explore the natural environment while learning about important natural resources that need to be preserved and protected on the County Regional Trail.

- **Open Space: Public Health and Safety.** Rancho Cucamonga is susceptible to many natural hazards, including wildland fires, earthquakes, mudslides, and flooding. Physical conditions in Rancho Cucamonga such as earthquake fault zones, landslide areas, and steeply sloped hillsides present additional danger to the general community. Open space can help mitigate this danger by prohibiting development within hazard areas. Although the need to allow property owners viable use of their lands may prevent total prohibition of development in areas with known hazards, attention to and mitigation of these hazards will be required to protect residents’ health and safety. See Chapter 8: Public Health and Safety for more information regarding natural hazards.

Open Space in Urban Areas

Open space within the urban areas of Rancho Cucamonga serves many purposes. Parks are the most evident forms of urban open space, but public plazas, parkways, tree-lined streets, and school fields also contribute to urban open space. All of these assets add to the quality of life for Rancho Cucamonga neighborhoods and commercial areas. Additionally, open space in urban areas can remedy certain environmental issues. For example, open spaces can mitigate stormwater and urban runoff, with permeable surfaces that allow for precipitation to nourish landscaping. Open space and vegetation can also help absorb air pollution, reduce the “urban heat island” effect, and create urban habitats for regional fauna. The reinvigoration of natural ecosystems through the use of open spaces can provide economic, environmental, and social benefits to Rancho Cucamonga residents.

Open space is also a critical ingredient in the success of private development of all types: residential, office, commercial, and industrial. Victoria Gardens is a good example: its large outdoor urban plazas are places where many community events can be held, and where residents can congregate and socialize. Moreover, several commercial and residential developments include small vineyard plots as a landscaping amenity that is both aesthetic and functional. These spaces become a public asset everyone can enjoy, though privately owned and maintained.



- Open Space and Conservation Areas**
- Hillside Residential (0.1 to 2 du/ac)
 - Conservation
 - Open Space (0 to 0.1 du/ac)
 - Flood Control/Utility Corridor
 - Parks
 - P Proposed Park¹

- Base Features**
- Rancho Cucamonga City Boundary
 - Sphere of Influence
 - Waterways

Note: 1. Some proposed parks sites are not parcel-specific as of 2009.

Source: Rancho Cucamonga, 2001 and San Bernardino County Assessor, 2009.

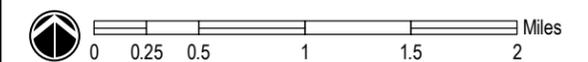


Figure RC-1:
Open Space and
Conservation Plan

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Open Space Plan

The General Plan seeks to ensure that quality open spaces are an integral part of new development. Rancho Cucamonga already has a reputation for conveying a sense of openness through rigorous development standards, streetscape treatment, and design specifications. This Chapter builds on those efforts and expands those commitments that have led to that cherished reputation.

Rancho Cucamonga recognizes that open space land is a limited and valuable resource that must be preserved wherever possible. Quality open space provides many benefits including recreation, scenic beauty, protection of natural resources, and the continued availability of land for groundwater recharge. One of the primary challenges the City faces is how to preserve and enhance an open space system that does not solely consist of the unusable spaces left over from development. Strict adherence to the City's design standards must be observed.

The General Plan intends to conserve important remnants of the City's agricultural heritage, as well as preserve significant visual resources, sensitive habitats, lands important for water resources, and recreational spaces. In addition, open space planning must recognize other environmentally sensitive lands, such as those subject to natural hazards. For these reasons, the General Plan includes policies and implementing actions that address potential conflicts between urban and non-urbanized uses. The aim of these policies and actions is to seek long-term protection of areas containing sensitive habitat and other environmental constraints. The Open Space and Conservation Plan presented in Figure RC-1 represents the synthesis of these issues into an overall mapped scheme.

The importance of open space and the conservation of resources is directly reflected in the Managing Land Use, Community Design, and Historic Resources Chapter. The Plan includes numerous land use policies that reinforce the desire to preserve and carefully manage the open space and conservation resources that the City is committed to support.



Open spaces along the foothills of the San Gabriel Mountains.

Mineral Resources

The Surface Mining and Reclamation Act of 1975 (SMARA) mandates the classification of valuable lands that are subject to urban expansion or other irreversible actions in order to protect mineral resources in the State. SMARA also allows the State to designate lands containing mineral deposits of regional or statewide significance. The California Geological Survey (CGS) has identified a number of areas as significant aggregate resources throughout the City and Sphere of Influence.

Sand and gravel are necessary ingredients for urban construction, and it is advantageous for builders to have a local source for these materials. However, the extraction of aggregate, like most surface mining, impacts the surrounding environment and can adversely impact adjacent planned land uses, as well as sensitive habitat areas. Consequently, land uses in proximity to planned resource extraction areas must be carefully considered to minimize potential conflicts.

Mineral Resource Areas

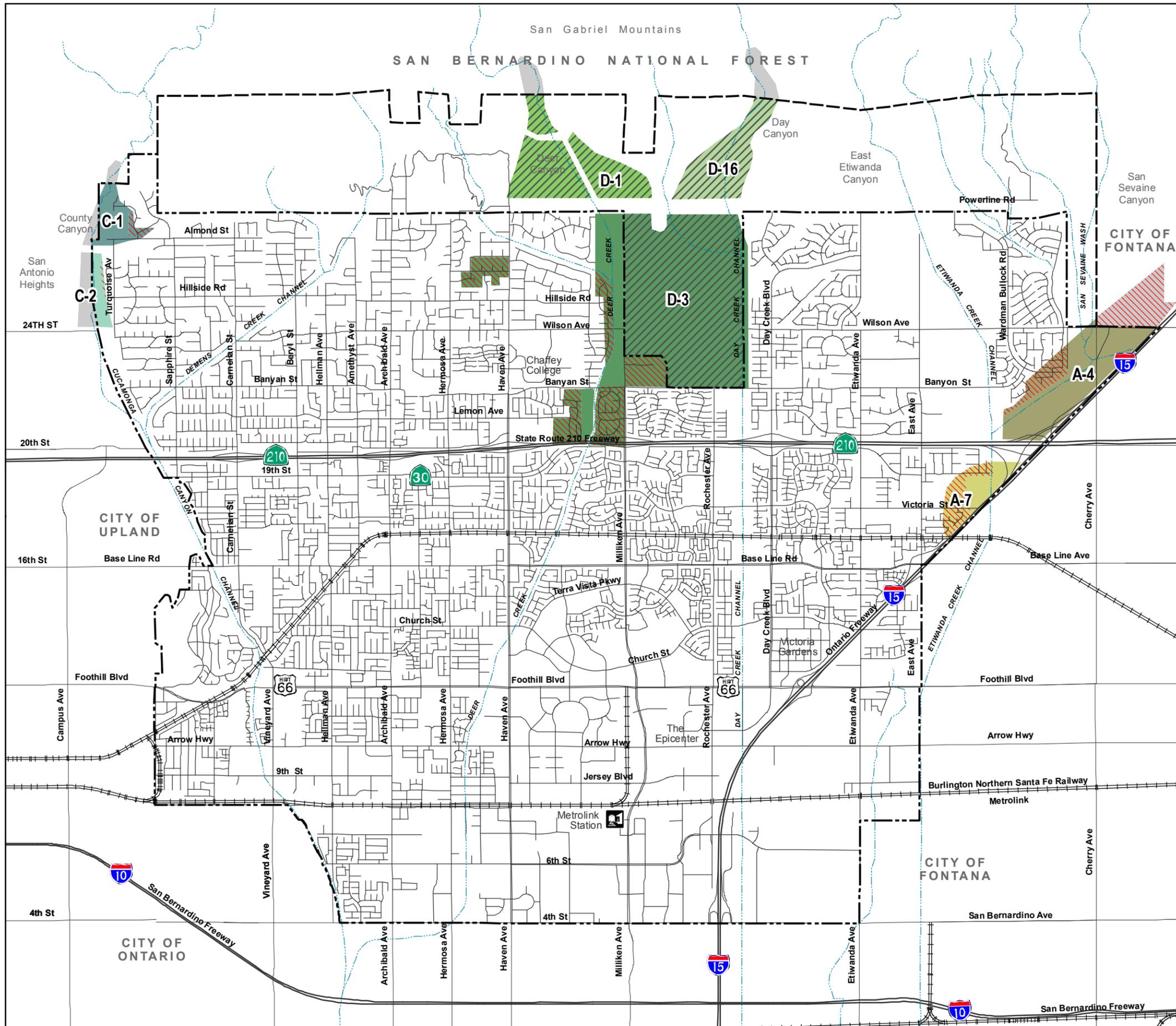
There are four coalescing alluvial fans in or near the City, comprising a significant local sand and gravel resource. From west to east these alluvial fans are known as the San Antonio, Cucamonga, Deer Creek, and Day Creek fans. To organize the classification of aggregate resources, the State utilizes the concept of “sectors” to identify those areas that meet eligibility guidelines for designation as having regional or statewide significance. Five sectors (C-1, C-2, D-1, D-1, and D-16) are located in the Claremont-Upland Production-Consumption Region. Two Sectors (A-4 and A-7) are located in the San Bernardino Production-Consumption Region (see Figure RC-2 and Table RC-1).

The CGS has calculated that the Claremont-Upland Production-Consumption Region will require 240 million tons of construction aggregate to fulfill local building demands through the year 2056. As of 2007, remaining resources in the Region total approximately 451 million tons. Remaining reserves, including property owned or leased for which permission for extraction has been granted, total approximately 121 million tons.¹ The San Bernardino Production-Consumption Region will require 1.1 billion tons of construction aggregate to fulfill local building demands through the year 2057. As of 2008, remaining resources in the Region total approximately six billion tons, of which 287 million tons have been permitted to be extracted.²

Approximately 2,422 acres of potential aggregate resources are located within the Planning Area.

¹ California Geological Survey, Department of Conservation, Special Report 202 - Update of Mineral Land Classification for Portland Cement Concrete-Grade Aggregate in the Claremont-Upland Production-Consumption Region, Los Angeles and San Bernardino Counties, 2007.

² California Geological Survey, Department of Conservation, Special Report 206 - Update of Mineral Land Classification for Portland Cement Concrete-Grade Aggregate in the San Bernardino Production-Consumption Region, San Bernardino and Riverside Counties, 2008.



Aggregate Resource Sectors

- A-4: Lytle Creek Fan
- A-7: Lytle Creek Fan
- C-1: Upper Cucamonga Fan
- C-2: Upper Cucamonga Fan
- D-1: Deer Creek Fan
- D-3: Deer and Day Creek Fans
- D-16: Day Creek Fan

Location

- In Sphere of Influence
- Outside Planning Area

Built Over

- Sector Built Over By Development

Base Features

- Rancho Cucamonga City Boundary
- Sphere of Influence
- Waterways

Note: Refer to Table RC-1 for Resource Sector Information.

Source: California State Department of Conservation, California Geological Survey.

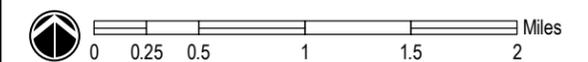


Figure RC-2:
**Regionally Significant
Aggregate Resources**

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Table RC-1: Areas of Designated Regionally Significant Aggregate Resources

Sector	Acres (Approximate)	Estimated Potential Aggregate Resources (tons)	Existing Land Use (2009)	General Plan Land Use Designations
A-4: Lytle Creek Fan	435	74,800,000	Predominantly flood control and water recharge area; developed residential and park	Flood Control/Utility Corridor, General Commercial, and Low Residential
A-7: Lytle Creek Fan	310	80,200,000	Predominantly flood control; developed residential, high school, and some vacant lands	Low Residential, Flood Control, School, Medium Residential
C-1: Upper Cucamonga Fan	96	20,000,000	Flood control, open space, and small area developed as residential	Open Space, Hillside Residential, Flood Control
C-2: Upper Cucamonga Fan	74	12,000,000	Flood control and residential development	Flood Control, small portion of Very Low Residential
D-1: Deer Creek Fan	318	62,000,000	Flood control, open space, and some residential-designated vacant lands	Flood Control, Open Space, and small portion designated Hillside Residential
D-3: Deer and Day Creek Fans	964	65,000,000	Predominantly flood control and active sand and gravel mining; residential areas mostly existing with very small portions vacant; Los Osos High School	Predominately Flood Control and Conservation, with small areas designated as Very Low, Low Medium, and Medium High Residential; School
D-16: Day Creek Fan	225	14,000,000	Flood control, water recharge area, open space, and conservation areas	Flood Control, Open Space, Conservation, and Hillside Residential
Total	2,422	328,000,000		

Source: California Geological Survey, Department of Conservation, Special Report 202 - Update of Mineral Land Classification for Portland Cement Concrete-Grade Aggregate in the Claremont-Upland Production-Consumption Regions, Los Angeles and San Bernardino Counties, 2007.

California Geological Survey, Department of Conservation, Special Report 206 - Update of Mineral Land Classification for Portland Cement Concrete-Grade Aggregate in the San Bernardino Production-Consumption Regions, San Bernardino and Riverside Counties, 2008.

The majority of this acreage is planned for Open Space, Conservation, Flood Control/Utility Corridor, or Hillside Residential, which represents a very low-density of development. As of 2009, approximately 437 acres of the sectors in the Planning Area have been developed; residences have been built, as well as a high school. Consequently, land use conflicts between residential uses and possible aggregate extraction is likely to occur in the City, particularly as residential use increases. To minimize conflicts with planned land use and sensitive habitat areas, the City will need to work with the County of San Bernardino to coordinate review of any potential aggregate operation in the Sphere of Influence.

The Sphere of Influence currently contains a rock crushing plant located within the Day Creek area, which is the only active aggregate operation in the Planning Area. The area located within the County Flood Control District property is not subject to current or future mining operations. The long-term objective is to develop the area in a sensitive manner adhering to the City's development and public safety standards.

Mineral Resources Strategy

The State has implemented a program whereby areas designated as mineral deposit zones of regional and statewide significance are to be conserved where possible. However, land within those State-designated areas can be used for mining or other land uses at the discretion of local governments. Further, cities and counties are responsible for establishing policies and programs for the management of land uses in and around designated mineral deposit zones. The Surface Mining and Reclamation Act does require that local jurisdictions submit written justification to the CGS for the termination of the State's designation of a significant aggregate resource area.

Aggregate deposits available for recovery within the Rancho Cucamonga Planning Area may be limited due to conflicts between urban development, access, and the nature of typical surface mining operations.

The City has determined that urban uses shall have a priority over aggregate recovery in areas not already disturbed by such activities. Development will be subject to the City's development standards and public safety objectives. The City will also seek the removal of areas planned for urban use from SMARA maps. Mineral resource areas may offer some intrinsic open space value but are not scenic when under active operation, and typically result in substantial landform alteration. State regulations do, however, require that all operators have an approved plan for the reclamation of mineral resource production areas once the resources are exhausted.

While it is important to conserve mineral resource areas that have been determined to be of regional significance, the City will be sensitive to the potential impacts and conflicts that may result from such conservation in some areas of the City and Sphere of Influence.

Agricultural and Cultural Resources

Agricultural Heritage

Like many Southern California communities, Rancho Cucamonga has a rich agricultural past. Founders of the Etiwanda Colony, the Chaffey Brothers, engineered transport of water from the mountain canyons through irrigation tunnels. Good climate and an abundant water supply allowed early pioneers to develop successful agricultural lands. The area's characteristic rocky soils were particularly good for the agricultural crops, which included citrus, olives, peaches and grapes. Evidence of the City's agricultural industry can still be found within the Alta Loma, Cucamonga, and Etiwanda areas of the City through remnant vineyards, citrus groves, olive groves, and support structures. Citrus and olive groves have been retained through creative planning where new residences are built within the grove, and trees are retained in accordance with the terms of the City's development approvals.

Over 30 years ago, the City recognized that agricultural lands were being lost as a result of development pressures, and the loss was changing the community character. In 1983, the City prepared the Etiwanda Specific Plan, which exemplifies a balanced approach to preserving the City's agricultural heritage and protecting the rural character of the area while allowing for new, compatible development.

Although the entire City was once an agricultural area, few large areas remain in active production today. The goal of land use planning for the future is to provide an adequate supply of appropriately designated and suitably located land that will accommodate anticipated urban growth. The continuation of agricultural activities in proximity to planned residential uses can result in conflicts and incompatibilities that are not easily managed.

In an effort to revive agricultural production of vineyards on a much smaller scale, private local vintners have developed a unique approach in planting new vineyards on private properties. These vineyards are usually in front of commercial or office businesses, or in the common landscaped areas of new residential development. Although their acreage is small, the vineyards provide attractive landscaping for new developments, and most importantly, provide a reminder to the community of its successful past when fields of grapes dominated the landscape. Secondly, the vineyards may provide some viable production of grape yields for local vintners.



Small grape vineyard on Foothill Boulevard.

Agricultural Resources

The California Department of Conservation prepares and maintains a system that maps and monitors the status of agricultural land resources throughout the State. This program is known as the Farmland Mapping and Monitoring Program. Information is updated on a two-year cycle. Based on the most recent information available from the Department of Conservation (2008), approximately 209 acres of undeveloped land within the Planning Area are designated as agricultural lands of some level of significance. This does not mean that these areas are or have been in agricultural production, but that they contain quality soils for agricultural production.

Areas located within the City and Sphere of Influence that are identified as Important Farmland by the Department of Conservation are summarized in Table RC-2. This table also identifies the General Plan land uses proposed for these areas. Farmland designations are defined by the State as follows:

- **Prime Farmland.** Land with the best combination of physical and soil features for the production of agricultural crops.
- **Farmland of Statewide Importance.** Land with a good combination of physical and soil features for the production of agricultural crops.
- **Unique Farmland.** Land of lesser quality soils used for the production of the State's leading agricultural cash crops.
- **Farmland of Local Importance.** Lands that include areas of soils meeting all the characteristics of Prime, Statewide, or Unique, but which are not irrigated. This category also includes lands not covered by the above categories that are considered of high economic importance to the community.

Concentrations of Important Farmland are sparsely located in the southern and eastern parts of the City. The southern portion of the City is, however, primarily characterized by industrial, residential, and commercial land uses. Important Farmland in eastern Rancho Cucamonga is concentrated in Etiwanda; these farmland areas were designated by the Department of Conservation due to their local historical importance. However, most of the Etiwanda area is planned for development, and is not intended to be retained as farmland. The western portion of the City has little or no designated Important Farmland. The northern portion of the Planning Area, within the Sphere of Influence, has been designated as grazing land and is planned for Open Space, Conservation, and Low-Density Residential use.

Farmland Designation	Acres
Farmland of Local Importance	157
Farmland of Statewide Importance	17
Prime Farmland	16
Unique Farmland	19
Total	209

Source: California Department of Conservation, Division of Land Resource Protection, 2008.

Cultural Resources

Based on a records search conducted for the City by the San Bernardino County Museum, previous geologic mapping of the Planning Area indicates that soils and geologic formations within the Planning Area have a low potential to contain significant paleontological resources. The City will continue to screen development proposals in accordance with the requirements of the California Environmental Quality Act, and will require the research of any site that may be determined to have potential resources. Should any resources be discovered, the City will take appropriate measures in accordance with existing laws to ensure the proper handling and preservation of artifacts.

Having recently undergone the rapid population growth characteristic of many cities in the Inland Empire, Rancho Cucamonga has lost much of the agricultural land that once characterized the area. This expansion has also led to the loss of historic resources. As it is a goal of the General Plan to determine the best path for future growth, it is appropriate to consider how the City's historic resources, including non-architectural resources such as historic landscapes, will be preserved as urban growth and change continue. The goals and policies related to this issue are discussed in detail in the Managing Land Use, Community Design, and Historic Resources Chapter (Chapter 2).

Water Resources

The story of water delivery to the Rancho Cucamonga area started during the founding of the Etiwanda Colony by the Chaffey Brothers. The brothers were the first in Southern California to develop hydroelectric current for lighting, the first to successfully operate a mutual water district (the Etiwanda Water Company in 1882), and the first to lay underground pipes for water distribution and agricultural irrigation.

Today, water is still collected from the same canyon sources that the Chaffey Brothers used. As Rancho Cucamonga grows, however, additional water will be needed to meet demand. Affected by growth within the State and by global warming, the availability of a plentiful supply of water is in doubt. Unless water efficiency initiatives are undertaken, Rancho Cucamonga could face stunted economic development in the future due to insufficient water supply.

This section examines Rancho Cucamonga's water supply and the challenges that face future planning efforts, opportunities for water conservation, and the importance of water quality.

Water Supply

The Cucamonga Valley Water District (CVWD) is the sole water provider for Rancho Cucamonga. The District's service area encompasses the entire City of Rancho Cucamonga, the City's Sphere of Influence and, in addition, portions of Fontana, Ontario, and Upland.

The majority of CVWD's water comes from two sources: imported water from the Metropolitan Water District (MWD) and groundwater from the Chino and Cucamonga Basins. Other sources include local surface and sub-surface water flows and recycled water. As of 2007, 5 percent of the District's supply came from local canyon surface runoff water, 35 percent from groundwater, and 60 percent from imported

Water infrastructure is discussed further in Chapter 7: Public Facilities and Infrastructure under the Infrastructure section.

water purchases. In 2030, only 3 percent will come from surface runoff water and 27 percent will come from imported water purchases; groundwater sources will increase to 42 percent, and an additional 20 percent will come from recycled water sources. An additional 8 percent will come from water conservation measures. Recycled water is expected to contribute significantly to CVWD’s future water supply. Table RC-3 identifies the acre-feet per year for each of the water supply sources over a 20-year period.

Imported Water

The CVWD has access to imported water through the Metropolitan Water District (MWD). MWD’s water supply comes from two sources: State Water Project water from Silverwood Lake, and Colorado River water from Lake Matthews. The amount of water that can be utilized by the CVWD is not limited by contract. However, the hydraulic capacity of the MWD delivery system restricts the amount of imported water that can be obtained by CVWD. This water is treated at CVWD’s Lloyd W. Michael Water Treatment Plant. The treated water flows into storage reservoirs and then into the distribution system.

Table RC-3: Water Sources (Acre-Feet per Year)

Water Supply Sources	2005		2010		2020		2030	
	AF ²	%	AF	%	AF	%	AF	%
Purchased from wholesaler (MWD)	35,000	59%	29,000	34%	29,000	28%	28,655	27%
Chino Basin Groundwater ¹	13,411	23%	30,430	36%	39,430	38%	39,270	37%
Cucamonga Basin Groundwater	5,400	9%	5,400	6%	5,400	5%	5,305	5%
Surface Water	3,000	5%	3,000	4%	3,000	3%	3,185	3%
Conservation	1,146	2%	6,390	8%	7,700	7%	8,490	8%
Recycled Water	1,270	2%	10,250	12%	19,220	19%	21,225	20%
Total	59,227	100%	84,470	100%	103,750	100%	106,130	100%

Source: CVWD Water Supply Planning Strategy Report, November 2004. Recycled water projections from Inland Empire Utilities Agency’s Urban Water Management Plan, 2005. CVWD Urban Water Management Plan, 2005.

Notes:

1. Includes Chino Basin Dry Year Yield Program, an agreement that allows CVWD to pump additional Chino Basin Groundwater while reducing imported water purchases.
2. AF = Acre-Feet.

Groundwater

The Cucamonga and Chino Basins provide groundwater to the CVWD. Both basins are currently replenished by natural precipitation and through a number of spreading grounds and percolation basins. The Chino Basin has been the District’s predominant groundwater source, and is expected to provide 85 percent of the total groundwater pumped by the CVWD and 67 percent of the total water supply in 2010.

The Chino Basin is separated from the Cucamonga Basin by the Red Hill Fault, which underlies the southern portion of the District's service area. In 1975, groundwater rights were established through the Chino Basin judgment. Based on this judgment, the District's maximum annual groundwater pumping right is limited to approximately 3,620 acre-feet per year, which amounts to six percent of the basin's estimated safe yield of approximately 54,835 acre-feet per year. The District's maximum annual groundwater volume is the amount that it can extract each year without replenishment obligation.

A majority of the Cucamonga Basin underlies the northern portion of the District's service area. Groundwater pumped from the Cucamonga Basin is limited by a 1958 Superior Court judgment to approximately 15,470 acre-feet per year. The sustainable yield of the Cucamonga Basin is estimated to be approximately 19,100 acre-feet per year. The groundwater the District pumps from the Cucamonga and Chino Basins is then pumped through a system of wells, disinfected, and ultimately moved directly into enclosed reservoirs. Upon demand, the water either flows by gravity or is pumped from the reservoirs into the distribution system.

Open space allows the recharging of groundwater basins and assists with stormwater management. Locally, the Cucamonga Spreading Grounds, Day Creek Spreading Grounds, Etiwanda Spreading Grounds, and the San Sevaine Spreading Grounds allow rainwater and snow runoff to recharge the Cucamonga and Chino Basins. Sustainable management of the groundwater supply includes protection of these spreading grounds to maintain a balance between groundwater recharge and withdrawal. Given the declining water supply from surface runoff and imported supplies, the spreading grounds will become even more important in the future as the CVWD looks to groundwater basins as a large source for its water supply.

Local Canyon Runoff

Four local canyon watersheds in the San Gabriel Mountains north of the City supply water through runoff (surface and subsurface flows) to the CVWD: Cucamonga Canyon, Deer Canyon, Day Canyon, and the East Etiwanda Canyon Watersheds. Two smaller watershed areas, Demens and Hermosa, are located just south of Cucamonga and Deer Canyon, but are not included in CVWD's analysis of developable water due to their limited water supply. Water supply from local watersheds fluctuates annually based on weather conditions. CVWD has acquired surface and subsurface water rights in each of the watersheds. See Figure RC-3: Water Resources, for the location and size of the four major watersheds.

The San Sevaine Canyon watershed area has also been identified in Figure RC-3. The San Sevaine Canyon watershed area serves the San Sevaine Spreading Grounds and Basin, which replenishes groundwater in the Chino Basin. While CVWD has secured water rights to the Chino Basin, the District does not have water rights to local canyon runoff in the San Sevaine Canyon watershed.

All of the watersheds are part of the larger Santa Ana River Watershed. Water from these sources is treated at the District's Arthur H. Bridge or Royer Nesbit Water Treatment Plants. After treatment, the water is stored in enclosed reservoirs ready for distribution to consumers.

Recycled Water

Recycled water has become an important resource for Rancho Cucamonga and will become increasingly important as other sources of water become less reliable and more costly. Recycled water is former wastewater that has been treated to remove solids and certain impurities, and is available for non-potable water uses.

Resource Conservation

The Inland Empire Utilities Agency provides disinfected tertiary-treated recycled water from its treatment plant in Chino to the cities of Chino, Chino Hills, Ontario, Fontana, Montclair, Upland, and Rancho Cucamonga. Recycled water uses include, but are not limited to, landscaping irrigation (schools, parks, medians, and golf courses), industrial processes, groundwater recharge, fire suppression, dust control, cooling towers and toilet flushing. CVWD has been implementing capital improvement projects to increase the supply of recycled water for use in the City.

Integrating recycled water into the overall water supply will help avoid future water shortages. Use of recycled water is a viable and long-term sustainable strategy to become less reliant on imported water sources. In the coming years, the use of recycled water could supplement the drinking water supply in order to provide a total water supply that meets the needs of over 10,000 homes in the CVWD service area. By 2030, recycled water will provide at least 20 percent of the CVWD's total water supply.

Water Conservation

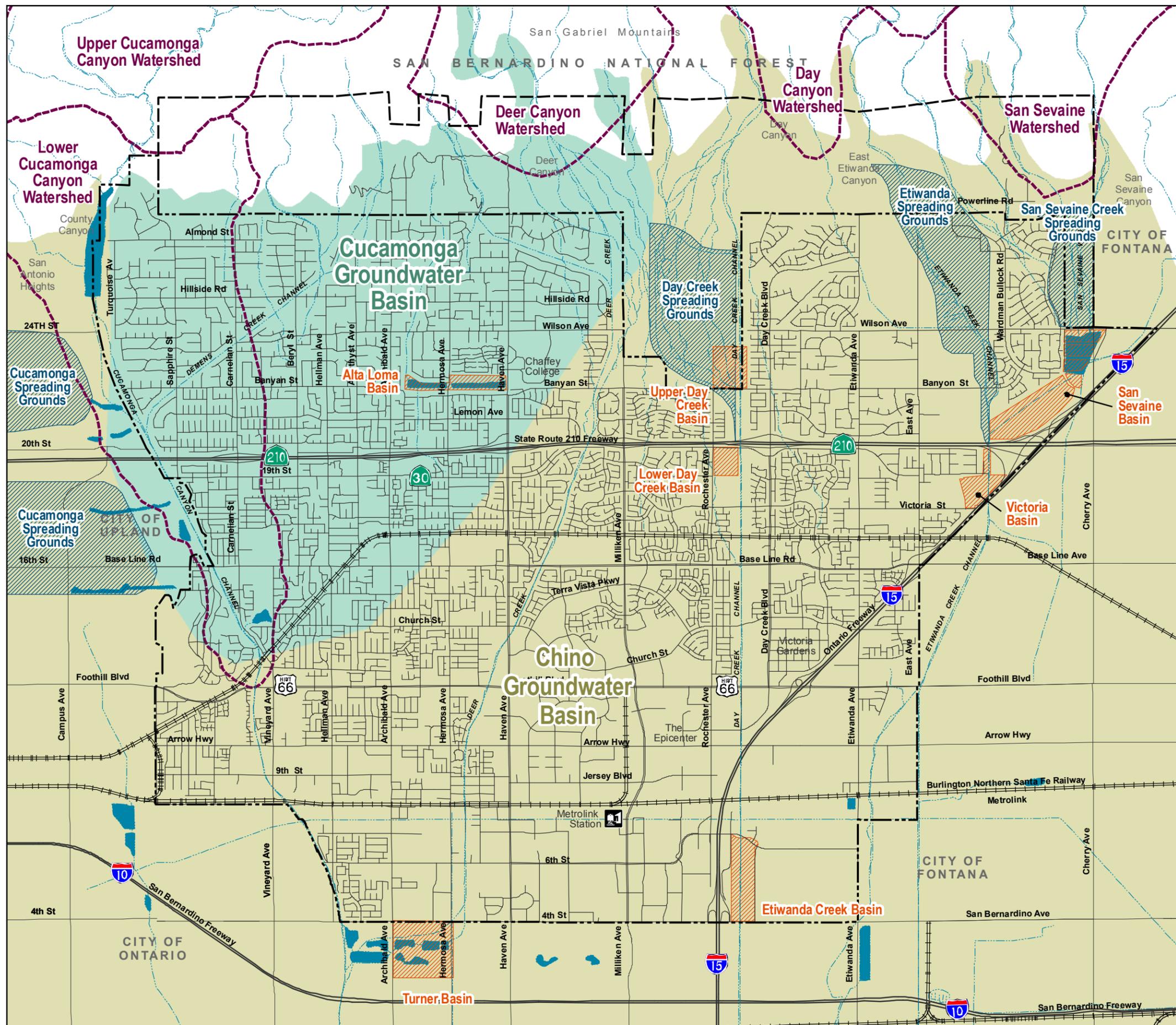
Efficient landscape irrigation is discussed in the Community Design section of Chapter 2: Managing Land Use, Community Design, and Historic Resources.

In early 2009, California was struggling through its third consecutive year of drought and the Governor declared a State Emergency. This has been a reminder that it is crucial that Rancho Cucamonga carefully plan for its water resources, and provide an adequate and sustainable water supply to serve the needs of its water users. To meet this goal, reduced water consumption through aggressive implementation of conservation policies and programs will continue to be extremely important.

Water conservation represents a cost-effective and environmentally sound way to reduce current and future water demand and energy usage. Homeowners and business owners can take many actions to reduce water use, such as using water-conserving fixtures and appliances, fixing leaks, planting drought-tolerant landscaping, and avoiding unnecessary water use.

In an effort to reduce the amount of water that must be obtained from regional and local sources, CVWD has initiated aggressive efforts to conserve water by all Rancho Cucamonga customers. Water conservation is an integral part of sustainably ensuring the long-term reliability of the water supply. Water conservation is anticipated to account for an additional eight percent of the total water supply over the next 20 years. That number could increase significantly if all consumers implement water conservation strategies.

The City, in cooperation with CVWD, is educating water consumers on the importance of water conservation in order to extend available water supplies. Additional benefits of water conservation include a reduction in energy consumption, compensation for system deficiencies, and reduction in wastewater flows, with associated reduction of impacts on planned population growth. The CVWD's water conservation program includes encouraging customers to landscape with native California species and other drought-tolerant plants. Prominent among City practices to conserve water is its Water Efficiency Program for public and private landscaped areas.



Groundwater Basins

- Chino Basin
- Cucamonga Basin

Recharge Basins and Spreading Grounds

- Recharge Basins
- Spreading Grounds

Base Features

- Watersheds
- Rancho Cucamonga City Boundary
- Sphere of Influence
- Waterways

Source: California Department of Water Resources, 1997 and California Resources Agency, 2006.

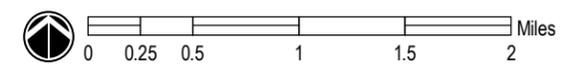


Figure RC-3:
Water Resources

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In addition to these discretionary water conservation programs, the CVWD has adopted two ordinances dealing with water conservation issues:

- **Ordinance No. 48** (adopted March 2009). Establishes a water conservation plan for emergency water supply conditions. The ordinance covers the total or partial loss of one or more of the District's water supply sources.
- **Ordinance No. 47** (adopted May 2009). Establishes water efficiency use practices that affect all CVWD customers, including households and businesses.

One additional State mandate is compliance with AB 1881, the Water Conservation in Landscaping Act. This mandate requires the City to update its Water Efficiency Ordinance to match either the Department of Water Resources (DWR) model ordinance or a water efficient ordinance that is at least as effective as the DWR model ordinance by January 1, 2010. The City recently updated its ordinance, which went into effect on January 1, 2010 in order to comply with the State regulation.

Watershed Quality

All public water supplies in California must meet both State and Federal regulations for water quality. State-mandated standards are enforced by the California Department of Health Services (DHS). Federal regulations on water quality are mandated by the Safe Drinking Water Act of 1974. Standards and monitoring requirements have been set by the United States Environmental Protection Agency (EPA).

An annual Water Quality Report is prepared by CVWD that records results of regular testing for 31 Federal and State regulated contaminants. According to the 2007 Water Quality Report, CVWD's water supply met all applicable standards. See Chapter 7: Public Facilities and Infrastructure regarding water quality of the CVWD water supply (page PF-17).

The quality of our water supply is, however, being put under stress as increased urban development occurs. Urban development affects water quality because of surface and storm runoff as well as groundwater contamination. Household hazardous materials such as motor oil, pesticides, solvents, paint, and similar materials are sometimes poured down the drain or into the street gutters, thus potentially polluting the water system. Water quality is also affected by the amount of permeable surfaces that allow water to percolate into the water table for natural groundwater recharge. As development occurs, permeable surface area and groundwater recharge decreases. This also contributes to increased volumes and velocities of surface runoff, which also affect water quality. In addition, urbanization introduces a host of potential contaminants that can be carried into the water supply.

Control of urban runoff is an important preventive measure to avoid contamination of both surface and groundwater supplies. Compliance with National Pollution Discharge Elimination System (NPDES) requirements can help to improve the quality of runoff, thereby maintaining water quality and diminishing the need for extra treatment of runoff at the treatment plants prior to its release downstream. For more information regarding stormwater quality, see Chapter 7: Public Facilities and Infrastructure. Other solutions could include landscaped and/or vegetated swales and parking lot drainages, which would protect existing riparian surfaces and wetlands, and permeable surfaces, where appropriate.

Water Use Efficiency Ordinance 47 "Best Management" Practices:

- No hosing of paved surfaces, unless required for health and safety reasons and only when using a water broom or water efficient pressure washer
- Use a shutoff hose nozzle on all hoses
- If decorative fountains are used, they must have a recirculating water system
- Repair all leaks immediately
- Ensure there is no sprinkler overspray or runoff
- Restaurants will only serve water to customers upon request
- Hotels are requested to give the guests the option of not having their linens laundered daily

Improving water quality is also discussed in the Community Design section of Chapter 2: Managing Land Use, Community Design, and Historic Resources.

Energy Resources

Residents of Rancho Cucamonga enjoy a quality of life that is in large part made possible by the consumption of energy resources. In this respect, the City is no different from similar communities. The direct and indirect consumption of energy pervades all aspects of daily life. To maintain and enhance that quality of life, City decision-making, especially as related to land use, transportation, and energy conservation issues, must be weighted toward sustainability.

Land Use and Transportation

Rancho Cucamonga understands that reductions in automobile usage and vehicle miles traveled (VMT) will lower energy consumption and greenhouse gas emissions (GHG) as well as provide public health benefits, and that substantial VMT reductions are necessary to achieve environmental sustainability. As a result, Rancho Cucamonga endorses land use and transportation policies and practices that take advantage of the nexus between land use, housing, economic development, and transportation. The City has already moved in this direction as evidenced by its long standing commitment to mixed use development. Also, Chapter 3: Community Mobility provides alternatives to automobile use by establishing a transportation system that includes connected transit, bicycle, and pedestrian networks.

Chapter 2: Managing Land Use, Community Design, and Historic Resources promotes infill and mixed use developments.

Chapter 3: Community Mobility discusses alternatives to the automobile including walking, bicycling, and transit use.

Energy Efficiency

California residents and institutions have many years of experience implementing energy efficiency efforts. While national per capita energy consumption has increased 50 percent over the past 30 years, per capita consumption in California has remained the same over this period. This is due to many factors, including efficiency and conservation campaigns conducted by private citizens, businesses, and utility companies, and regulations adopted by State and local governments.

Residents, the business community, and institutions can reduce energy consumption through a variety of cost effective strategies, including turning off appliances when not in use, thereby removing standby or “phantom” energy use by household appliances such as televisions and computers. Other approaches include installing insulation, replacing “leaky” windows with more efficient ones, planting trees, and monitoring energy use with “smart” monitors.

Chapter 8: Public Health and Safety discusses climate changes and greenhouse gases.

Renewable Energy Resources

Renewable energy sources capture energy from natural processes such as sunlight, wind, flowing water, biological processes, and geothermal heat flows. Nuclear power and the use of fossil fuels such as coal, oil, and natural gas are not considered renewable energy sources.

Renewable energy resources may be used directly or used to create other, more convenient forms of energy. Examples of direct use include passive solar design and geothermal or ground source heat pumps for heating and cooling. Examples of indirect use are electricity generation through photovoltaic cells (solar panels) and wind turbines, or the production of fuels such as ethanol from biomass.

Utilizing the Sun

Rancho Cucamonga is fortunate to have plentiful sunshine throughout the year and an abundance of residential, office, and industrial and warehouse buildings with extensive roof surfaces on which solar panels can be mounted. Several industrial buildings already have roof-mounted solar panels. Although solar panels may require substantial initial investments, large rebates and tax incentives are available, and the use of such technologies can provide substantial long-term financial benefits.

Southern California Edison (SCE) has recently launched the nation's largest solar panel installation project to place 250 megawatts (MW) of photovoltaic systems on 65 million square feet of Southern California commercial and industrial building roofs—enough power to serve approximately 162,000 homes. SCE is focused on installing solar panels on buildings located in the Inland Empire, including Rancho Cucamonga.

In addition to solar panels, new and existing development can incorporate other technologies and design techniques to take advantage of the sun's energy to reduce reliance on nonrenewable energy resources. For example, the use of passive solar design and solar domestic hot water and pool heating systems can reduce the demand for electricity. Deciduous trees planted at strategic locations to provide summer shade can reduce cooling costs. In the winter, when leaves have dropped, sunlight provides natural heat that then helps reduce heating costs. New developments can orient buildings and windows to minimize or maximize solar exposure for natural lighting and passive heating and cooling. These methods are simple examples of how passive solar design integrates a combination of building features to reduce or even eliminate the need for mechanical cooling and heating, and artificial daytime lighting.



The Inland Empire Regional Composting Authority building uses rooftop solar panels to provide one megawatt of energy to power the facility.

Photo source: Inland Empire Regional Composting Authority

Utilizing the Wind

Modern wind turbines capture the wind to generate electricity. Wind turbines are one of the fastest growing and most cost-effective renewable energy sources, and are producing power across the United States. The vast majority of this power is produced from large-scale wind farms. Unfortunately, there is insufficient harvestable wind in most areas of Rancho Cucamonga, with the possible exception of the canyons, to support the cost effective use of small or large scale wind farming.

Green Buildings

Green (sustainable) building is a design approach and philosophy that focuses on minimizing a building's negative impacts on both the environment and building occupants. Green strategies can be incorporated into the entire life cycle of a building; these strategies are highly consistent with the Healthy RC Initiative that promotes a Healthy Mind, Body, and Earth.

Green buildings provide many tangible benefits including improved worker productivity, recruitment and retention, minimized energy and water costs, construction and operations waste minimization, and pollution prevention. This integrated, interdisciplinary approach to design and construction promotes investments in energy- and resource-efficient materials, technology, and the use of low emitting and recycled content materials, and is characterized by the following:

- **Healthy buildings** and sustainable building design aim to create buildings that are not harmful to their occupants or to the larger environment and help improve employee productivity. An important emphasis is on indoor environmental quality, especially indoor air quality.
- **Low-impact materials** are used, such as non-toxic, sustainably produced, and recycled building and construction materials that require little energy to process.
- **Quality and durability** are valued, leading to longer-lasting and better-functioning products that will have to be replaced less frequently, reducing the impacts of producing replacements.
- **Design for re-use and recycling** involves planning for products, processes, and systems that take into consideration, and are designed for, performance in a commercial "afterlife."
- **Design impact measures** minimize environmental footprints and encourage the use of life cycle assessment when making design and purchasing decisions.
- **Renewability** recommends that materials should come from nearby (local or regional), sustainably managed renewable sources that can be composted when their usefulness has been exhausted.

Green Building Strategy

In 1978, California established the Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6 of the California Code of Regulations) in response to a legislative mandate to reduce California's energy consumption. These standards, which apply to all new construction in California, are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The latest update was released in 2008, with additional standards to be released in 2010. All standards in Title 24, Part 6 must be followed as part of the City's building permit process.

LEED®

The LEED (Leadership in Energy and Environmental Design) Green Building Rating Systems™ is an internationally recognized green building certification system, providing third-party verification that a building was designed and built using strategies aimed at improving performance across all the sustainability metrics that matter most: energy savings, water efficiency, CO₂ emissions reduction, improved indoor environmental quality, and stewardship of resources.

Developed by the U.S. Green Building Council (USGBC), LEED provides building owners and operators with a framework for identifying and implementing practical and measurable green building design, construction, operations, and maintenance solutions. LEED projects typically exceed the standards set forth in Title 24 or anything else in the Building Code. LEED uses a rating system that classifies the level of green building design by using a checklist based on a point accrual system. The more points that are accrued, the higher the rating applied to a building. LEED-certified buildings are designed to:

- Lower operating costs and increase asset value
- Reduce waste sent to landfills
- Conserve energy and water
- Improve the health and safety of the work environment for occupants
- Reduce harmful greenhouse gas emissions
- Qualify for tax rebates, zoning allowances, and other incentives
- Demonstrate an owner's commitment to environmental stewardship and social responsibility

California Green Builder (CGB) and Build-It-Green (BIG)

The California Green Builder (CGB) program created by the Building Industry Institute encourages voluntary partnerships between builders and local governments to build cost-effective, green homes that benefit homebuyers and the community. This program features homes that annually save thousands of kilowatts of energy, thousands of gallons of water, and acres of trees. This process allows for documentable recordation, which is important for local officials who must record greenhouse gas emissions and water conservation efforts. California Green Builder homebuyers benefit from lower energy costs while their home creates less impact on the environment.

The Build-It-Green (BIG) program is a membership supported non-profit organization formed in 2003. Its mission is to promote healthy, energy- and resource-efficient homes in California. The organization provides a comprehensive package of local government support, professional training, collaboration forums, consumer education, and green product marketing to a range of stakeholders.

City Process: LEED Certified Equivalent, CGB, and BIG

In an effort to balance the costs and benefits of the LEED system, Rancho Cucamonga is proposing to implement a choice of the California Green Builder (CGB) or Build-It-Green (BIG) program for single-family homes or multi-unit homes (three stories or less), and a LEED Certified Equivalent system for all other

development, provided the minimum requirements are met. This system would be similar to the LEED system, however, building certification would be handled by appropriately trained City staff rather than a third-party reviewer. City staff would implement a LEED Certified Equivalent System designed specifically for the City, reflecting its specific needs and priorities. An equivalent certification checklist would be implemented as well. This type of certification process would provide flexibility and allow City staff to modify details of the LEED program or the CGB and BIG process, and promote greener buildings as the ultimate outcome.

All projects subject to the LEED Certified Equivalent system would need to comply with LEED credits that reflect Rancho Cucamonga's values and priorities, including the Healthy RC Initiative; and that encourage alternate forms of transportation, water efficiency, and construction and demolition waste recycling.

The standards will not apply until the system is created and adopted by the City Council. These standards would be subject to change as the system is refined and modified to meet the needs of the building community in Rancho Cucamonga.

Wildlife Resources

Wildlife resources include all of the plants and wildlife species located in natural areas, particularly in the hillsides and open space areas. Most importantly, wildlife depends heavily on available habitat for survival, protection from prey, shelter, and water and food sources. With continued urban development in Rancho Cucamonga, it is important to plan for wildlife resources and provide adequate habitat areas for their long-term existence.

Wildlife Species

With the City's proximity to the San Bernardino National Forest and vast mountainous wilderness area, a wide variety of wildlife inhabits the foothills and canyons, particularly within the Sphere of Influence area. Bats, bears, foxes, bobcats, skunks, coyotes, rabbits, mountain lions, deer, songbirds, birds of prey, lizards, amphibians, reptiles, snakes, and small rodents are very common. Further south, animal communities are those typically more tolerant of human presence. These species include various birds, reptiles, rabbits, and small rodents.

Several different species of raptors, or birds of prey, including the Golden Eagle and burrowing owl, can be found in the northern area of the City. Burrowing owls often reside in or forage over the vacant fields in northern portions of the City and within the Sphere of Influence. Many of these fields are abandoned farmlands that are reverting to natural vegetation and subsequently colonized by rodent species. Often they are also bordered by eucalyptus windrows that provide perching and nesting sites for raptors. Golden Eagles nest in trees in the upper canyons in the San Bernardino National Forest and usually hunt for small mammals within the alluvial fan areas.

Sensitive species or any species of plant or animal experiencing general or localized population decline, potentially occurring in the City include, but are not limited to, the California Gnatcatcher, San Bernardino Kangaroo Rat, Delhi Sands Flower-loving Fly, Golden Eagle, Western Willow Flycatcher, Mountain Yellow-legged Frog, and Los Angeles Pocket Mouse.

Sensitive Wildlife Habitat Areas

Within the Sphere of Influence, there are several sensitive habitat areas that support wildlife. Two significant habitat areas are along the base of the San Gabriel Mountains and in the canyons within the alluvial fans and canyon riparian areas.

Alluvial Fans

An alluvial fan is a fan-shaped deposit formed where a fast flowing stream flattens, slows, and spreads; it is typically found where a canyon exits onto a flatter plain. There are several alluvial fans located at the mouth of the San Antonio, Cucamonga, Deer, Day, East Etiwanda, and San Sevaine Canyons. Alluvial fans are subject to flooding and can pose more danger than the upstream canyons that feed them. At the base of most of these canyons, a flood control basin has been built to limit the extent of floodwaters on downstream properties. Alluvial fans also allow for specialized habitat that is conducive to the periodic flooding and shifting of loose sandy sediments carried by creeks and floodwaters.

Etiwanda Fan

The Etiwanda Fan is located at the base of the Day Creek and East Etiwanda Canyons, with a large portion located in the North Etiwanda Preserve (see description below). Habitats on the Etiwanda Fan are composed of Oak Woodland, Chaparral, Coastal Sage Scrub, Alluvial Fan Sage Scrub, White Alder/Willow Riparian, Sycamore/Oak Riparian, and non-native grassland. The Etiwanda Fan is home to a number of endangered, threatened, and sensitive species that include, but are not limited to, the Coastal California Gnatcatcher, Southwestern Willow Flycatcher, Least Bell's Vireo, San Bernardino Kangaroo Rat, Bell's Sage Sparrow, Rufous-crowned Sparrow, San Diego Horned Lizard, Los Angeles Pocket Mouse, Plummer's Lily, and Mariposa Lily.

The Etiwanda Fan also contains significant historical and cultural resources related to the local area history. The land within and adjacent to the North Etiwanda Preserve has important historic and contemporary religious significance to the Gabrielino-Shoshoni Nation.

Alluvial Fan Sage Scrub

Within the Sphere of Influence, most of the undeveloped areas support Alluvial Fan Sage Scrub (AFSS). AFSS thrives in a distinctive and rare natural habitat that occurs in washes and on gently sloping alluvial fans at the base of the San Gabriel Mountains. AFSS is primarily restricted to floodplain habitats containing riverine cobbles, boulders, and sand. These areas apparently flood only occasionally (every 5 to 10 years) and therefore, many upland species become established in the streamside habitat. The occasional flooding and sediment reworking, however, is the driving force that maintains this vegetation type.

AFSS is a subtype of the more widely known Coastal Sage Scrub and is sometimes referred to as Riversidean sage scrub. Canyons with AFSS often support small-stature riparian woodland species such as California sycamore, cottonwood, coast live oak, and mulefat, which are considered to be riparian habitat communities of biological value.

AFSS habitat communities have been severely altered by flood control activities, including the construction of debris basins at the mouth of the canyon to control the water flow. The debris basins prevent the periodic flooding that is necessary to maintain the habitat, which leads to the gradual conversion of this unique community

type. The State of California considers AFSS to be a very threatened and rare natural community.

Riparian and Wetland Areas

The greatest diversity of life forms occurs in the area's canyons, including Cucamonga, Deer Creek, Day Creek, East Etiwanda, Henderson, San Sevaine, and Morse Canyons. These canyons are excellent examples of the diversity of the streamside or riparian woodland habitat areas that support wildlife. The dense stands of large oak, sycamore, and toyon trees and native ferns are a demonstration of the natural biological significance of the streamside woodlands. These areas are of great importance as habitats for birds and mammals.

A peat bog, created by a fresh water spring, has been identified in the North Etiwanda Preserve. Peat bogs are a type of wetlands with poor drainage that accumulates acidic peat, a deposit of dead plant material. Peat bogs are fed by rainwater and the soil builds up its own water table and acidity. There are many animals and plants that thrive within a bog habitat. The peat bog is an exceedingly rare type of habitat. It is believed that an extensive plant record left by pollens dating back between one and three million years has been preserved within the peat bog. In 1988, the peat bog was declared a Point of Historic Interest by the Rancho Cucamonga City Council.

Wildlife Protection Efforts

Urbanization is the greatest threat to the remaining sensitive habitat areas. Expanding residential development, sand and gravel mining, and the construction of debris basins and flood control channels have greatly impacted areas of chaparral and Alluvial Fan Sage Scrub. Although nearly all of the area within City limits is either developed or previously disturbed by agricultural activities, areas within the Sphere of Influence are still relatively undisturbed and are still covered with native vegetation. Over the past 10 years, residential development has been extending into the foothills and threatening the long-term viability of sensitive habitat areas. The City has made coordinated efforts with other agencies to protect hundreds of acres in the Sphere and the City from encroaching development through a variety of tools including development agreements and land mitigation banking.

Conservation Areas

The protection and conservation of the Alluvial Fan Sage Scrub (AFSS) plant community within the Planning Area is one of the top environmental priorities. The long-term conservation of prime AFSS area has already begun through the establishment of five conservation areas that were created as mitigation banks for private and public works projects (see Figure RC-4).

- **North Etiwanda Preserve.** In 1998, the County of San Bernardino created a 760-acre conservation area in response to impacts to AFSS from the Foothill Freeway (SR-210) project. The Preserve and surrounding lands also contain significant amounts of other rare and threatened habitats that include Sycamore Alluvial Woodland, California Walnut Woodland, and Fresh Water Marsh.
- **Day Creek Preserve.** A 200-acre conservation area was set aside through a conservation easement to the San Bernardino County Flood Control District as mitigation for impacts from sand and gravel operations.

- **San Sevaine Preserve.** This 137-acre conservation area was established by San Bernardino County as mitigation for floodwater diversion structures and debris basins.
- **U.S. Forest Service Conservation Area.** This 880-acre conservation area is located adjacent to the western edge of the North Etiwanda Preserve and includes land purchased by the Metropolitan Water District along Day Canyon and Day Creek as mitigation for the MWD's Inland Feeder Project. The land has been transferred to the U.S. Forest Service and is a part of the San Bernardino National Forest. The majority of this conservation area extends beyond the City's Sphere of Influence, into unincorporated territory.
- **Existing Conservation Area.** This approximately 35-acre conservation area is located within City limits but adjacent to the Sphere of Influence. The area was purchased as mitigation for a housing development and set aside through a conservation easement to the San Bernardino County Flood Control District.

These five preserves are in close proximity to each other and within a much larger California Department of Fish and Game (CDFG) Study Area. Combined, this becomes one of the largest AFSS habitats in Southern California.



The North Etiwanda Preserve was established as a habitat preservation area.

A California Department of Fish and Game (CDFG) study recommended that several parcels in addition to the established preserves be conserved within the Etiwanda-Day Creek Canyon Drainage System. A goal of this General Plan Update is the long-term continuity of the AFSS habitat and the preservation of the five areas illustrated on Figure RC-4: Sensitive Biological Resources. In addition, several other areas of suitable AFSS are proposed for conservation as mitigation for development as described below. Together, these conservation areas, in combination with the county's established preserves, provide a large, contiguous conservation area of approximately 3,400 acres.

The General Plan incorporates the proposed conservation areas on Figure RC-4, as part of the City's commitment to the creation of a large, contiguous AFSS conservation area. On the Land Use Plan (Chapter 2, Figure LU-1), the conservation areas are designated as various open space categories including Open Space, Flood Control, and Hillside Residential, based on current ownership patterns. The City will need to work with San Bernardino County to acquire these lands in fee or through conservation easements to the extent possible.

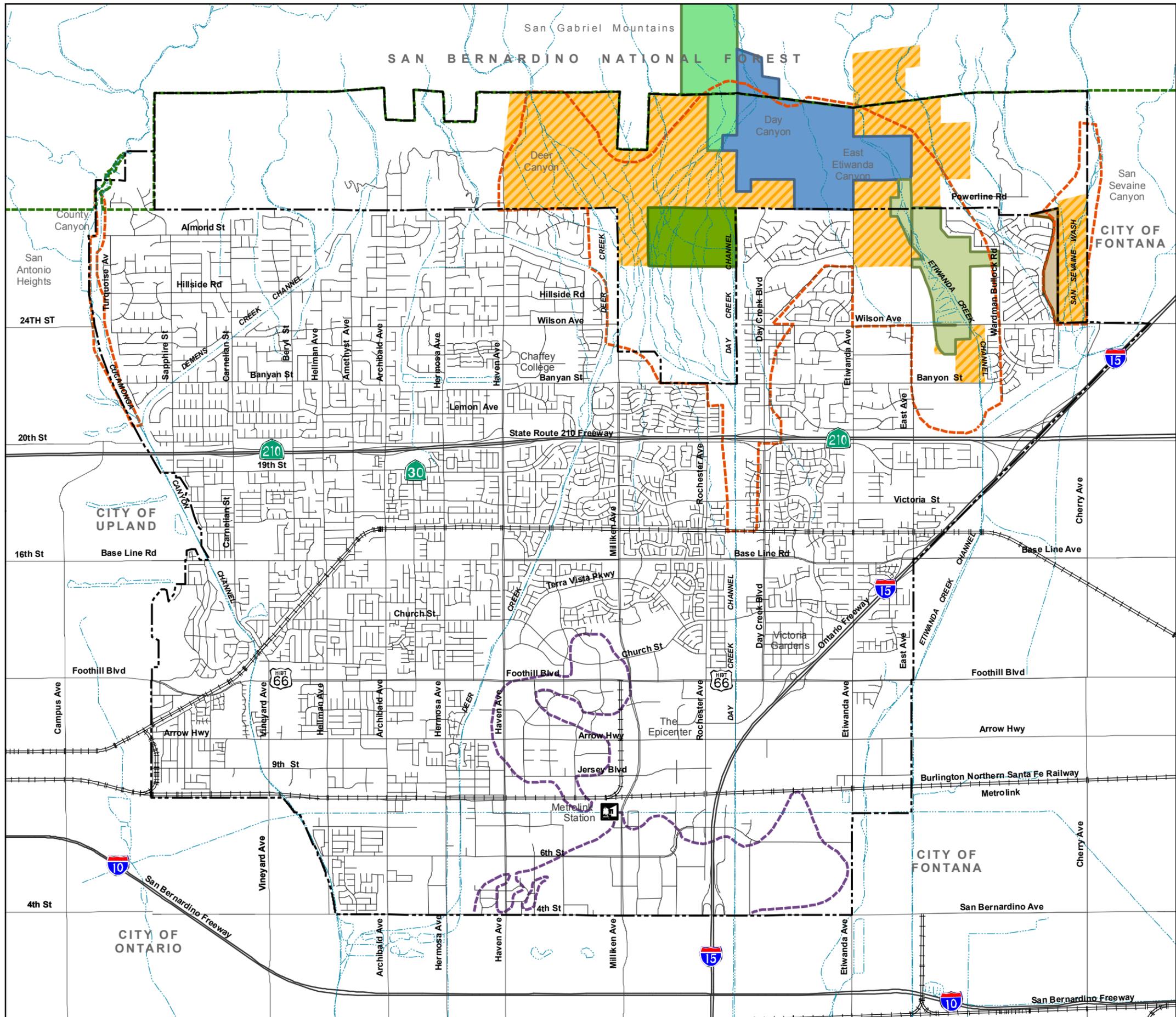
Acquired land can then be integrated into the existing preserve system currently managed by San Bernardino County's Special Districts Department (or other appropriate entity). As an alternative, acquired land could be dedicated to a "mitigation land bank." For example, development within the City or its Sphere of Influence would enable the purchase of land within the land bank area as mitigation for impacts from loss of habitat.

Conservation areas are inherently valuable to wildlife, and imperative for supporting ecosystems. They are also important for educational and scientific purposes, particularly if they are retained in their natural state. Chaffey College biology classes have conducted extensive investigation of the AFSS area and regularly use it as an outdoor classroom.

Protection of Sensitive Species

As mentioned above, several sensitive species potentially occur in Rancho Cucamonga. The Delhi Sands Flower-loving Fly (DSF) is an insect restricted to the semi-arid sand dunes (Delhi soils) in Southern California's San Bernardino and Riverside counties. The DSF was placed on the Federal Endangered Species list in 1993 by the U.S. Fish and Wildlife Service. Within the region there are few remaining parcels of land containing Delhi soils which could provide suitable habitat for this species. Areas identified to have potential DSF habitats are located primarily in the southern portion of the City. Much of that area has been developed and recent surveys associated with new development have not identified any DSF habitat within the City boundaries or in the Sphere of Influence.

A large portion of the Sphere of Influence has been proposed for a Critical Habitat designation for the California Gnatcatcher, a small bird. Surveys have identified breeding pairs of the species within the area. Both San Bernardino County and the City must proceed carefully with any development plans for the area due to the presence of this species within the AFSS plant community and the proposed Critical Habitat designation. Care must be taken to coordinate all new projects with CDFG to avoid impacts to the species or to develop mitigation measures where impacts cannot be avoided.



- Conservation Areas**
- Day Creek Preserve
 - Etiwanda North Preserve
 - San Sevaine Preserve
 - USFS Conservation Area - MWD Mitigation Site
 - Existing Conservation Area
 - Proposed Conservation Area
- Habitat Areas**
- Alluvial Fan Sage Scrub Habitat
 - Delh iSoils Area Boundary
- Base Map Features**
- Rancho Cucamonga City Boundary
 - Sphere of Influence
 - San Bernardino National Forest
 - Waterways

Source: Rancho Cucamonga, 2001; San Bernardino County North Etiwanda Preserve and County Service Area 120, 2008; U.S. Fish and Wildlife Service, 2000; and San Bernardino County Museum.

Note: The AFSS habitat extends beyond the Rancho Cucamonga Planning Area boundary and into adjacent jurisdictions.



Figure RC-4:
Sensitive Biological Resources

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The San Bernardino Kangaroo Rat (SBKR) habitat historically occurs within the flood plains at the foot of the San Gabriel Mountains and may occur within the Sphere of Influence. The SBKR is listed as endangered by the U.S Fish and Wildlife Service. The City will work closely with the San Bernardino County Flood Control District, the County Museum, and other resource agencies to avoid impacts on this species from development within the Sphere, and to ensure that appropriate mitigation measures are provided.



Alluvial Fan Sage Scrub within the North Etiwanda Preserve provides habitat for various wildlife species.

Resource Conservation Issues

Key issues relative to resource conservation are:

- **Loss of Open Space Areas.** The City must preserve and protect, to the extent possible, open space areas that are devoted to the preservation of natural resources, managed production of resources, outdoor recreation, and/or open space buffer areas for public health and safety. Premature and unnecessary conversion of open space land to urban uses can fragment vital open spaces, increase infrastructure and capital improvement costs, and potentially expose residential uses to natural hazards.
- **Cultural Resources.** Although not readily apparent, the record of the ancient past is embodied in archaeological and paleontological resources that may lie hidden in the landform and beneath the surface of the ground. Rancho Cucamonga has become highly aware of these treasures as land is graded to accommodate new development and infrastructure. The City must take care to properly handle, document, and preserve these resources for the scientific and educational enrichment that they offer.
- **Stable and Adequate Water Supply.** Water is a precious and limited resource that is essential for a Healthy City. It is important to provide a stable and adequate water supply as the community continues to grow. The City and the Cucamonga Valley Water District must be vigilant in protecting and conserving water supplies through all feasible means. The Cucamonga Valley Water District obtains nearly 60 percent of its water supply from the

Metropolitan Water District. This means the City does not have adequate water supplies within its own borders and must rely upon a cooperative agreement with other agencies. It is important to protect water resources by ensuring adequate groundwater recharge basins and spreading grounds as the shift toward a greater demand for groundwater supply increases.

- **Water Quality.** Household hazardous materials (motor oil, pesticides, solvents, paint, and other similar hazards) should not be disposed of by pouring them down the drain or into the street gutters. When improperly disposed, these materials pass through the local sewage treatment plants, which are not designed to treat these types of materials, and are released into area rivers and streams. Rancho Cucamonga must protect the quality of the water supply and resources, both for the sake of the local water supply as well as for downstream neighbors who are affected by Rancho Cucamonga's actions. Achieving these important objectives will require cooperation and coordination with other agencies and the integration of water quality measures.
- **Energy Consumption.** A core value for the City is the need for long-term economic strength and fiscal soundness. This can be accomplished in part by the effective management of energy resources, either directly or indirectly. As energy demand grows and nonrenewable energy resources become more limited with reliance on imported resources becoming increasingly problematic, more aggressive conservation measures and the increased use of innovative new technologies will become a necessity.
- **Aggregate Mining Impacts.** With mineral resources available on land within the City's Sphere of Influence, it is important to balance the need for local sources of regionally significant mineral resources against development of the land with uses that are more compatible with encroaching urbanization. The City recognizes the importance of the mineral resources in Rancho Cucamonga, and that once development occurs, these resources are no longer accessible. The City further recognizes its responsibilities to balance the value of these resources, and to consider their regional and statewide importance during the review and consideration of a proposed project that might impact extraction of those resources.

The mining of aggregate resources is only active within the City's Sphere of Influence. Once production ends, it will be important to provide mitigation for the reclamation of previously mined areas and limit the impacts to adjacent residential neighborhoods and other sensitive land uses.

- **North Etiwanda Preserve.** The North Etiwanda Preserve, located in the City's Sphere of Influence, was intended to protect the sensitive habitat and wildlife species in the area. Since the Preserve was first created in 1998, issues such as uncontrolled pedestrian access, illegal dumping, sensitive plant removal, and off-road vehicles have plagued the area. These activities are very destructive to the natural environment located in the Preserve. San Bernardino County, which manages the preserve, anticipates that these issues will diminish as the preserve opened for public access on delineated trails in 2009.
- **Alluvial Fan Sage Scrub.** Alluvial fan sage scrub is a unique habitat that depends on the occasional flooding and shifting of sediments from canyon waters. However, to protect downstream development, flood control facilities have been built to control the flow of waters and prevent flooding.

These facilities have also controlled the water this habitat depends on. It will be important for the City and San Bernardino County, to balance the need for development versus alluvial fan sage scrub habitat protection.

The majority of the land area within the City boundary is already developed or previously disturbed, either by past agricultural activities or by urban development. Other areas within the City boundaries have been designated or envisioned for future development. As a consequence, lands within the Planning Area that function effectively as habitat are limited. Achieving resource conservation will require concerted effort and commitment from not only the City but also other responsible agencies, including County, State, and Federal agencies.

Resource Conservation Goals and Policies

The following goals and policies are aimed at providing guidance and policy direction regarding Resource Conservation in Rancho Cucamonga. Resource Conservation in the City is a high priority and contributes to maintaining, protecting, and preserving valuable natural resources.

GOAL RC-1: Encourage stewardship of natural open space areas, environmentally sensitive lands, and agricultural resources.

Policy RC-1.1: Preserve sensitive land resources that have significant native vegetation and/or habitat value.



Discussion: The preservation of sensitive land resources has many benefits for the community. Native vegetation provides habitat for animals, offers a level of fire protection, serves to enhance water quality, and has aesthetic beauty. These areas are limited and once disturbed they will be lost to future generations.

Policy RC-1.2: Develop measures to preserve and enhance important views along north-south roadways, open space corridors, and at other key locations where there are significant views of scenic resources.



Discussion: Major scenic resources include the San Gabriel and San Bernardino Mountains and foothills, vistas of the City from hillside areas, and other views of special vegetation and permanent open space features. Site planning measures in conjunction with the designation of significant views can enhance the visual environment.

Policy RC-1.3: Protect visually prominent natural landforms and other sensitive land resources of citywide significance through measures such as design standards, hillside grading controls, and suitable land use designations as documented in the Managing Land Use, Community Design, and Historic Resources Chapter of this General Plan.



Discussion: Land use designations and community design measures must carefully consider the impacts of future planned development on environmentally sensitive lands, with an eye towards supporting sound management and conservation of the City's land resources.

The Managing Land Use, Community Design, and Historic Resources Chapter of the General Plan provides a carefully considered range of land types and intensities/densities designed to address these concerns, among others. The Community Design section addresses hillside grading and development planning. The City has also adopted a Hillside Development Ordinance that contains detailed measures designed to minimize potentially adverse effects due to landform alteration in high slope areas. In addition, the Community Design section contains policies to promote the protection of important scenic resources.

Finally, the Open Space Plan in this Chapter integrates all of the sensitive land resources whose protection the City considers to be important to the quality of life of its residents.

Policy RC-1.4: Evaluate the conservation of economically viable agriculture on lands that are designated by the State as important farmland.



Discussion: While the agricultural heritage is an important influence on the development patterns in Rancho Cucamonga (and the historic communities of Alta Loma, Cucamonga, and Etiwanda), the long-term viability of continued agricultural uses in most areas is questionable due to a host of factors. Remaining lands that have been determined by the State Department of Conservation to qualify as important farmland are under increasing pressure from urbanization. In addition, the Land Use Plan (see Chapter 2: Managing Land Use, Community Design, and Historic Resources, Figure LU-1) has determined that some areas designated by the State as important farmland should be utilized for other purposes to meet the demands of a growing population. In order to determine the appropriate balance between these competing priorities, the City should further investigate these issues and formulate a strategy that will best reflect the long-term interests of the community as a whole. Where it is determined that long-term agricultural use is in conflict with community goals, the City will seek the removal of any designated farmlands from the State Department of Conservation mapping program. The City shall look at ways to preserve agricultural lands through the use of conservation easements.

GOAL RC-2: Provide adequate, reliable, and sustainable water supplies to the community.

Policy RC-2.1: In consultation with the Cucamonga Valley Water District and other agencies, designate appropriate land use patterns and take other suitable actions to protect major areas within the Planning Area that are critical to replenishment of groundwater supplies and local surface waters.



Discussion: By 2030, the Cucamonga Valley Water District (CVWD) anticipates that as much as 45 percent of the water supply will come from groundwater and surface water sources in Rancho Cucamonga. Many areas that allow groundwater recharge are located within existing drainages under the jurisdiction of the San Bernardino County Flood Control District. Much of the land within the Sphere of Influence also contributes to groundwater recharge. The General Plan promotes the expansion of habitat preserves in the Sphere of Influence and also designates a majority of the Sphere area for Open Space, Conservation, or Hillside Residential use. The City, in consultation with the CVWD, will continue to explore and pursue other viable measures to ensure that groundwater resources will not be diminished by planned land uses.

Policy RC-2.2: Continue to consult with the Cucamonga Valley Water District and support programs that protect water quality, conserve water usage, and promote re-use of water in accordance with State guidelines.



Discussion: Rancho Cucamonga is increasingly aware of the fact that water is a limited resource. In recent years, the CVWD has made efforts to increase the efficiency with which existing water supplies are used through water conservation efforts and water recycling. By 2030, water recycling and water conservation are expected to provide a total of 20 percent of the area's water supply.

Policy RC-2.3: Explore sustainable methods to increase water production and distribution capabilities to meet future City demand.



Discussion: With water as a limited resource, there is a need to find ways to increase water production through conservation and re-use. The CVWD has aggressively moved toward recycling water for non-potable uses. Re-use of water is a well-established way to limit the need for more imported water and also meet future water demands of a growing City.

Policy RC-2.4: Promote the protection of natural stream courses from erosion and from polluted urban runoff.



Discussion: The interface between the urban edge and natural stream courses remaining in the Planning Area must be carefully considered in the design of new development and redevelopment, as well as in the continued maintenance of existing developed areas. The National Pollutant Discharge Elimination System (NPDES) permits for development and existing developed areas include requirements to effectively address and control runoff that can result in damage to the natural environment. The implementation of Stormwater Best Management Practices (BMPs) that mimic the predevelopment site hydrology by using site design techniques that store, infiltrate, evaporate, and detain runoff should be considered for implementation when feasible. When stormwater BMPs are not feasible, equally effective, State required control measures should be implemented. The City will review individual development proposals and evaluate their potential effects.

Policy RC-2.5: **Advocate for the regular evaluation of the entire water supply and distribution system to ensure its continued adequacy, reliability, and safety.**



Discussion: In consultation with CVWD, the City shall periodically evaluate the water supply chain, the distribution system, and land use policies in order to support a constant, adequate supply of water.

Policy RC-2.6: **Where it is consistent with public safety priorities, take actions to retain natural drainage courses within the Planning Area.**



Discussion: Drainage courses and adjacent open areas can provide a visual link to the surrounding environment and potentially also enhance habitat value through the use of natural landscaping techniques. In some instances, it may also be appropriate to consider the potential for joint recreational use, particularly in the case of trails development. The City shall consult with the County Flood Control District and the Army Corps of Engineers to explore opportunities to enhance the open space and recreational value of remaining natural drainages as well as flood control channels, consistent with public safety priorities.

Policy RC-2.7: **Protect the watershed by achieving mandates imposed by regulations.**



Discussion: The watershed that supplies the area's local water is primarily located in the upper canyons of the San Gabriel Mountains, including Cucamonga, Deer, Day, East Etiwanda, and San Sevaine Canyons. It will be important to work with agencies and jurisdictions that have authority over these areas to protect and preserve the drainage courses and watershed areas. Rancho Cucamonga will also provide appropriate measures to protect and preserve the watershed areas that are within the boundaries of the City.

GOAL RC-3: Support the use of water that is both efficiently consumed and recycled to minimize waste and maximize supplies.

Policy RC-3.1: Require the use of cost-effective methods to conserve water in new developments, and promote appropriate water conservation and efficiency measures for existing businesses and residences.



Discussion: There are many measures that can be applied to new and current development to reduce water consumption. They include, but are not limited to: placing mulch around trees and plants to slow evaporation of water; planting low-water use plants and shrubs; installing smart irrigation equipment that can detect weather conditions and adjust the watering schedule as needed; and installing water-saving plumbing fixtures such as low-flow showerheads, low-flush toilets, aerators, flow restrictors, and high efficiency clothes washers.

Changing individual habits can also make a difference in the conservation of water. These behavioral measures include, but are not limited to: watering the lawn only when needed or installing a satellite irrigation management system; shutting off water during shaving or brushing of teeth; taking shorter showers; catching unused water from the shower and kitchen faucet for cleaning or to water plants around the house; using a pool cover to slow evaporation; adjusting sprinkler systems during the colder months to water less frequently; turning sprinklers off when it is raining; periodically checking for leaks in pipes, hoses and faucets; and using a broom instead of a hose when cleaning the driveway or sidewalk.

Policy RC-3.2: Encourage the conversion of water-intensive turf/landscape areas to landscaping that uses climate-appropriate plants, efficient irrigation systems, and water efficient site maintenance.



Discussion: To conserve water resources and control maintenance costs, the City's current Water Efficiency Ordinance discourages extensive use of non-native vegetation that requires excessive watering. In particular, the Water Efficiency Ordinance specifies the use of drought tolerant and fire resistant vegetation with an emphasis on native species. The City updated its Water Efficiency Ordinance based on the State Department of Water Resources model ordinance, which allows for artificial turf.

Policy RC-3.3: Support efforts to expand the recycled water distribution system and actively promote the widespread use of recycled water in Rancho Cucamonga.



Discussion: Water recycling is an efficient method to re-use water. The Cucamonga Valley Water District anticipates that 20 percent of its water supply in 2030 will come from recycled water sources. Recycled water will become an important water supply in the future, specifically for landscaped irrigation, industrial water use, and other appropriate water uses.

Policy RC-3.4: Maximize water efficiency and the use of alternative sources of water in City operations, and develop water-related best practices and model programs.



Discussion: Rancho Cucamonga will continue to be a model for using best practices in applying water conservation methods. The City is committed to leading by example and to conserving water within each City department. Existing City efficiency programs have resulted in water savings, especially in street medians where the City uses weather-based irrigation.

GOAL RC-4: Encourage the use of energy resources that are efficiently expended and obtained from diverse and sustainable sources, in an effort to minimize greenhouse gas and other air emissions.

Policy RC-4.1: Pursue efforts to reduce energy consumption through appropriate energy conservation and efficiency measures throughout all segments of the community.



Discussion: Not only does consumption of imported nonrenewable energy resources result in significant pollutant emissions to the environment, it also represents a net outflow of dollars from the community and decreases the economic autonomy of the City. Rancho Cucamonga will commit to greater energy efficiency by selectively replacing imported, nonrenewable energy resources with domestic renewable sources such as solar and wind, recycled municipal solid waste, and green waste as these strategies become economically practical.

Policy RC-4.2: Promote the use of renewable energy and alternative energy technology, and support efforts to develop small-scale, distributed energy generation (e.g., solar, wind, cogeneration, and biomass) to reduce the amount of electricity drawn from the regional power grid and reduce the use of natural gas, while providing Rancho Cucamonga with a greater degree of energy and economic self-sufficiency.



Discussion: The transition away from the reliance on imported, nonrenewable energy resources will not be easy. City government will continue its tradition of leading by example and provide models for action to the private sector. It will also publicize options for energy efficiency and renewable energy resources. In particular, the City will use energy efficiency and renewable energy resources as criteria for approving capital and operational expenditures. The City will also participate in innovative and experimental renewable energy resource programs (e.g., conversion to an electric or hybrid vehicle fleet), provided such participation does not directly or indirectly result in a decline of services to residents or an increase in their tax burden.

Policy RC-4.3: Encourage the use of solar energy systems in homes and commercial businesses.



Discussion: There are many opportunities to take advantage of the City's location and environment with more aggressive adoption of solar energy systems. To encourage implementation of such technologies, the City will integrate an explicit evaluation of the particular energy consumption characteristics of a project into the review and approval process of development applications for commercial complexes, including shopping centers, industrial projects, and offices.

In addition, the City will promote cogeneration and the use of waste process heat for domestic space and water heating purposes. The City will also promote recovery and recycling programs and establish design criteria for active and passive solar applications.

Policy RC-4.4: **Reduce operational energy requirements through sustainable and complementary land use and circulation planning. Support implementation of State mandates regarding energy consumption and greenhouse gas reduction, including AB32 and SB375.**



Discussion: Operational energy requirements, especially for transportation, can be significantly impacted by land use and circulation patterns. The City will, therefore, promote land use and circulation patterns that result in multi-purpose automobile trips and that facilitate the use of local and regional transit. In addition, the City will advance land use patterns that provide employment and housing opportunities for City residents in a manner that allows for practical options for mobility other than by automobile.

Policy RC-4.5: **Support the development of private sources of sustainable and environmentally friendly energy supplies, provided these are consistent with City aesthetic and public safety goals.**



Discussion: In cooperation with regional efforts such as the Green Valley Initiative, continue to make the recruitment and retention of "green" industries a priority. Maximize opportunities for site renewable energy technologies throughout the community by encouraging the use of solar, wind, and other energy sources.

GOAL RC-5: Encourage the use of energy conservation strategies in City projects and operations to maximize energy efficiency and serve as a role model to the community and the region.

Policy RC-5.1: **The City should serve as a role model by adopting recognizable standards and incorporating the use of sustainable strategies for new and existing public buildings that maximize occupant health and productivity, minimize operating costs, and provide good environmental stewardship.**



Discussion: Utilizing available energy resources in the most efficient manner possible, while supporting the development of new and renewable energy sources, provides a long-term benefit to every member of the Rancho Cucamonga community. The City will serve as a role model in energy conservation and related issues.

Policy RC-5.2: Investigate the feasibility of using solar (photovoltaic) lights for City operated parking lots instead of conventional street and pedestrian lights that are powered by electricity in an effort to conserve energy.

Earth

Discussion: As the cost of solar (photovoltaic) lighting becomes cost-effective in comparison to other technologies, the City has an opportunity to retrofit the existing system and to see potential long-term benefits and savings.

Policy RC-5.3: Explore and consider the costs and benefits of alternative fuel vehicles including hybrid, electric, natural gas, and hydrogen powered vehicles when purchasing new City vehicles.

Earth

Discussion: The City of Rancho Cucamonga has made a commitment to reduce vehicular emissions associated with City operations. The City has established goals for their fleet in procuring vehicles, including providing gas-efficient vehicles (or other similar technology to reduce vehicle emissions) when replacing vehicles.

GOAL RC-6: Encourage and support green buildings in Rancho Cucamonga.

Policy RC-6.1: Add energy efficiency standards in the Rancho Cucamonga Municipal Code based on green building principles, to reduce energy consumption (particularly for heating, cooling, and lighting) in new construction.

Earth

Discussion: New advances in energy conservation technology have made alternative energy resources increasingly viable for homes and businesses. Development standards have the potential to increase the alternative energy infrastructure in new and rebuilt developments. The City of Rancho Cucamonga will review and amend, if necessary, the Municipal Code for the purposes of increasing energy efficiency and promoting sustainable development.

Policy RC-6.2: Encourage green practices for new and existing buildings throughout the community.

Earth

Discussion: The market has accepted – and many times required – the development of green buildings. Many cities have typically mandated green buildings for their own projects, and later for private development over a minimum threshold. Benefits include buildings that are sustainable and healthier for their occupants, as well as reductions in energy costs and greenhouse gas emissions.

Longer-lasting and better-functioning building products will have to be replaced less frequently, reducing the impacts of producing replacements. All products should be designed for re-use and recycling so that the City can minimize the environmental footprint. The City should use life cycle assessments when making design and purchasing decisions.

Policy RC-6.3: **Promote energy-efficient design features, including but not limited to, appropriate site orientation, use of light-colored roofing and building materials, and use of deciduous trees and wind-break trees to reduce fuel consumption for heating and cooling beyond the minimum requirements of Title 24 State Energy Codes.**



Discussion: Sustainable building design aims to create buildings that are not harmful to their occupants or to the larger environment, and help improve employee productivity. An important emphasis is on indoor environmental quality, especially indoor air quality. For example, low-impact materials such as non-toxic, sustainably produced, and recycled building and construction materials require little energy to process.

New and existing development can incorporate other techniques to take advantage of the sun's energy (e.g., passive solar design and solar domestic hot water and pool heating systems) to reduce their reliance on nonrenewable energy resources. For example, deciduous trees can be planted at strategic locations to provide summer shade, thereby reducing cooling costs. In the winter, when the leaves have dropped, the sunlight can provide natural warmth that reduces heating costs. New development can orient buildings and windows to minimize or maximize solar exposure for natural lighting and passive heating and cooling.

Policy RC-6.4: **Promote green practices and the use of energy saving designs and devices for new and existing buildings throughout the community. Consult with energy providers such as Southern California Edison, Southern California Gas, the Rancho Cucamonga Municipal Utility, and others to establish and coordinate energy efficiency programs that promote energy efficient design in all projects and assist residential, commercial, and industrial users.**



Discussion: Rancho Cucamonga is fortunate to have plentiful sunshine throughout the year and an abundance of residential, office, industrial and warehouse buildings with extensive roof surfaces on which solar panels can be mounted. Several industrial buildings already have roof-mounted solar panels. Although solar panels may require substantial initial investments, rebates and tax incentives are available, and solar panels can provide substantial long-term financial benefits.

Southern California Edison recently launched the nation's largest solar panel installation project to place 250 megawatts (MW) of photovoltaic systems on 65 million square feet of Southern California commercial and industrial building roofs – enough power to serve approximately 162,000 homes.

GOAL RC-7: Protect aggregate mining resources that are sustainably mined and managed, and that minimize impacts to surrounding areas.

Policy RC-7.1: Consider the community value and benefit of designated regionally significant aggregate resources prior to approving any such designated lands for other types of development.



Discussion: Rancho Cucamonga recognizes the value of regionally significant aggregate resource areas designated within the Planning Area. At the same time, the existence of aggregate resources should not preclude development for other purposes, provided that such development is consistent with the General Plan. State regulations do not preclude development where a local jurisdiction has established plans and policies that designate other higher priority uses within the community. The Land Use Plan (Figure LU-1 in Chapter 2) and Open Space Plan (Figure RC-1 in this Chapter) are based upon the consideration of such issues and reflect a land use pattern that recognizes both the regional value of existing aggregate resources in the Planning Area and balances the projected needs for such resources against other community priorities.

Policy RC-7.2: Minimize direct and indirect negative impacts of mineral extraction activity on sensitive and adjacent land uses.



Discussion: Rancho Cucamonga maintains up-to-date and relevant information on resources and regulatory requirements in order to formulate appropriate strategies to address the proper placement of aggregate operations within the Rancho Cucamonga Planning Area. This documentation must also consider potential conflicts with both existing and proposed land uses, and community priorities identified in the Spirit of Rancho Cucamonga General Plan Guiding Principles.

Policy RC-7.3: Ensure effective restoration of expended mining sites in a manner that is aesthetically attractive.



Discussion: Where identified aggregate resource areas are in proximity to any residential land uses, the City must protect the integrity and quality of life enjoyed by existing residences and businesses. In addition, the proper reclamation of expended operations is of concern in terms of protecting the visual environment. Special development standards, such as setbacks and screening/buffering measures should be formulated to minimize potential land use conflicts while permitting extraction of valuable mineral resources in areas determined suitable for such operations.

Policy RC-7.4: Where the City has determined that urban use is a priority over the preservation of potential sites for aggregate recovery, the City will consider seeking the removal of such areas from Surface Mining and Reclamation Act (SMARA) maps.



Discussion: In order to facilitate development within the Planning Area in a manner that is consistent with priorities set forth in this General Plan, areas presently designated for urban use but shown by the State as potential aggregate resources should be carefully evaluated. In areas where significant conflicts could be anticipated to occur with either existing or planned use, the City will petition the State for removal of affected lands from SMARA maps.

Policy RC-7.5: In areas that the State of California has designated as regionally significant aggregate resources, the City will require property titles to include notice of the presence of such resources, in accordance with SMARA.



Discussion: Property owners may not be fully aware of the potential aggregate resources present on their property. The recordation of a notice of the presence of aggregate resources will be required with all property titles within designated sectors in order to assist in the conservation of appropriately located areas within Rancho Cucamonga.

GOAL RC-8: Protect wildlife habitats that support various plants, mammals, and other wildlife species.

Policy RC-8.1: Preserve the integrity of riparian habitat areas, creek corridors, Riversidian Alluvial Fan Sage Scrub, bogs, and sensitive wildlife habitat that supports biological resources.



Discussion: In cooperation with other agencies, Rancho Cucamonga will pursue actions that provide appropriate long-term protection of areas within the City's Sphere of Influence that contain sensitive habitat, and that are considered of unique value in enhancing the quality of the local environment. These agencies may include, but are not limited to, the County of San Bernardino, the County Flood Control District, the State Department of Fish and Game, the U.S. Army Corps of Engineers, and the U.S. Department of Fish and Wildlife. Development within the City boundaries will be subject to development regulations and standards.

Policy RC-8.2: Consult with San Bernardino County and other agencies to support the preservation of streamside woodland areas along the foothills of the San Gabriel Mountains, including the North Etiwanda Preserve.



Discussion: The canyons in Rancho Cucamonga's Sphere of Influence contain the only native trees of the area. Without appropriate protection and assistance from San Bernardino County they may be irreversibly lost. Development proposed in these riparian, or water-related communities, should be allowed only after a site specific investigation is conducted to: 1) define the extent and fragility of the riparian community; 2) determine wetland permit requirements; and 3) propose measures to mitigate any impacts on the resources stemming from land disturbance or other site development. Preservation of mature native woodland trees, prevention of soil erosion, and maintenance of open space are primary concerns. Clustered single-family residential units should be encouraged to avoid destruction of the woodland associations. Roads or buildings should be set back from the riparian corridor to avoid damage to the woodland associations.

Policy RC-8.3: Utilize innovative measures that will allow the expansion of sensitive biological preserve areas (e.g., North Etiwanda Preserve, Day Creek Preserve, and San Sevaine Preserve) and other important habitat areas.



Discussion: Rancho Cucamonga is actively working with the County of San Bernardino, California Department of Fish and Game, and U.S. Fish and Wildlife Service to protect sensitive biological resources in the City's Planning Area through the creation of a system of preserves and open space along the foothills of the San Gabriel Mountains.

The City will continue to work cooperatively with San Bernardino County for the implementation and management of a mitigation land bank as part of the acquisition process for the Alluvial Fan Sage Scrub (AFSS) Preserve. The land bank will be used to offset the impacts of future development while focusing preservation efforts in the critical AFSS habitat areas.

Policy RC-8.4: Acquire and/or protect open space areas that provide strategic wildlife corridors and vital connectivity between habitat areas.



Discussion: Scientists with the San Bernardino County Museum are continually gathering data on all sensitive habitats and sensitive plant and animal species in the county. In cooperation with the City of Rancho Cucamonga, the California Department of Fish and Game, U.S. Fish and Wildlife Service, and San Bernardino Association of Governments, San Bernardino County has already created a system of preserves in the City's Sphere of Influence that will become the basis for protecting the rapidly disappearing AFSS habitat located along the foothills of the San Gabriel Mountains.

Policy RC-8.5:

Continue to manage and care for all trees located on City property or within City rights-of-way. Provide information to the public on correct tree pruning practices. Encourage residents to properly care for and preserve large and beautiful trees on their private property.

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Discussion: A healthy urban forest provides many benefits, including wildlife habitat, shade, enhanced air quality, and aesthetics. Proper maintenance of the urban forest will maximize the investment while reducing risks due to storms or disease.

Policy RC-8.6:

Consult with the Fire District, San Bernardino County, and State agencies to develop plans that protect open space from fire hazards.

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Discussion: Over the years, the City has learned a great deal on how landscape design can minimize the risk from fire hazards. The Fire District has been proactive in defining standards and implementing those standards throughout the City.

Policy RC-8.7:

Support protection of natural habitat areas for ecological, educational, and other scientific study purposes.

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Discussion: Natural areas that can be used for educational or other scientific purposes are particularly important, and high priority should be given to retaining these areas in their natural state. An example of such a natural area is the AFSS habitat within the City's Sphere of Influence. Chaffey College biology classes have conducted extensive investigation of the AFSS area and regularly use it as an outdoor classroom. This area is recognized by the California Department of Fish and Game as the North Etiwanda Preserve. It is one of the largest remaining AFSS habitats and is home to a number of rare and sensitive plant and animal species.

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