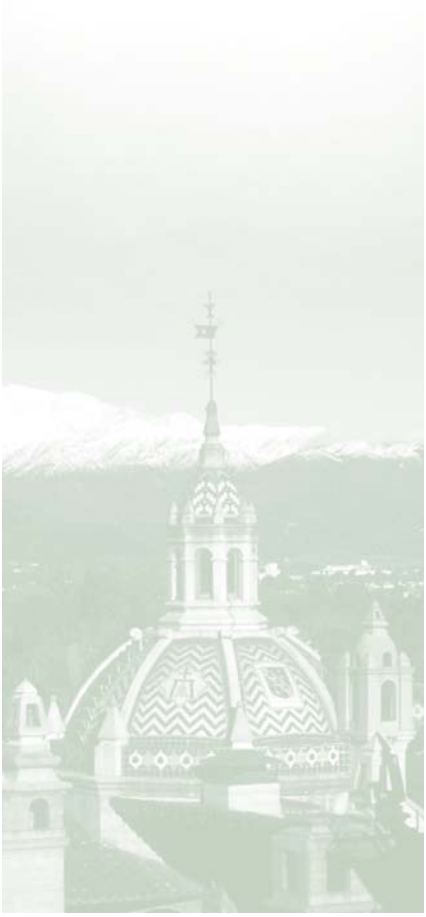
Open Space and Conservation Element

Riverside's abundant land resources and plentiful housing stock make it one of the fastest growing cities in southern California. Rapid growth has provoked some residents and City leaders to seek ways to preserve the City's natural resources. With the passage of Proposition R in 1979 and Measure C in 1987, voters expressed serious community resolve to protect the Arlington Heights Greenbelt and Rancho La Sierra areas from urbanization and preserve them as community treasures. These measures also served to protect natural hillsides, arroyos and other important topographical features throughout Riverside.

Urban development continues to bump up against Riverside's historic agricultural resources, particularly orange groves, as land is converted to residential uses. At a General Plan Citizens' Congress convened in September 2003, many people expressed a desire to restore orange groves and otherwise preserve the Arlington Heights Greenbelt. Residents also expressed concern about diminishing open space and the need to preserve and expand active and passive recreational enjoyment of these areas. Riversiders want to preserve existing natural resources and maintain a balanced city where they can work and live amongst Riverside's scenic charms.



Riverside will work to preserve and protect its existing resources, and to capture new resources as they become available. The City will expand the number of natural open space areas for passive and active recreational use. The Norco Hills and Box Springs Mountain areas that will continue in this context, with significant ridgelines and rock outcrops and other formations remaining undeveloped. Riverside's greenbelt will be protected as buffer between urban and rural land uses.

The hillsides, arroyos and other open space areas support an abundance of wildlife species and plant communities, including some which have protected status under the federal Endangered Species Act and various California statutes. The Santa Ana River, the arroyos and other open space resources serve as wildlife corridors for the movement of species throughout the region. With assistance from landowners and local organizations, creative solutions will continue to be implemented to preserve sensitive habitat areas and agricultural resources. Diverse biological resources are an essential part of a healthy ecosystem and make Riverside a more attractive place to live., play and learn.

The Santa Ana River, Sycamore Canyon, the arroyos and other important watershed areas must be protected from urban encroachment, urban pollutants and erosion. These waterways provide recreational opportunities, scenic resources, wildlife habitat and wildlife movement corridors. Protecting these areas from growth's negative impacts will ensure that future generations can enjoy these resources.

See the Public Facilities and Infrastructure Element for a discussion of water production and delivery systems under "Water Service and Supply."

Riverside's natural environment is made up of the water we drink and use in our daily lives. Safe water sources and plentiful supplies are an essential part of life that we often take for granted. As Riverside's population grows and the City develops further, water conservation becomes more important. If we do not protect our resources now, they may not be available in the future.

The energy we use to power our cars, equipment and machinery is a limited natural resource. Traditional energy sources such as coal, oil and natural gas are finite. Therefore, we must make a conscious effort to conserve energy and switch to renewable fuel sources. Conserving energy is also about protecting our air. Using fossil fuels such as coal, oil and natural gas in our cars, power plants and machinery pollutes the air and creates smog. Strategies to help safeguard our air are discussed in the Air Quality Element.

The objectives and policies in this Element also focus on enhancing the scenic quality of open space resources. These resources contribute tremendously to the quality of life in Riverside, attract visitors to the City and allow residents to enjoy and live amongst natural landforms not found in many urban environments. As Riverside moves into the future, the community looks to maintain what is best about the City.

CONTEXT

Riverside is characterized by the unique natural landforms that circle the City and create natural divisions of land uses. On the northwest is the floodplain of the Santa Ana River. To the east, southeast and west, the uplands and low mountains include the Box Springs Mountain, Alessandro Heights, Arlington Mountain and the Norco Hills. Scattered throughout the Planning Area are a variety of prominent natural features: Mount Rubidoux, Pachappa Hill, Sycamore Canyon, Hawarden Hills, distinctive arroyos and craggy, isolated hills. Figure LU-2 (Riverside Park) in the Land Use and Urban Design Element shows the locations of Riverside's natural areas.

Open Space as a Resource

Six major areas within the City serve as open space: the Santa Ana River Corridor, Box Springs Mountain Regional Park, Sycamore Canyon Wilderness Park, Fairmount Park, Mt. Rubidoux Park and California Citrus State Historic Park. Lake Evans and Mockingbird Canyon Reservoir are aesthetically significant water features that offer varying levels of active recreational use.

As open space throughout Southern California continues to be isolated or disappears, Riversiders increasingly value and enjoy the open space areas that make Riverside unique. These resources also attract new residents and visitors to the area. As a community, Riverside has grown more interested in preserving these open spaces.

Box Springs Mountain Regional Park and Sycamore Canyon Wilderness Park provide vast areas of open space containing vital biological resources and wildlife habitat areas, including rare local species. They also retain welcome undeveloped islands within the urban environment.

Natural and human-made open space features -- arroyos, golf courses, the Gage Canal, Victoria Avenue and the Santa Ana River -- provide connectivity among the City's large open space areas, creating "Riverside Park" (see Figure LU-2 (Riverside Park) in the Land Use and Urban Design Element). A comprehensive trail network provides recreational enjoyment of Riverside's open space resources. Trails in hillside areas allow access into open space areas and provide recreational activities for the avid hiker, mountain biker, naturalist and equestrian. The trails systems and open space linkages are shown in Figure PR-1 (Parks, Open space and Trails Map) in the Park and Recreation Element.

Park and Recreation

Parks and other recreation facilities work together with natural spaces to create the network of green space important to Riversiders. The City's Park and Recreation Master Plan establishes the City's goals and priorities for park and recreation facilities, including the trails system. The Park and Recreation Master Plan is discussed in detail in the Park and Recreation Element.

SCENIC RESOURCES

Riverside's natural features provide a dramatic and varied topographic setting for the community. Scenic resources enhance the visual character of Riverside and provide distinguishing characteristics. The hillsides and ridgelines above Riverside offer scenic benefits to the community. They serve as landmarks and offer a sense of direction or orientation as people move around the City. The City has adopted policies to balance development interests with these broader community preservation objectives.

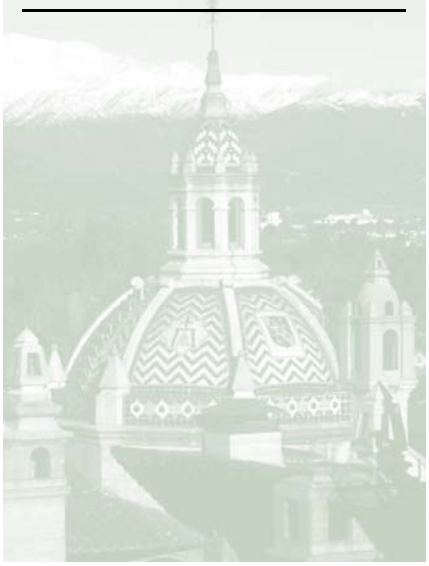
Vista points can be found throughout the City both from urban areas toward the hills and from wilderness areas looking onto Riverside. Long-distance views of natural terrain and vegetation can be found throughout the Norco Hills, Sycamore Canyon Wilderness Park and Box Springs Park. The peaks of Box Springs Mountain, Mt. Rubidoux, Arlington Mountain, Alessandro Heights and the Norco Hills provide scenic view points of the City and the region.

HILLSIDES

See the Land Use and Urban Design Element under "Defining Riverside – Major Hills" and "Citywide Objectives: Protecting Riverside's Natural Environment – Hillsides" and this Element under "Overarching Objectives" for additional information on hillsides.

In particular review Objectives LU-3, LU-4 and OS-2.

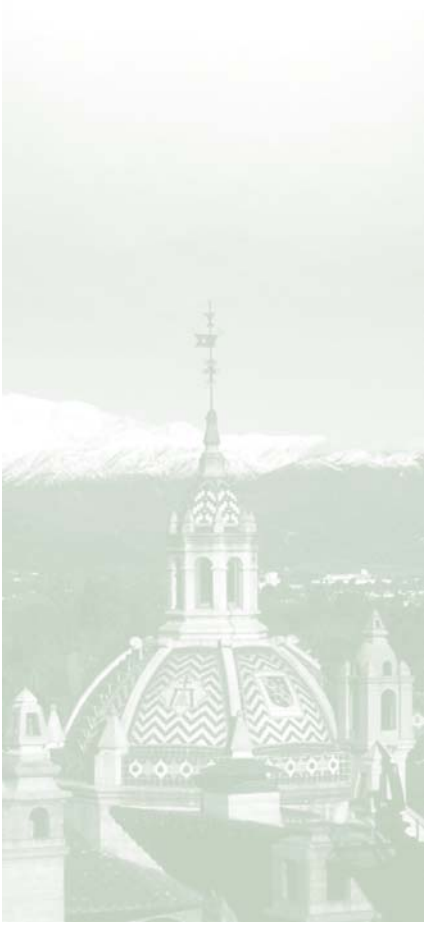
Because of the view qualities of hilltops and hillsides, landowners often look to build homes there. Development on hillsides and steep slopes can be hazardous because of soil instability and the potential for landslides due to inappropriate grading or construction techniques. Hillside development often results in higher per unit costs for the extension of infrastructure and greater difficulty in providing public services at urban service standards. For these reasons, the City's Grading Code establishes building development standards and special design guidelines on steep slopes and within hillside areas.



MINERAL RESOURCES

Historically, the quarrying of granitic rock was a significant industry in Riverside. However, these operations have not been active for decades and most extraction sites are now beyond the urban periphery. Figure OS-1 (Mineral Resources) shows the location of mineral resource sites within the planning area. While mineral extraction no longer plays a major role in Riverside's economy, the area between Market Street and Mission Boulevard between the Santa Ana River and Lake Evans is a state-classified mineral resource zone (MRZ-2). Scattered areas harbor marginally economic deposits of feldspar, silica, limestone and other rock products.

Figure OS-1 Mineral Resources



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OVERARCHING OBJECTIVES

Protecting Riverside's open space areas, scenic resources and hillsides will be carried out through the following objectives and policies. The City is committed to preserving its natural resources and open spaces of the highest quality and in a cost-effective manner to enhance the living environment of all residents. The City believes that individual interests must be balanced against the general public interest and particularly the conservation of natural resources.

Objective OS-1: **Preserve and expand open space areas and linkages throughout the City and sphere of influence to protect the natural and visual character of the community and to provide for appropriate active and passive recreational uses.**

See the Air Quality Element under "Land Use Strategies – Housing Strategies" for more information on open space.

In particular review Policy AQ-1.9.

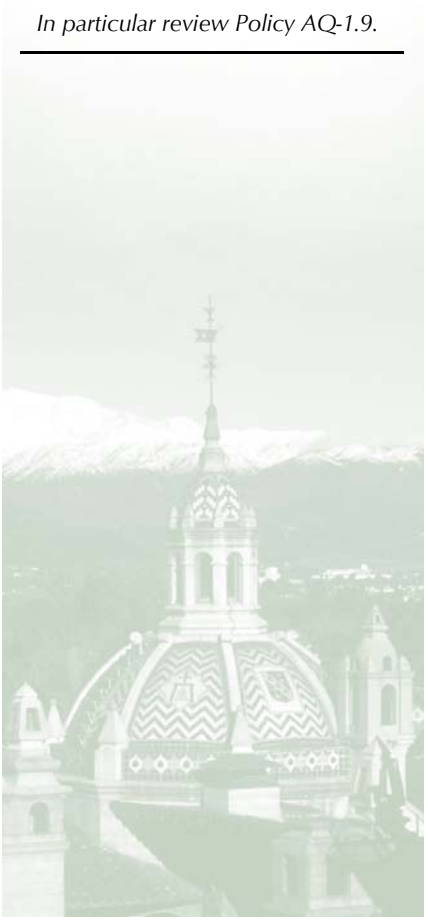
Policy OS-1.1: Protect and preserve open space and natural habitat wherever possible.

Policy OS-1.2: Establish an open space acquisition program that identifies acquisition area priorities based on capital costs, operation and maintenance costs, accessibility, needs, resource preservation, ability to complete or enhance the existing open space linkage system and unique environmental features.

Policy OS-1.3: Work with Riverside County and adjacent cities, landowners and conservation organizations to preserve, protect and enhance open space and natural resources.

Policy OS-1.4: Support efforts of state and federal agencies and private conservation organizations to acquire properties for open space and conservation uses. Support efforts of nonprofit preservation groups, such as the Riverside Land Conservancy, to acquire properties for open space and conservation purposes.

Policy OS-1.5: Require the provision of open space linkages between development projects, consistent with the provisions of the trails Master Plan, Open Space Plan and other environmental considerations including the MSHCP.



Policy OS-1.6: Ensure that any new development that does occur is effectively integrated via convenient street and/or pedestrian connections, as well as through visual connections.

See the Land Use and Urban Design Element under "Our Neighborhoods – Sphere of Influence" and the Air Quality Element under " Multi-Jurisdictional Cooperation" for more information on City/County cooperation.

In particular review Objectives LU-86 and AQ-7.

Policy OS-1.7: Work closely with the County of Riverside pursuant to the Joint Cities/County Memorandum of Understanding, emphasizing the City's need to participate in the development review process of projects proposed in surrounding unincorporated areas. Work to ensure that such developments proceed consistent with City standards, including hillside and arroyo grading preservation standards.

Policy OS-1.8: Encourage residential clustering as means of preserving open space.

Policy OS-1.9: Promote open space and recreation resources as a key reason to live in Riverside.

Policy OS-1.10: Utilize a combination of regulatory and acquisition approaches in its strategy for open space preservation.

Policy OS-1.11: Develop a program for City acquisition of identified open space land and encourage land donations or the dedication of land in lieu of park fees for the acquisition of usable land for public parks, open space and trail linkages.

Policy OS-1.12: Ensure that areas acquired as part of the Open Space System are developed, operated and maintained to provide the City with a permanent, publicly accessible open space system.

Policy OS-1.13: Design Capital Improvement Program projects which affect identified open space areas to support these areas' value as open space.

Policy OS-1.14: Establish an on-going needs assessment program to solicit feedback for users to identify changing needs and standards for the Open Space System.

Policy OS-1.15: Recognize the value of major institutional passive open spaces, particularly cemeteries, as important

components of the total open space systems and protect their visual character.

Objective OS-2: **Minimize the extent of urban development in the hillsides, and mitigate any significant adverse consequences associated with urbanization.**

See the Land Use and Urban Design Element under "Defining Riverside – Major Hills" and "Citywide Objectives: Protecting Riverside's Natural Environment – Hillsides" and this Element under "Overarching Objectives" for additional information on hillsides.

In particular review Objectives LU-3, LU-4 and OS-2.

Policy OS-2.1: Continue to require hillside development to be consistent with Proposition R and Measure C through the provisions of the RC Zone.

Policy OS-2.2: Limit the extent and intensity of uses and development in areas of unstable terrain, steep terrain, scenic vistas, arroyos and other critical environmental areas.

Policy OS-2.3: Control the grading of land, pursuant to the City's Grading Code, to minimize the potential for erosion, landsliding and other forms of land failure, as well as to limit the negative aesthetic impact of excessive modification of natural landforms.

Policy OS-2.4: Recognize the value of ridgelines, hillsides and arroyos as significant natural and visual resources and should strengthen their role as features which define the character of the City and its individual neighborhoods.

AGRICULTURAL PRESERVATION

The citrus industry was the mainstay of Riverside's economy starting in the late nineteenth century and continuing well into the twentieth. As recently as the mid 1950s, large areas of the City remained in citrus groves. The late twentieth century saw a significant increase in pressure to convert agricultural land to suburban uses. Nearly all of the Orangecrest area was in citrus production as late as the 1970s. Today, this area is completely developed with suburban uses. The same can be said for Hunter Business Park, a former citrus area slated for industrial use. The only significant block of agriculture in the City limits in the early twenty-first century is the Arlington Heights Greenbelt, comprised of 5,600 acres in the south and central portion of the City. Even in this area, many of the citrus groves are being converted to wholesale nurseries.

See the Land Use and Urban Design Element under "Defining Riverside – Arlington Heights and the Greenbelt" and "Citywide Objectives: Protecting Riverside's Natural Environment – Greenbelt and Agricultural Uses" and for more information on agricultural preservation.

In particular review Objective LU-6.

Within the General Plan area, including the Sphere of Influence, citriculture is also found in the Highgrove, Woodcrest and Rancho El Sobrante areas. However, citrus groves in these areas are quickly being replaced by suburban residential development. Over the time frame of the General Plan, it is a distinct possibility that most, if not all, of the agriculture uses in the City and Sphere, with the exception of Arlington Heights, will be replaced with suburban uses. Because of the importance of citriculture as a visual amenity, open space resource and important source of civic pride as part of the City's heritage, preservation of agriculture in the Arlington Heights Greenbelt will be of utmost importance as a City goal.

AGRICULTURE AND CITRICULTURE

Agricultural lands are categorized by state and federal agencies in the following four categories:

Prime Farmland

This category includes land with the best combination of physical and chemical characteristics for the production of crops. Prime farmland has the soil quality, growing season and moisture supply needed to produce sustained yields of crops when treated and managed. Such land must have been used for the production of irrigated crops within the last three years in order to be so designated.

Farmland of Statewide Importance

These lands have a good combination of physical and chemical characteristics for the production of crops. To maintain this designation, such land must have been used for the production of irrigated crops within the last three years.

Unique Farmland

Unique Farmland is land which does not meet the above criteria for Prime or Statewide Importance, but which is currently used for the production of specific high-value crops. Unique farmland has the special combination of soil quality, location, growing season and moisture supply needed to produce sustained high quality and high yields of specific crop. Examples of such crops include oranges, olives, avocados, rice, grapes and cut flowers.

Farmland of Local Importance

These lands are non-irrigated properties that are either currently producing crops or had the capacity of production. This category

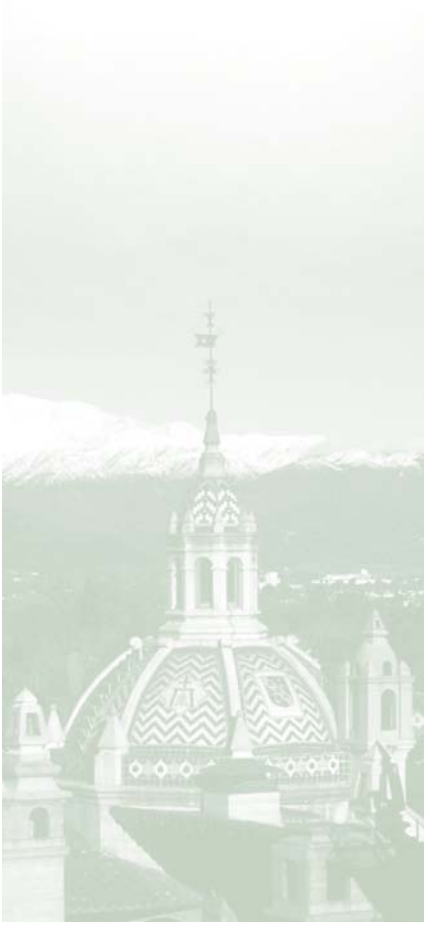
includes dryland grain, dairies and other agriculturally zoned land not included in the above categories and which may be important to the local economy due to its productivity.

Figure OS-2 (Agricultural Suitability) shows the location of agricultural lands within the City and sphere of influence with these designations.

Particularly within the City limits, it should be noted that those areas identified as important farmland are in fact largely developed or planned for other uses. Riverside is becomingly an increasingly urban city and the pressures of this transition have made farmland impractical to perpetuate. Farming practices are often in conflict with urban development, and it would not be desirable in most cases to reintroduce agriculture into these areas. The exception is the Arlington Heights Greenbelt where it is the City's policy to promote continued agricultural uses. Other areas in the County are also designated on the City's Plan for continued agricultural uses. However, it is recognized that these areas are quickly being approved by the County for suburban development. Where possible, the City will work with the County to encourage retention of agriculture in these areas.

AGRICULTURAL PRESERVATION PROPOSITION R AND MEASURE C

In 1979, Riverside voters approved Proposition R: "Taxpayer's Initiative to Reduce Costly Urban Sprawl by Preserving Riverside's Citrus and Agricultural lands, Its Unique Hills, Arroyos and Victoria Avenue." The two main features of Proposition R relate to: 1) preservation of agriculture through application of the RA-5-Residential Agricultural Zone to two specific areas of the City: and 2) protection of hillside areas through application of the RC-Residential Conservation Zone to areas of the City based on slopes over 15 percent. The two areas of the City which were zoned to RA-5 are: 1) the Arlington Heights Greenbelt, consisting of 5,600 acres in the south and central portion of the City; and 2) an area of 640 acres commonly known as Rancho La Sierra lying on a bluff above the Santa Ana River and bordered by Tyler Street on the east and Arlington Avenue on the west.



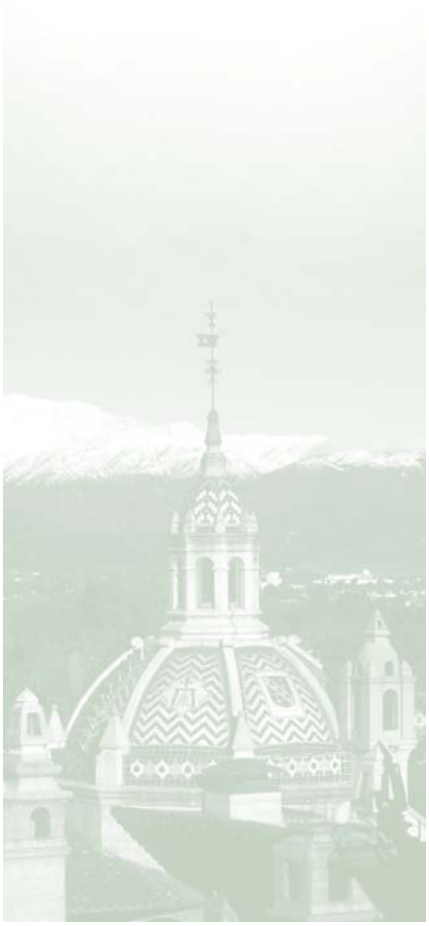


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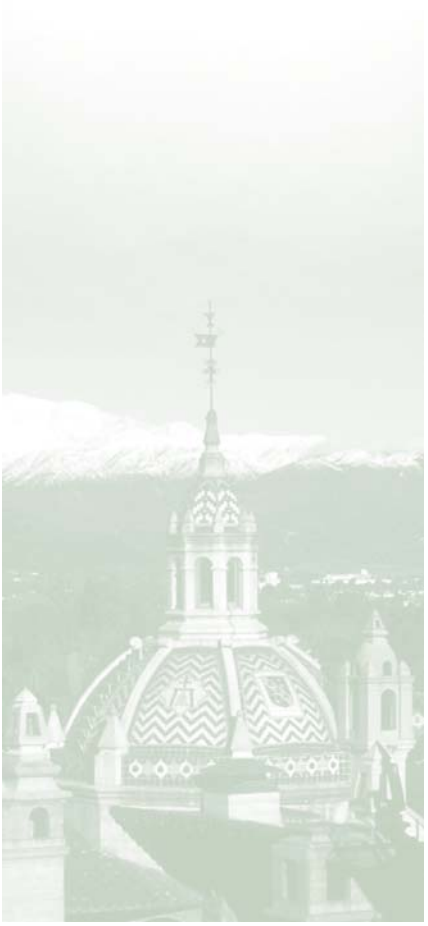
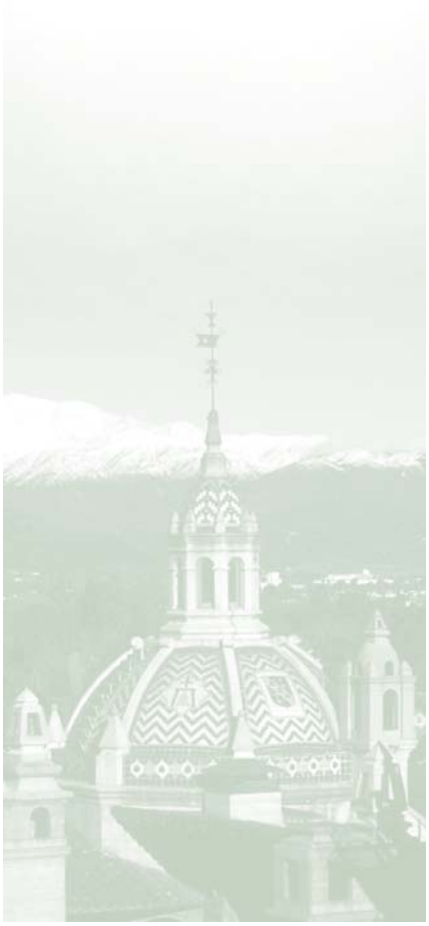
Figure OS-2 Agricultural Suitability





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In 1987, Riverside voters passed Measure C, a bolstering amendment to Proposition R, entitled "Citizens' Rights Initiative to Reduce Costly Urban Sprawl, to Reduce Traffic Congestion , to Minimize Utility Rate Increases and to Facilitate Preservation of Riverside's Citrus and Agricultural Lands, its Scenic Hills, Ridgelines, Arroyos and Wildlife Areas". Measure C amended Proposition R to promote agriculture by adding the following as official City policy:

> *Policy to Promote and Encourage Agriculture. "It is hereby declared to be the policy of the City of Riverside to promote and encourage agriculture as an essential industry and a desirable open space use. The Greenbelt and La Sierra Lands are is important agricultural lands because of their high soil quality, favorable climate and low water costs. It is further declared to be the policy of the City to retain, wherever feasible, agricultural lands in private ownership and to encourage and assist the maintenance and formation of family farms, especially for farmers who live on their land."*

Measure C also required a specific plan be prepared for Rancho La Sierra, to cluster housing in a manner which preserves important natural features and scenic vistas. Recognizing that Riverside could continue to grow beyond its 1987 corporate limits, Measure C also extended the provisions of Proposition R and Measure C to the sphere of influence to protect sensitive wildlife, open space and agricultural lands, including but not limited to lands adjacent to Lake Mathews.

Protecting Riverside's Arlington Heights Greenbelt, Rancho La Sierra and agricultural lands will be carried out through the following objectives and policies.

Objective OS-3: Preserve designated agricultural lands in recognition of their economic, historic and open space benefits and their importance to the character of the City of Riverside.

Policy OS-3.1: Promote and encourage agriculture as an essential industry and a desirable open space use. The Greenbelt and La Sierra Lands (i.e., Rancho La Sierra) are important agricultural lands because of their high soil quality, favorable climate and low water costs. Retain, wherever feasible, agricultural lands in private ownership and to encourage and assist the maintenance and formation of family farms, especially for farmers who live on their land.

See the Land Use and Urban Design Element under "Defining Riverside – Arlington Heights and the Greenbelt" and "Citywide Objectives: Protecting Riverside's Natural Environment – Greenbelt and Agricultural Uses" and for more information on agricultural preservation.

In particular review Objective LU-6.

Policy OS-3.2: Identify land for retention and encouragement of agricultural use based on consideration of historic use, soil suitability, agricultural significance, prevailing parcel sizes and geographical associations.

Policy OS-3.3: Protect valuable agricultural land from urban development through the use of agricultural zoning districts and other appropriate development regulations, as well as financial and tax incentives.

Policy OS-3.4: Encourage property owners to preserve citrus groves and implement public programs to provide incentives and other assistance to promote and protect citrus farming on prime agricultural lands.

Policy OS-3.5: Consider strategies to enhance the productivity of the local agricultural industry, such as the creation of special electric and water rate structures and the establishment of an interest subsidy program for loans used for fencing, screening and replanting of agricultural lands.

Policy OS-3.6: Support alternative allowable uses, such as crop diversification, within historic citriculture areas, where such uses will retain the agricultural use and character of the areas.

Policy OS-3.7: Evaluate various proactive programs for agricultural preservation such as transfer of development rights, purchase lease back, University purchase for research and purchase of development rights.

Policy OS-3.8: Recognize Agricultural Conservation Areas adopted by Riverside County pursuant to the Williamson Act in planning for future development and possible annexation of areas within the City's sphere of influence.

Policy OS-3.9: Coordinate programs to preserve agricultural lands with other public, private and non-profit organizations.

Policy OS-3.10: Continue to work with the State to promote and expand the California Citrus State Historic Park.

Policy OS-3.11: Explore the creation of an incentive program for the conservation of agricultural lands.

Objective OS-4: **Preserve designated buffers between urban and rural uses for their open space and aesthetic benefits.**

Policy OS-4.1: Continue to implement Proposition R and Measure C.

Policy OS-4.2: Establish buffers and/or open space between agricultural and urban uses so that impacts from urban development can be mitigated.

Policy OS-4.3: Explore the possibility of establishing a fee for all new development in Riverside for land banking to create new buffers and/or purchase sensitive lands between urban development and existing open space resources.

OUR ARROYOS AND BIOLOGICAL RESOURCES

The arroyos of Riverside are naturally occurring ephemeral drainages created over thousands of years as seasonal rains eroded the hills. Natural runoff in addition to that from agriculture and development has created a year-round supply of water, and riparian plants flourish throughout the year within the arroyos.

The arroyos and other open space areas of Riverside support an abundance of wildlife species and plant communities. The arroyos also provide corridors which wildlife use to migrate between habitat areas. Wildlife and the habitat in which they live enhance our own life experiences. If we protect habitat, we increase the probability that important and critical wildlife species will survive and flourish.

The expansion of urban areas into previously undeveloped areas of the City and the sphere have infringed upon the health of the arroyos and the plants and animals that rely upon them. The consequences of development include excessive grading, encroachment into the logical natural stream channel, increased urban runoff and conflicts created by pets and invasive exotic plants.

The community vision for the arroyos of Riverside is of natural, healthy waterways meandering through well-planned residential development

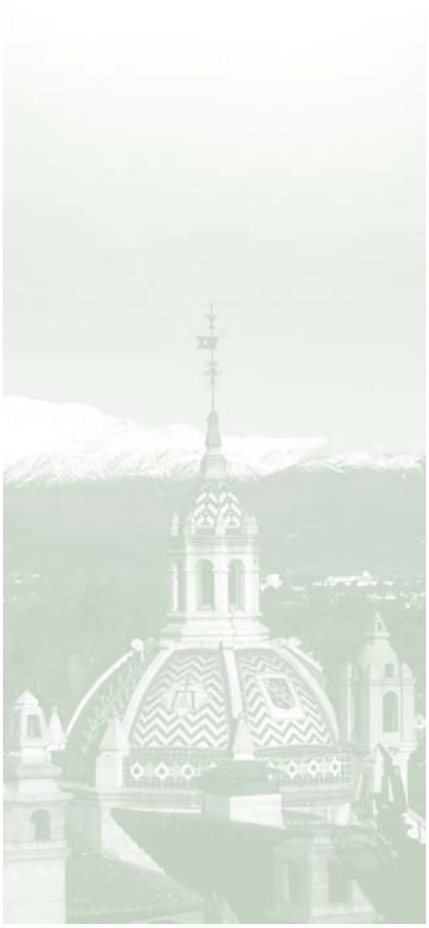
and natural, protected areas. Where development does occur, homes near the arroyos should reflect the natural lines of the landscape and be designed to blend with the contours, colors and seasonal aridity of the landscape. Wildlife using the natural corridors provided by the arroyos should have unrestricted access and movement, with minimal barriers from roads and fences.

Striking a balance between habitat preservation and meeting Riversiders' needs for housing, jobs and services is a major planning challenge. This section of the Open Space and Conservation Element sets forth the City's commitment to the conservation of Riverside's arroyos and recommends objectives and policies to accomplish this planning challenge.

RIVERSIDE'S ARROYOS

Six arroyos, recognized by the City's Grading Code (Title 17), traverse the City (see Figure OS-3 – Arroyos):

- **S**pringbrook Wash Arroyo
- **W**oodcrest Arroyo
- **P**renda Arroyo
- **A**lessandro Arroyo
- **M**ockingbird Canyon Arroyo
- **T**equesquite Arroyo

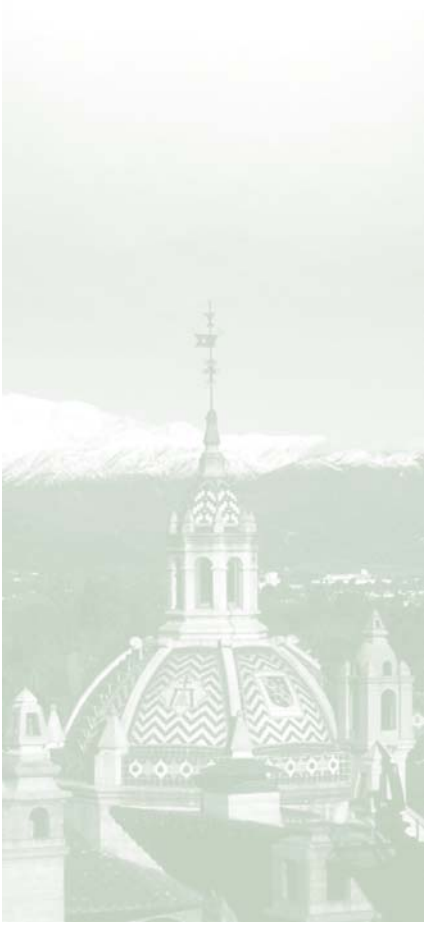


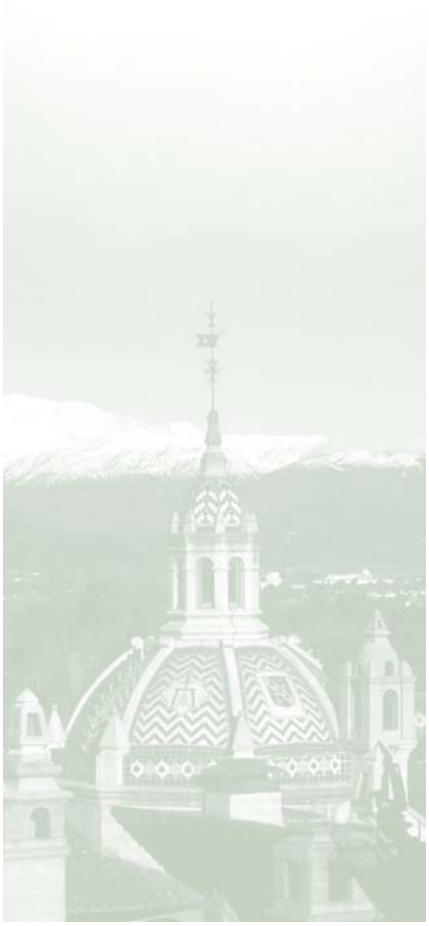
Springbrook Wash Arroyo starts in Box Springs Mountain and flows to the Santa Ana River. Approximately one-fifth of the stream channel is cemented, with some remaining areas of healthy riparian vegetation.

Tequesquite Arroyo runs through two golf courses, the Andulka Park site, RCC, the Evans Sports Complex and the Tequesquite Park site. It is partially channelized at the golf courses and when it passes through Downtown. The banks have been planted with non-native grasses at the golf courses. Only the portion southeasterly of the 91 Freeway is mapped for protection under the Grading Code.

The Woodcrest, Prenda, Alessandro and Mockingbird Arroyos all originate in the southerly hills of Riverside and flow to the Santa Ana River. All of these arroyos are largely in a natural condition southerly of the 91 Freeway within the Arlington Heights Greenbelt and Alessandro Heights area. Each is also constrained with a dam as shown in Figure PS-4 (Flood Hazard Areas) in the Public Safety Element. Northerly of the 91 Freeway, the arroyos are channelized or undergrounded en route to the Santa Ana River and are not mapped for protection under the Grading Code.

Figure OS-3 - Arroyos





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Outside City Planning Area there are two arroyos worthy of note. The first is the Box Springs Arroyo which runs from the Box Springs Mountains to where it is partially detained at Quail Run. From Quail Run the water flows into the Sycamore Canyon Creek. A small portion of the channel is contained in concrete, where it flows under the SR- 60 Freeway into the UCR campus. The banks are characterized by healthy riparian communities and rocky outcroppings. Sycamore Canyon Creek flows through the Sycamore Canyon Wilderness Park. The entire length of the creek is unchannelized and characterized by sycamore groves and southern willow.

The second is the University Arroyo, also beginning in the Box Springs Mountains. It is partially channelized. The banks contain mainly non-native grasses, although some areas are characterized by rocky outcroppings and riparian vegetation. This Arroyo runs through UCR, under the 60/215 freeway and into developed areas west of the freeway.

WILDLIFE HABITAT

The unique landscape of Riverside supports a rich diversity of biological resources as shown in Figure OS-4 – Habitat Areas and Vegetation Communities, including a number of sensitive and endangered species. Isolation of a species, a result of development, can disrupt biodiversity and cause long-term consequences for survival of a species and those animals which may rely upon it. Past development practices have substantially reduced habitat for wildlife species and severed connections to larger habitat areas. Development has also deteriorated the quality of the water in the arroyos and caused erosion of the stream banks. As a result, valuable biological resources are mostly limited to major open spaces within and adjacent to the City limits, including Santa Ana River Regional Park, Box Springs Mountain Reserve, the Alessandro Hills, the Woodcrest and Prenda Arroyos and Mockingbird Canyon.

Preserving and protecting wildlife habitat helps ensure the preservation and protection of wildlife species. The great diversity of vegetation types and habitat located in the hillsides and arroyos of Riverside support a wide variety of animal populations. Natural habitat such as riparian areas provides food, cover and shelter for birds, mammals, reptiles and insects. Wildlife corridors provide areas of undisturbed open space that allow regional wildlife migration between natural habitats, promoting proliferation of indigenous species.

PLANT COMMUNITIES

Sensitive vegetation communities within the vicinity of the City of Riverside include vernal pools, southern cottonwood-willow riparian forest, southern sycamore-alder riparian forest, southern willow scrub, Southern California arroyo chub/Santa Ana sucker stream, southern coast live oak riparian forest, southern riparian forest, Riversidean alluvial fan sage scrub, Riversidean sage scrub, peninsular juniper woodland and scrub, cismontane alkali marsh, dense englemann oak woodland, coast live oak woodland and mulefat scrub. Each community contains unique features and supports a variety of wildlife.

VERNAL POOLS

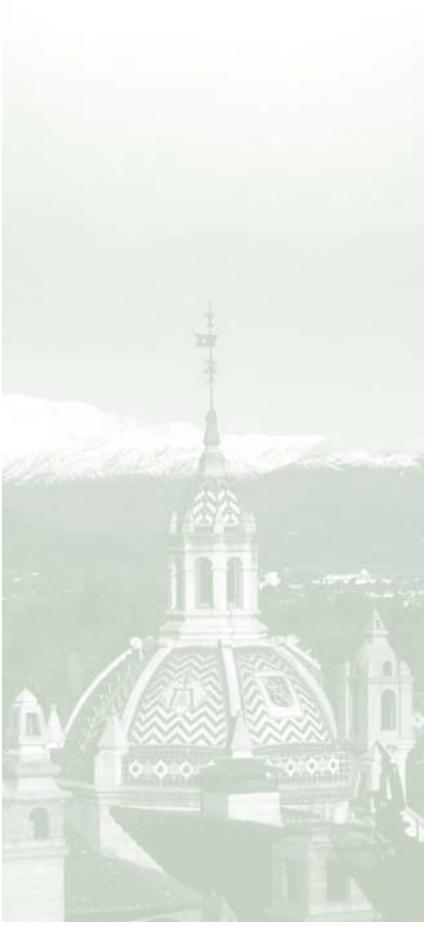
Vernal pools are seasonal wetlands that form in localized depressions with subsurface hardpans, allowing ponded rainwater to remain above the surface into the dry season. These seasonal wetlands create a moist environment to which a specialized group of plant species are adapted. Species composition varies among pools but may consist of annual hairgrass, downingias, low navaretia, Orcutt brodiaea, quillworts, round woollyheads and San Diego mesa mint. Herbs are typically less than 0.25 meters tall with an intermittent or open canopy. Vernal pools typically occur below 1400 feet and exist in the Lake Mathews Ecological Preserve. Undeveloped lands located on relatively flat terrain represent areas in which vernal pools are likely to be found.

SOUTHERN COTTONWOOD-WILLOW RIPARIAN FOREST

Southern cottonwood-willow riparian forests are tall, open, broad-leaved winter-deciduous riparian forests dominated by Fremont cottonwood, black cottonwood and several tree willows. Understories consist of shrubby willows. The dominant species require moist, bare mineral soil. Sub-irrigated and frequently overflowed lands along rivers and streams provide the necessary conditions for germination and establishment. This community can be found along wet stream reaches of the Transverse and Peninsular ranges, from Santa Barbara County south to northern Baja California and east to the edge of the deserts. Other typical plant species include California mugwort, mule fat, wild cucumber, California sycamore, Goodding's black willow, sandbar willow, pacific willow, arroyo willow and stinging nettle.

Southern cottonwood-willow riparian forests exist along the Santa Ana River in northwest Riverside and along the middle-upper portions of an unnamed tributary to Walker Canyon, just west of Stovepipe and Bull Canyon Roads.

Figure OS-4 Habitat Areas



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Southern Sycamore-Alder Riparian Woodland

Southern sycamore-alder riparian woodland is a tall, open, broadleaved, winter-deciduous streamside woodland dominated by western sycamore and white alder. These stands seldom form closed canopy forests, and may appear as trees scattered in a shrubby thicket of hard drought-resistant evergreens and deciduous species. Soils consist of very rocky streambeds subject to seasonally high-intensity flooding. White alder increases in abundance on more perennial streams, while western sycamore favors more intermittent hydrographs. Other common forms of vegetation include big-leaf maple, California mugwort, coast live oak, elk clover, horsetail, smilo grass, California blackberry, poison oak, blue elderberry, bay laurel and stinging nettle. Southern sycamore-alder riparian woodlands occupy areas in the transverse and peninsular ranges from Point Conception south into northern Baja California.

Southern sycamore-alder riparian forests occur near the west side of Box Springs Mountains and along an unnamed tributary to the creek running along Santa Rosa Road, northwest of Steele Peak/Steele Valley.

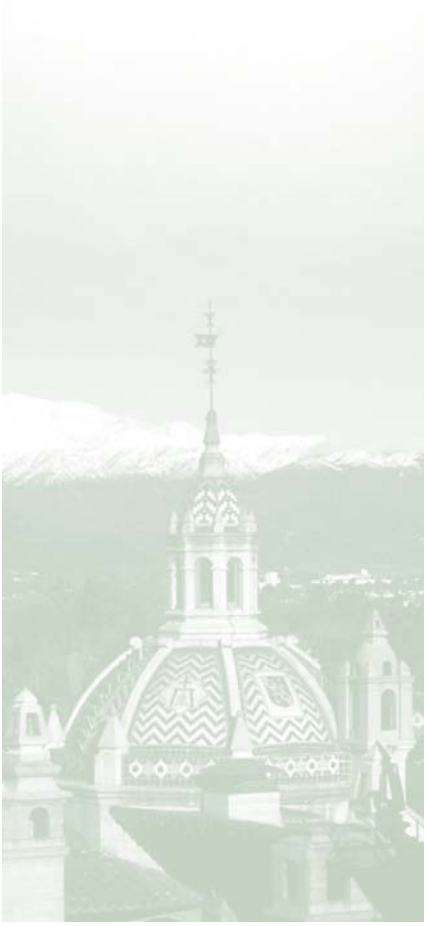
Southern Willow Scrub

Southern willow scrub is distinguished by dense, broad-leaved, winter-deciduous riparian thickets dominated by several willow species including Goodding's black willow, sandbar willow, red willow, pacific willow and arroyo willow, with scattered Fremont cottonwood and western sycamore. Most stands are too dense to allow much understory development. Typical soils include loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. This community requires repeated flooding to prevent succession to southern cottonwood-sycamore riparian forest. Southern willow scrub was formerly extensive along the major rivers of coastal southern California but is now much reduced by urban expansion, flood control and channel improvements.

Southern willow scrub exists along two tributaries, approximately one and a half miles southwest of Mockingbird Reservoir.

Southern California Arroyo Chub/Santa Ana Sucker Stream

Southern California arroyo chub/Santa Ana sucker streams exist along the Santa Ana River and its tributaries including Chino Creek, Aliso Creek and Sunnyslope Creek in San Bernardino, Riverside and Orange counties. These streams range from Mount Rubidoux downstream to northeastern Anaheim. The best habitat is found below the Riverside narrows where ground water is forced to the surface and flows become



more perennial and stable. Santa Ana suckers and arroyo chub face danger from predation by several non-native fish species, controlled water flow controlled through Prado Dam; urbanization and pollution also impact these streams.

Southern Coast Live Oak Riparian Forest

Southern coast live oak riparian forests are characterized by both open and locally dense evergreen riparian woodlands dominated by coast live oak. This community appears to be richer in herbs and poorer in understory shrubs than other riparian communities. Southern coast live oak riparian forests are found in bottomlands and outer floodplains along larger streams, on fine-grained, rich alluvium soils in canyons and valleys of coastal southern California, mostly south of Pt. Conception. Characteristic plant species include big-leaf maple, California mugwort, California toothwort, eucrypta, toyon, bush penstemon, California honeysuckle, wild cucumber, fiesta flower, skunkbrush, California wild rose, California blackberry, blue elderberry, creeping snowberry, poison oak and bay laurel.

Southern coast live oak riparian forests occur along Gavilan Road in vicinity of Harford Spring, east of Lake Mathews.

Southern Riparian Forest

Southern riparian forest communities are characterized by wetland species dominated by willows, cottonwoods, big leaf maple and/or California sycamore. These species may be sole dominants or mixed dominance. The tree canopy is typically continuous with sparse shrub and herb layers forming the understory. These communities are periodically flooded or saturated with water. Southern riparian forest communities occur at elevations from sea level to two thousand four hundred meters.

Southern riparian forests occur along an unnamed tributary to Cajalco Canyon, east of Cajalco Tin Mine and south of Eagle Valley near Lake Matthews.

The Stephen's kangaroo rat is on the U.S. endangered species list. It is classified as endangered in California.

WILDLIFE SPECIES

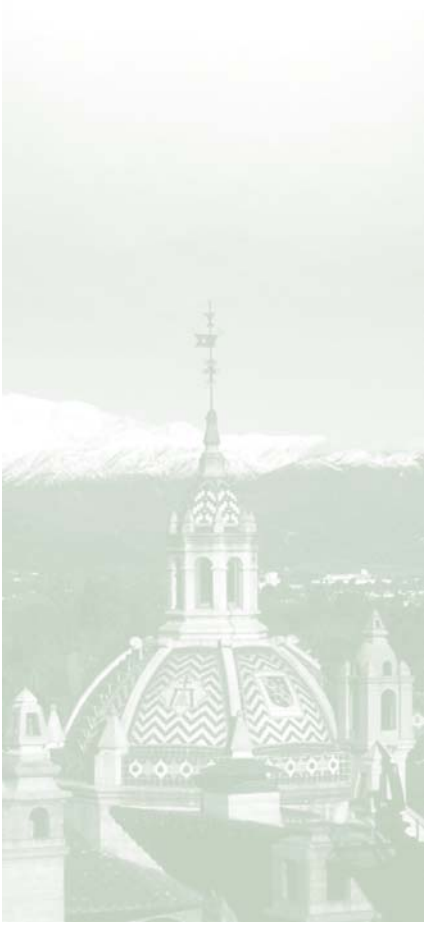
Among the diverse wildlife species within Riverside are sensitive species, some of which have protected status under the federal Endangered Species Act and various California statutes. "Sensitive" means any wildlife species native to California that is currently or likely to be listed as endangered, threatened or a species of special concern by a Federal or State agency. The United States Fish and

Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) manages and protects species that are either listed or are a candidate for listing as endangered or threatened. Prior to being considered for protected status, the USFWS or CDFG designates a species as a species of special concern.

Some of the larger predatory mammal species in the planning area include coyote, bobcat, gray fox and mountain lions. Smaller mammals include Stephens' kangaroo rat, San Diego black-tailed jackrabbit, northwestern San Diego pocket mouse and the Los Angeles pocket mouse. Golden eagle, marsh hawk, prairie falcon, Burrowing Owl, Cooper's hawk and American kestrel are examples of raptors that frequent the skies above foraging areas. Smaller birds include crow, raven, house finch, song sparrow, California quail, house wren, Bewick's wren, California gnatcatcher and Least bell's vireo. Sensitive reptiles and amphibians include San Diego horned lizard, western pond turtle, Arroyo southwestern toad, Orange-throated whiptail and two-striped garter snake. Riverside Fairy Shrimp are also known to occur in vernal pools within the Planning Area.

Riversidean Alluvial Fan Sage Scrub

Riversidean alluvial fan sage scrub grows on sandy, rocky alluvial soils deposited by streams that experience periodic flooding. The soils in these areas are well drained to excessively drained and have low water holding capacity and low fertility. Vegetation consists of drought-deciduous subshrubs and large evergreen woody shrubs that are adapted to these soil characteristics as well as to survival of intense, periodic flooding and erosion. Pioneer, intermediate and mature are three types or stages of the alluvial fan sage scrub plant community. The pioneer stage has sparse vegetation and low plant diversity. The intermediate stage is characterized by dense vegetation dominated by subshrubs. The mature stage has dense full grown subshrubs, along with evergreen woody shrubs.



Scale-broom is a shrub species that is found most often on alluvial soils associated with drainages. Other common shrub species of this vegetation community are often characteristic species of either Riversidean sage scrub or chaparral communities. These common subshrub species include coastal sagebrush, California buckwheat, chamise, brittlebush, hairy yerba santa, sugarbush, birch-leaved mountain mahogany and California broom.

Riversidean alluvial fan sage scrub is known to occur along the Santa Ana River between Mission Boulevard and Mission Street. Other communities are located in the northernmost parts of the Planning Area

and southeast of Lake Mathews between Galivan Road and Lake Mathews Drive.

Riversidean Sage Scrub

Typical stands of Riversidean Sage Scrub are fairly open and dominated by California sagebush, California buckwheat and red brome, each attaining at least 20 percent cover. Riversidean Alluvial Fan Sage Scrub typically occurs on drier sites such as steep slopes, severely drained soils or clay soils that release stored soil moisture slowly.

Riversidian sage scrub is scattered throughout southeastern half of the Planning Area. Large concentrations of Riversidian alluvial fan sage scrub are located along the eastern and western edges of the City and to the south and west of Lake Mathews.

Peninsular Juniper Woodland and Scrub

Peninsular juniper woodland and scrub is dominated by California juniper. This community exists on dry alluvial fans and desert slopes. Litter layers are restricted to directly beneath the tree driplines and fuel loads usually are insufficient to carry a fire. This woodland species does not tolerate fire. Burning usually leads to the formation of semi-desert chaparral communities.

Within the Planning Area, sage scrub is located to the south and east of Lake Mathews and intergrades with non-native grassland and Riversidean Sage Scrub communities.

Cismontane Alkali Marsh

Cismontane alkali marsh is dominated by perennial, emergent, herbaceous monocots up to two meters tall. Vegetation is similar to that found in salt marshes, freshwater marshes and coastal brackish marshes. Vegetation cover is often complete and dense and most growth and flowering occurs in summer. This community typically occurs where standing water or saturated soil is present during most or all of year. High evaporation and low input of fresh water render these marshes somewhat salty, especially during the summer. Cismontane alkali marsh is probably similar to coastal brackish marsh in its quantitative range of saltiness, but is more alkaline and usually with salts other than sodium chloride. Marshes that become mostly dry during the summer are called vernal marshes; those with a more constant input of fresh water are called coastal and valley freshwater marshes. Chenopod scrubs occur in areas with moist, highly alkaline soil that usually lack water at the surface. All of the above habitats may intergrade with alkali marshes.

Cismontane alkali marsh is known to occur east of Lake Mathews near Cajalco Road and between Cajalco Road and Rider Street.

Dense Englemann Oak Woodland

Dense Englemann oak woodlands are a climax woodland dominated by Engleman oak with coast live oak as an additional significant constituent. The understory is composed of typical grassland species. Canopy cover is dense due to coast live oak being superimposed on the Engleman oak. This vegetation community appears on moderately moist sites, especially in steep canyons.

Dense Englemann oak woodlands are known to occur southeast of Lake Mathews between Galivan Road and Lake Mathews Drive.

Coast Live Oak Woodland

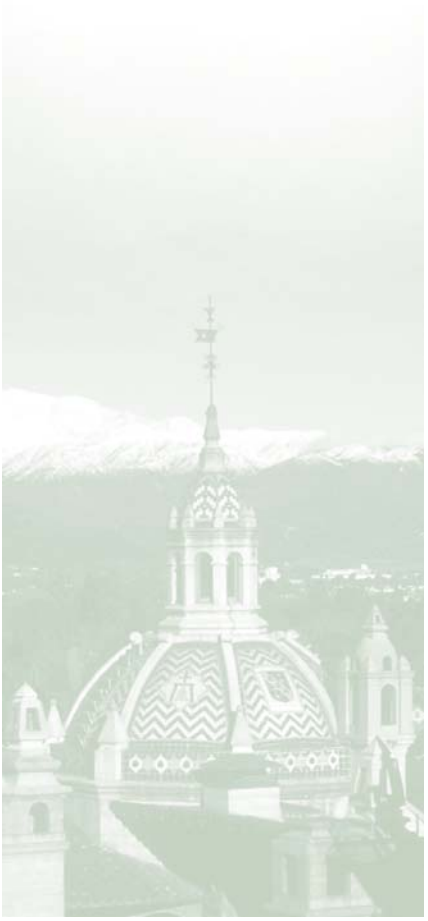
Coast live oak woodlands vary from closed-canopy stands of coast live oak to mixtures with conifers and broadleaf trees to open savannas. The shrub layer is poorly developed, but may include toyon, gooseberry, laurel sumac or Mexican elderberry. The herb component is continuous and dominated by rip-gut brome and several other introduced species. This community typically occurs on north-facing slopes and shaded ravines.

Coast live oak woodlands are scattered throughout the Planning area. Several coast live oak communities are located southeast of Victoria Avenue between La Sierra Avenue and Washington Street.

Mulefat Scrub

Mulefat scrub is characterized by tall, herbaceous riparian scrub strongly dominated by Mulefat. This early successional community is maintained by frequent flooding. Absent this, most stands would succeed to cottonwood or sycamore dominated riparian forests or woodlands. Mulefat scrub occurs in intermittent stream channels with fairly coarse substrate and moderate depth to the water table. This community frequently occurs as a patchy understory in light gaps in Sycamore Alluvial Woodland especially under heavy grazing. Mulefat scrub is widely scattered along intermittent streams and near larger rivers from about Tehama County south through the Coast Ranges and Sierra Nevada to San Diego and northwestern Baja California Norte, usually below about 2,000 feet.

Mulefat scrub is known to occur southwest of Lake Mathews near Cajalco Road and south of Indiana Avenue between Buchanan Street



and McKinley Street. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

WILDLIFE COORIDORS

To protect California's biodiversity, local, state and federal agencies that manage wildlife and oversee land use planning continually work with landowners and developers to maintain habitat linkage for animal access. These linkages, also called corridors, provide animals and other living things a lifeline between "islands" of habitat and serve as escape routes from danger and avenues to food supplies and mating prospects. Corridors can be narrow as a culvert or wider than an eight-lane freeway. They may be short or extend for miles, perhaps crossing over or under roads.

Riparian corridors in the Planning Area serve as important migratory corridors between major open space areas. The Santa Ana River is an example of a protected migratory corridor preferred by native wildlife, permanently set aside as open space by the County of Riverside Parks Department.

The canyons of the southern hillsides also provide valuable migratory corridors for wildlife. These migratory corridors are connected where two drainages pass near one another or at the confluence of different drainage swales. Central Avenue for example, where Box Springs Mountain and Sycamore Canyon are located close together, is considered highly valuable for wildlife migration. By working closely with developers and conservationists, the City has at least partially secured areas as a wildlife corridors. One important missing component is an underpass for the 60/215 Freeway.

MULTI-SPECIES HABITAT CONSERVATION PLAN

In June of 2003, the Riverside County Board of Supervisors adopted a comprehensive Multiple Species Habitat Conservation Plan (MSHCP) to provide a regional conservation solution to species and habitat issues that have historically threatened to stall infrastructure and land use development. The MSHCP is a multi-jurisdictional effort that encompasses approximately 1.26 million acres (1,966 square miles) and includes all unincorporated Riverside County land west of the San Jacinto Mountains to the Orange County line, and fourteen cities, including the City of Riverside.[1] On October 7, 2003 the City Council

[1] County of Riverside, Transportation and Land Management Agency, *Final MSHCP Volume 1 - The Plan*, approved June 17, 2003.

adopted the MSHCP.[2] The City is a participant in the Joint Powers Agreement and the implementation agreement. The MSHCP covers one hundred forty-six species and addresses biological diversity within the plan area. While protecting high-profile species like the Stephen's kangaroo rat and the Quino checkerspot butterfly, the MSHCP is also designed to protect more than one hundred and fifty species and conserve five hundred thousand acres of land.

The General Plan Area includes two MSHCP core areas corresponding to the areas around the Santa Ana River and Sycamore Canyon Park as shown in Figure OS-5 (MSHCP Core Linkages). The General Plan Area also includes a number of cell areas, Figure OS-6 (MSHCP Cell Areas).

The following objectives and policies work to implement the community's vision of the arroyos, and biological resources.

Objective OS-5: Protect biotic communities and critical habitats for endangered species throughout the General Plan Area.

Policy OS-5.1: Preserve significant habitat and environmentally sensitive areas, including hillsides, rock outcroppings, creeks, streams, viewsheds and arroyos through application of the RC zone standards and the Hillside/Arroyo standards of the City's Grading Code.

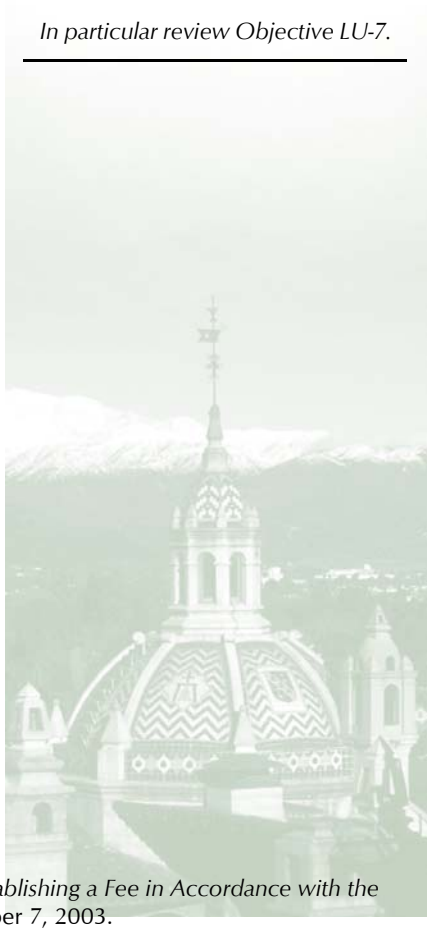
Policy OS-5.2: Continue to participate in the MSHCP Program.

Policy OS-5.3: Continue to participate in the Stephen's Kangaroo Rat (SKR) Habitat Conservation Plan including collection of mitigation fees and operation of Sycamore Canyon Wilderness Park as an SKR reserve.

Policy OS-5.4: Protect native plant communities in the General Plan Area, including sage scrub, riparian areas and vernal pools.

See the Land Use and Urban Design Element under "Protecting Wildlife, Endangered Species and Their Habitat" for more information on this topic.

In particular review Objective LU-7.



[2] City Council Report - Agenda Item Number 34, *Adoption of Ordinance Establishing a Fee in Accordance with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)*, October 7, 2003.

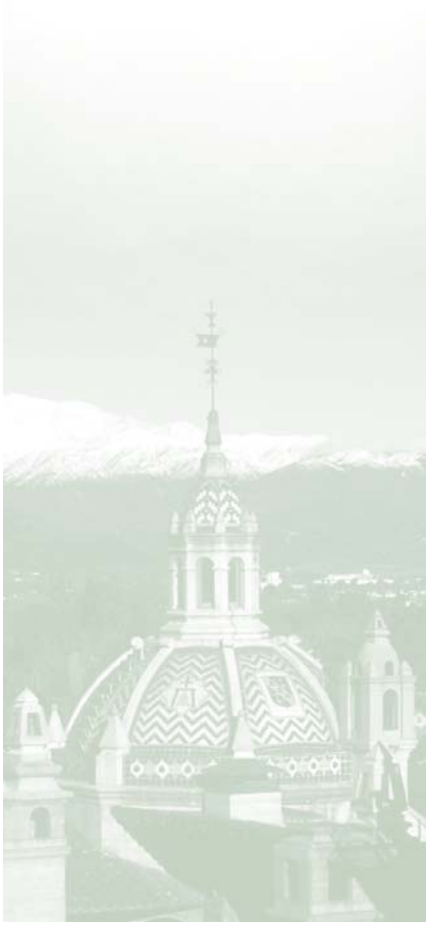


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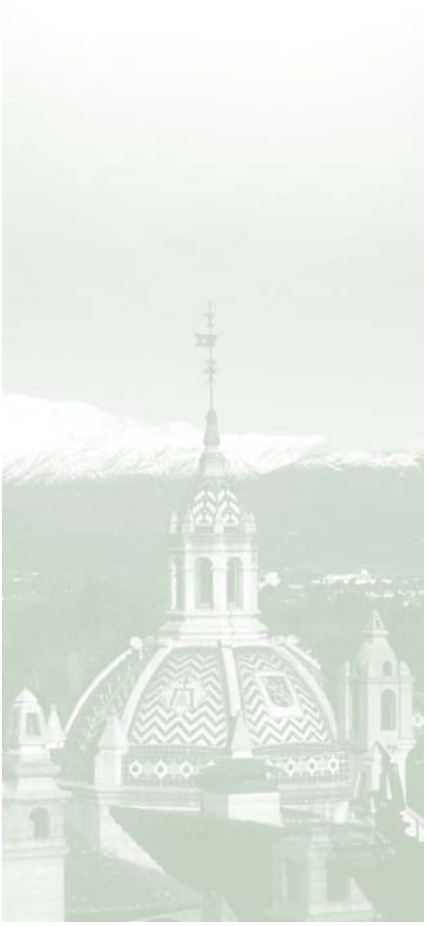
Figure OS-5 - MSHCP Corridor Linkages



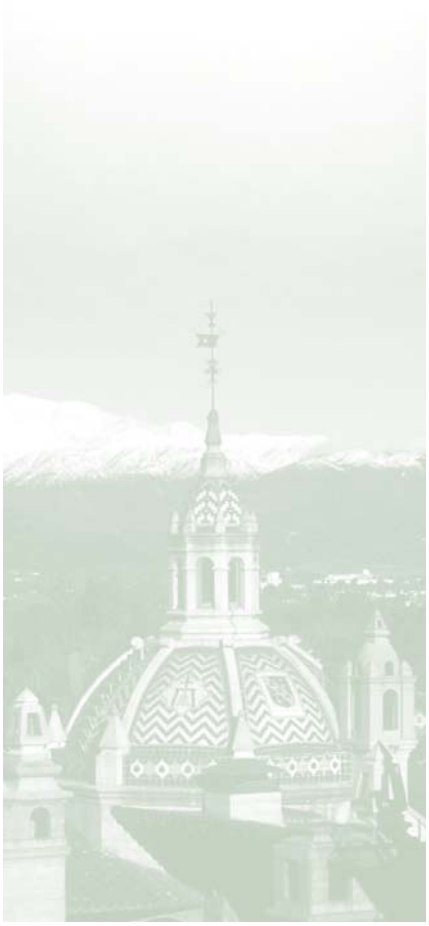


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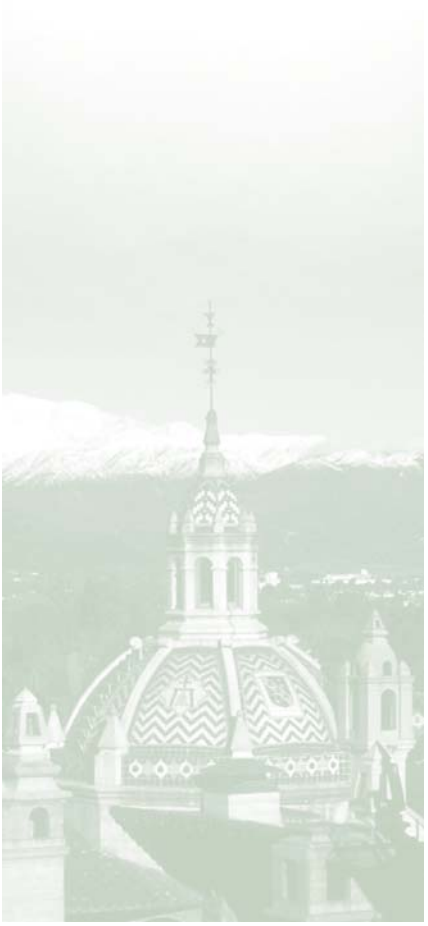
Figure OS-6 MSHCP Cell Areas



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Objective OS-6: Preserve and maintain wildlife movement corridors.

Policy OS-6.1: Protect and enhance known wildlife migratory corridors and create new corridors.

Policy OS-6.2: Support regional and local efforts to acquire, develop and maintain open space linkages.

Policy OS-6.3: Preserve the integrity of Riverside's arroyos and riparian habitat areas through the preservation of native plants.

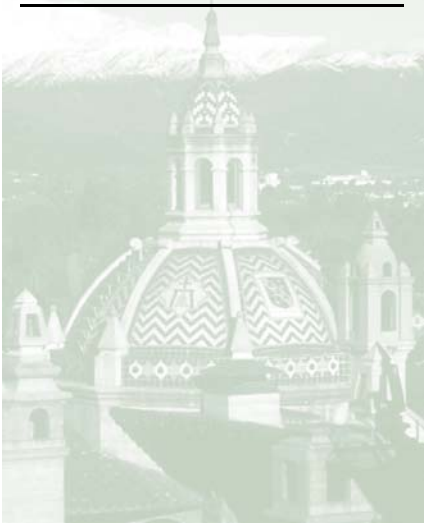
Policy OS-6.4: Continue with efforts to establish a wildlife movement corridor between Sycamore Canyon Wilderness Park and the Box Springs Mountain Regional Park as shown on the MSHCP. New developments in this area shall be conditioned to provide for the corridor and Caltrans shall be encouraged to provide an underpass to the 60/215 Freeway.

THE SANTA ANA RIVER

Located along the northern boundary of the City, the Santa Ana River is an important recreational, habitat and visual resource. The river serves important flood control and water quality management functions. It is a natural corridor for the migration of wildlife to and from different parts of the Planning Area and the region.

A watershed is the entire region drained by a waterway that drains into a lake or reservoir. It is the total area above a given point on a stream that contributes water to the flow at that point, and the topographic dividing line.

The Santa Ana River drains a watershed of over twenty-six hundred square miles from the San Bernardino Mountains to the Pacific Ocean, at the border of the cities of Newport Beach and Huntington Beach. The size of the watershed and the number of jurisdiction involved creates a unique planning challenge because activities in one part of the river system affect all the downstream areas as well as the Pacific Ocean. Riverside must consider the impacts of its development on the river, as it will be directly experienced in the City and by those communities further downstream. The City must also work with its upstream neighbors to ensure that Riversiders can continue to enjoy the river and utilize all of its functions.



Growth in Riverside and other areas in the watershed has been a threat to the health of the Santa Ana River. Increased urban runoff and erosion from population growth place a heavy flood control burden on

the River system and pollute the water. Development along the river banks weakens the stability of the banks and destroys riparian communities and wetlands. Residents and visitors lack access to the river and its aesthetic and recreation benefits.

In partial response to these potential threats to river health, the Santa Ana River County Regional Park was established. The Regional Park contains the Hidden Valley Wildlife Area, Martha McLean Narrows Park and Rancho Jurupa Park within and adjacent to Riverside. Planning agencies with jurisdiction along the river have been able to conserve large sections of the riverbank for habitat value, flood control and recreation purposes. The health of the river has improved over the years and Riversiders have increasingly experienced the benefits of a cleaner river channel.

SURFACE HYDROLOGY

Nine principal drainage basins in Riverside feed the Santa Ana River, including University, Box Springs, Central, Monroe, La Sierra, Southwest Riverside, Mockingbird Canyon, Edgemont and Highgrove. All of these basins discharge directly into the Santa Ana River.

RECREATION

In 1955, the Santa Ana River was recommended to the State Parks Commission as a multipurpose recreation area. Since that time, the River corridor has been viewed by many as an important regional recreation and open space resource.

Within the Planning Area, the banks of the Santa Ana River are protected as permanent open space by the County of Riverside Parks and Open Space District as the Santa Ana River Regional Park.

West of Riverside Municipal Airport, Martha McLean-Anza Narrows Park is a forty acre recreational area containing picnic facilities and multi-purpose trails. West of Martha McLean Anza Narrows Park is the Hidden Valley Wildlife Area, consisting of thirteen hundred acres of equestrian trails, hiking and wildlife viewing. (See Figure PR-1 (Parks, Open space and Trails Map) in the Park and Recreation Element for the locations of Riverside's park and recreation areas.)

Northeast of the airport, three-hundred-fifty-acre Rancho Jurupa Park contains campsites, equestrian trails and equestrian campgrounds, fishing, hiking/interpretive trails, picnic facilities and a Nature Center with interpretive programs and exhibits. This park's primary function focuses on active recreation, including the use of off-highway recre-

ational vehicles. The remainder of the regional park is the Santa Ana River Wildlife Area, which is managed for habitat conservation.

The Santa Ana River is also the site of the long-awaited Coast-to-Crest trail that will connect the far reaches of the San Bernardino Mountains with the Pacific Ocean. Upon completion, the Santa Ana River Trail will be one of the nation's longest recreation trails, serving millions of people in the fast growing Orange County and Inland Empire region.

HABITAT

Wetlands located in the Santa Ana River corridor link the water and the land and act as natural filters that enhance overall river water quality. Wetlands provide habitat value for a wide variety of plants, invertebrates, fish and larger animals, including many rare, threatened and endangered species.

Through the Hidden Valley Wetlands Enhancement Project (completed in 1995), the City decided to incorporate the downstream wetlands as part of the wastewater treatment plant's nitrogen management program. By improving the reliability of water flow and restoring riparian habitat for native water fowl and fish species, the wetlands saw increased biodiversity. The City operates eighteen underground monitoring wells to keep apprised of wetlands water quality. Treated wastewater is closely monitored and effective barriers are in place to minimize harm to this wetland. This wetland now supports over ninety bird species.

The Santa Ana River also supports important riparian habitat, those plant communities supporting woody vegetation found along rivers, creeks and streams. Riparian habitat can range from a dense thicket of shrubs to a closed canopy of large mature trees covered by vines. This habitat type is of special value for wildlife. Over one hundred thirty-five species of California birds either completely depend upon riparian habitat or use it at some stage of their life history. Another ninety species of mammals, reptiles, invertebrates and amphibians depend on riparian habitat. The River provides food, nesting habitat, cover and migration corridors, as well as riverbank protection, erosion control and improved water quality.

SANTA RIVER TASK FORCE

See the Introduction under "Santa Ana River Task Force Plan" and the Land Use and Urban Design Element under "Citywide Objectives: Protecting Riverside's Natural Environment – Santa Ana River" for more information on this topic.

In particular review Objectives LU-1 and LU-2.

"The Santa Ana River is a unique asset and source of pride for the City of Riverside, providing a destination for residents and visitors alike. We celebrate the rich heritage and natural beauty of our river, and are committed to restoring and conserving its native habitats. We recognize its recreational and educational values, economic potential, and the opportunities these present for enhancing the quality of life for now and future generations."

Santa Ana River Task Force, A Vision of the 21st Century

Convened in 2003, the Santa Ana River Task Force established this long-ranging and ambitious vision. The vision includes a parkway plan to establish the river as a center of civic and community life. The parkway is to be a source of civic pride and community identity, provide a recreational and educational destination, protect native wildlife, restore sensitive habitats and physically bring the City together through a series of trails and linkages.

The Task Force identified five focus areas of the Santa Ana River in which proposed activities could occur. The focus areas are identified in Figure OS-7 (Santa Ana River Task Force Focus Areas). Each area has unique characteristics that influence the types of activities that could occur there. Following is a description of each area with the various developments proposed by the Task Force.

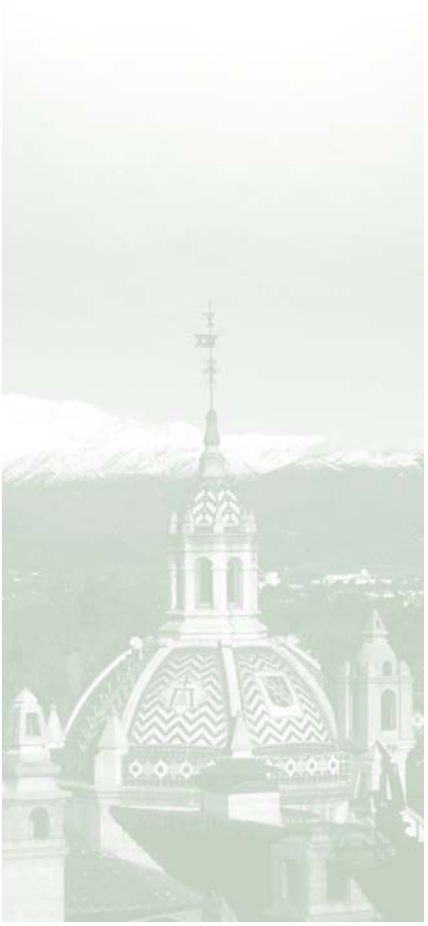
Fairmount Park and Mt. Rubidoux

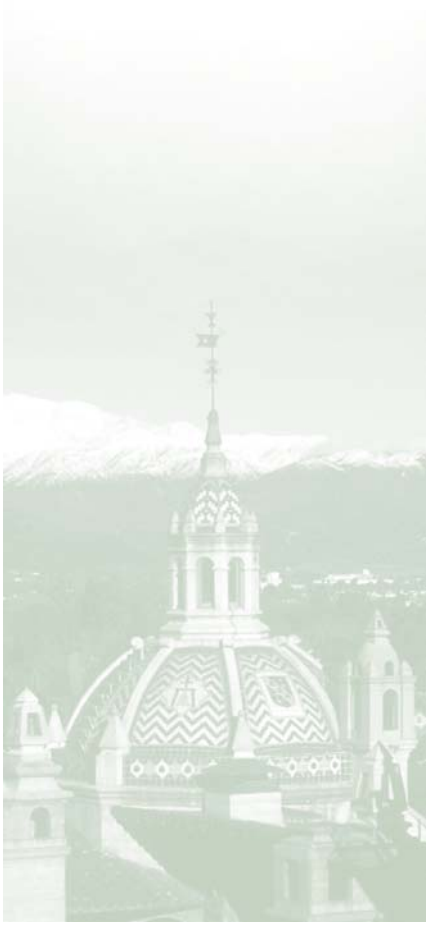
This area encompasses the northeastern section of the river as it first enters the City. Combining Fairmount Park and Mt. Rubidoux was a logical delineation because each has been the site of past development and are currently popular destinations along the river. The Task Force concluded that most of the economic development along the river could be concentrated in this area and that the highest probability of success would come from improving existing features at Fairmount Park and Mt. Rubidoux.

Tequesquite Avenue and Old Landfill

The openness and relatively undeveloped nature of the lands around Tequesquite Avenue and the old landfill make this area ideal for less commerce and more play. The Task Force recommended that this area be developed for more traditional urban park uses such as ballfields. These would be connected to other parts of the parkway via a system of trail linkages.

Figure OS-7 - Santa Ana River Focus Areas





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Martha McClean-Anza Narrows

The Martha McLean-Anza Narrows Regional Park is currently managed by the County of Riverside. The County has received several grants to make improvements along the Santa Ana River Trail. The Task Force recommended that the City partner with the County on realizing portions of its vision where feasible and aligned with County objectives.

Van Buren Bridge

The Van Buren Bridge area is a popular, albeit unauthorized, weekend destination for families. The Task Force reasoned that legitimizing the recreation that occurs in this area would make it safer and more easily monitored. The group also thought that the probability for success is high in this area because the city would be building on an established recreation destination. Visitation would likely increase, building momentum for the river's parkway concept.

Hidden Valley Wildlife Area

The Hidden Valley Wildlife Area is another existing attraction which could host additional activities. The Task Force suggested cooperating with the County and Sate Department of Fish and Game (agencies which currently manage the property) to bring additional activities to the site.

The continued protection of the Santa Ana River corridor and its drainages will be carried out through the following objective and policies.

Objective OS-7: Turn the Santa Ana River Task Force "Vision" into reality.

Policy OS-7.1: Focus river improvements on the following areas: Fairmount Park and Mt. Rubidoux, Tequesquite Avenue and the Old Landfill, Martha McLean Park, Van Buren Bridge and the Hidden Valley Wildlife Area.

Policy OS-7.2: Give initial priority to the Fairmount Park wetlands enhancement project and the completion of the Santa Ana River Trail.

Policy OS-7.3: Preserve and expand open space along the Santa Ana River to protect water quality, riparian habit and recreational uses.

See the Introduction under "Santa Ana River Task Force Plan" and the Land Use and Urban Design Element under "Citywide Objectives: Protecting Riverside's Natural Environment – Santa Ana River" for more information on this topic.

In particular review Objectives LU-1 and LU-2.

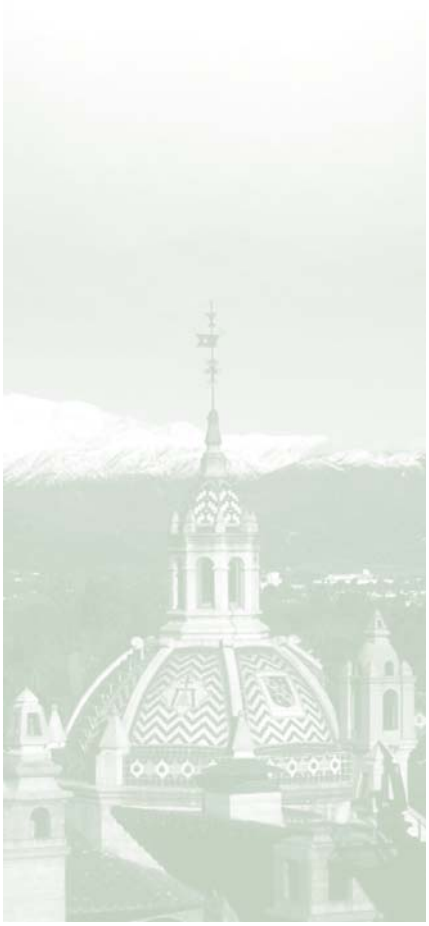
Policy OS-7.4: Interconnect the Santa Ana River Trail with other parks, cultural and community centers throughout the City through trails and linkages to encourage more pedestrian and bicycle usage and reduce automobile traffic.

Policy OS-7.5: Improve the perception of public safety at authorized recreation locations along the river.

Policy OS-7.6: Partner with other jurisdictions, including the Regional Water Quality Control Board and the US Army Corps of Engineers, to minimize the impact of new development on the river and bring about some of the enhancements envisioned by the Santa Ana River Task Force.

Policy OS-7.7: Explore implementation of the Santa Ana River Task Force's ideas for the five focus areas, such as:

1) Work with private interests to develop a restaurant or coffee bar in Fairmount Park near the river with views of the open water impoundment.
2) Establish trail linkages between Mt. Rubidoux and Fairmount Park and generally improve trails in and around the area.
3) Explore the development of water treatment wetlands that can be used for bird watching and improving water quality inputs adjacent to the river course.
4) Recapture the former glory of Fairmount Park as a recreational area. Provide picnic areas, bathrooms and other attractions such as pony rides and carousels.
5) Improve linkages to other parts of the City via an improved walking/biking trail along Market Street and/or Mission Inn Avenue. Improve signage to direct visitors from other parks and other parts of the City to the parkway.

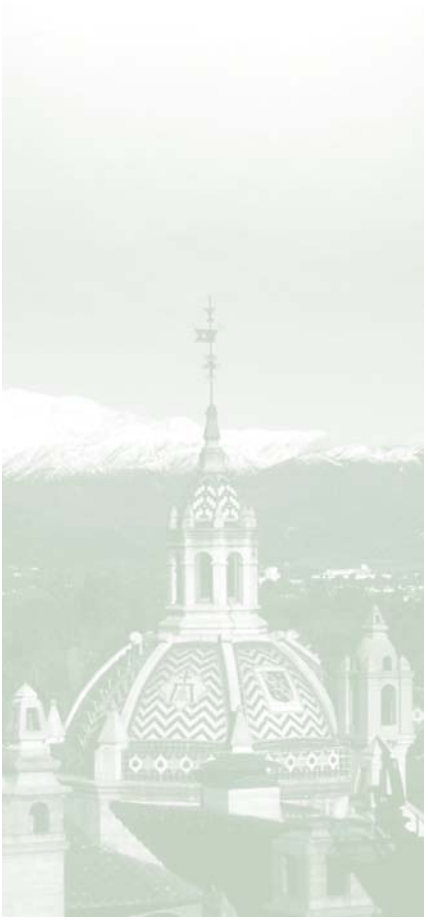


ENERGY AND WATER FOR OUR FUTURE

Adequate and affordable energy is essential to Riverside's economic growth and overall quality of life. Energy powers transportation, machinery and appliances and provides lighting, heating and cooling. Creating energy through some industrial processes, such as the burning of fossil fuels, has associated consequences, such as air pollution, water contamination and the creation of hazardous materials. Minimizing the use of energy and generating electricity from renewable resources will ensure plentiful future supply and reduce the negative impacts on the environment.

Water resources sustain life in both the urban and natural environments. Water is essential for domestic use and the irrigation of the food we eat. In the natural environment, water resources promote healthy ecosystems, provide wildlife habitat, sustain riparian plant communities, recharge groundwater basins and create scenic corridors. However, adequate water supply and good water quality are often taken for granted, even in the desert-like environment of Riverside. Water conservation policies and programs help to ensure that a healthful, reliable supply of water will be available for future residents.

Water and energy are two resources that Riverside's growing population will continue to demand in increasing quantities. Keeping up with this growth will become more difficult as traditional supplies are used faster than the environment is capable of creating new resources. To ensure adequate supplies and maintain the health of Riverside's natural environment, this section of the Open Space and Conservation Element focuses on conserving these essential resources, preserving the reliability and quality of supplies and exploring alternative sources of energy and water.



ENERGY RESOURCES

Electrical service in most of Riverside is provided by the City of Riverside Public Utilities Department. Southern California Edison (SCE) serves electrical customers outside of the City limits, and to a few isolated areas within Riverside. Natural gas is provided within the entire Planning Area by the Southern California Gas Company. The majority of the power supplied comes from non-renewable sources such as coal and natural gas, and from nuclear power.

Reducing energy usage represents the most environmentally sound and cost-effective way to limit the negative consequences of consuming non-renewable energy resources and to protect the reliability of the electric power grid. Economic and financial incentives are used to promote reduce consumption. Rebates are available for the use of specific energy-efficient appliances and those who use power at off-peak times are rewarded with a lower rate structure. Simple procedures such as switching to energy-efficient light bulbs, running appliances at night and using shade trees and other weatherization techniques can successfully lead to lower energy consumption.

The City's Public Utilities Department has pioneered conservation programs and received recognition for its efforts.

RENEWABLE ENERGY

Electric utilities are increasingly looking for renewable resources to increase supplies and ensure stability of the power supply. Green power is environmentally friendly electricity that is generated from renewable resources such as wind, sun and water. Power produced by these types of generation sources is cleaner than today's coal, natural gas and nuclear power generation facilities. These resources are more difficult to harness but produce no air pollutant emissions or hazardous waste by-products.

Green power is environmentally friendly electricity that is generated from renewable resources such as wind, sun and water.

This carport is covered in solar panels, providing shade while producing clean energy.

Riverside Public Utilities realizes the important role that renewable energy technologies will play in the City's future. The Department seeks to add more "Green Power" to its power portfolio, using photovoltaics, wind power, methane gas from local landfills and geothermal sources. As of 2003, Riverside Public Utilities provided twenty-six megawatts of energy from renewable resources, or enough electricity to provide basic energy needs for at least twenty-five thousand homes. The City installed special carport solar panels over the spaces at the Utilities Operations Center at Adams Street and Lincoln Avenue and the La Sierra Metrolink Station. A third site is a collection of apartment rooftop solar panels that help residents on Indiana Avenue save money every month on their electric bills. The utilities also offer incentives and rebates for individual customers to generate their own electricity from renewable sources. Between individual efforts and utility programs, it is possible to use less-polluting and more reliable energy resources.

Efficient use of existing energy supplies through conservation and energy demand management are necessary to ensure that adequate power is available to all residents, businesses and institutions. Relying

on renewable sources will ensure the stability of our supply and protect the health of our environment.

Objective OS-8: Encourage the efficient use of energy resources by residential and commercial users.

Policy OS-8.1: Support the development and use of non-polluting, renewable energy sources.

Policy OS-8.2: Encourage incorporation of energy conservation features in the design of all new construction and substantial rehabilitation projects and encourage the installation of conservation devices in existing developments.

Policy OS-8.3: Encourage private energy conservation programs that minimize high energy demand and that use alternative energy sources.

Rooftop solar panels provide clean electricity to homeowners.

Policy OS-8.4: Incorporate solar considerations into development regulations that allow existing and proposed buildings to use solar facilities.

Policy OS-8.5: Develop landscaping guidelines that support the use of vegetation for shading and wind reduction and otherwise help reduce energy consumption in new development.

Policy OS-8.6: Require all new development to incorporate energy-efficient lighting, heating and cooling systems pursuant to the Uniform Building Code.

Policy OS-8.7: Encourage mixed use development as a means of reducing the need for auto travel.

Policy OS-8.8: Encourage the use of clean burning fuels and solar energy for space and water heating purposes.

Policy OS-8.9: Encourage construction and subdivision design that allows the use of solar energy systems.

Policy OS-8.10: Support the use of public transportation, bicycling and other alternative transportation modes in order

See the Land Use and Urban Design Element under "The Built Environment – Growing Smarter," the Circulation and community Mobility Element under "Alternative Modes of Transportation – Walking and Biking" and the Air Quality Element under "Doing Our Part to Improve Air Quality – Riverside Infill Development Incentive" and "Land Use Strategies – Business Near Transit" for more information this topic,

In particular review Policies LU-8.2, LU-8.4, AQ-1.5, AQ-1.6, AQ-1.7 and AQ-1.18 and Objective CCM-10.

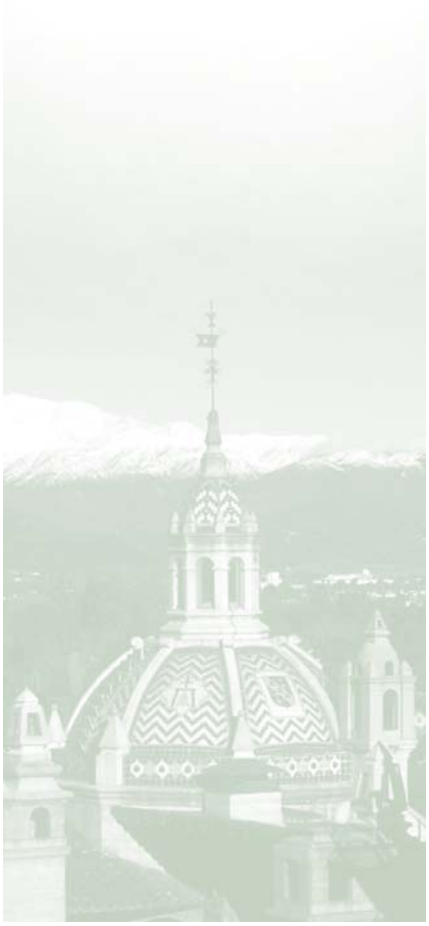
to reduce the consumption of non-renewable energy supplies.

Policy OS-8.11: Support public education programs for City residents and businesses to provide information on energy conservation and on alternatives to non-renewable energy sources.

Objective OS-9: Encourage the efficient use of energy resources by the City of Riverside.

Policy OS-9.1: Encourage the most energy-efficient design for local government facilities and equipment consistent with reasonable rate of return and the recognition of the environmental benefits from energy conservation.

Policy OS-9.2: Evaluate and implement measures to improve energy efficiency in City operations, including efficient load management systems in City buildings and regular energy audits of City facilities and operations.



WATER RESOURCES

Water sustains life in both the urban and natural environments. Water is essential for domestic use and irrigation. In the natural environment, water resources promote healthy ecosystems, provide wildlife habitat, sustain riparian plant communities, recharge groundwater basins and create scenic corridors. However, adequate water supply and good water quality are often taken for granted. Water conservation policies and programs ensure that a healthful, reliable supply of water remains available for future residents and prevents deterioration of natural areas.

The City of Riverside Public Utilities Department provides potable water service to the majority of users within the Planning Area. Approximately nine square miles within southeast Riverside are served by the Western Municipal Water District (WMWD), with a few customers receiving supplies from the Eastern Municipal Water District (EMWD). These utilities draw water resources from groundwater wells tapped into the Arlington and Riverside Basins located directly beneath the City.

Riverside is located in the two-thousand-square-mile watershed drained by the Santa Ana River. Lake Mathews, the arroyos and other

intermittent stream courses located throughout the Planning Area make up Riverside's surface water resources.

WATER CONSERVATION

Water is a finite resource. To ensure adequate water supplies to meet both current and future demands, the City manages water supplies and cooperates with regional agencies to avoid extracting more water from the groundwater basin than percolates back into it. The City, WMWD and EMWD all offer rebate programs on specific devices to encourage water conservation. The water utilities also provide water conservation tips in their promotional information and bills to customers. Simple procedures such as fixing leaks, using water-saving appliances and planting water-efficient landscaping can successfully reduce water usage.

Reclaimed and treated effluent from local wastewater treatment plants represents a potential source of water for nonpotable use. While the City does provide reclaimed water on a limited basis for landscape irrigation, historically the costs of constructing parallel lines to service new users and providing the resource have been higher than the costs of producing local groundwater. However, the City is committed to pursuing reclaimed water programs consistent with sound economic practices.

WATER QUALITY

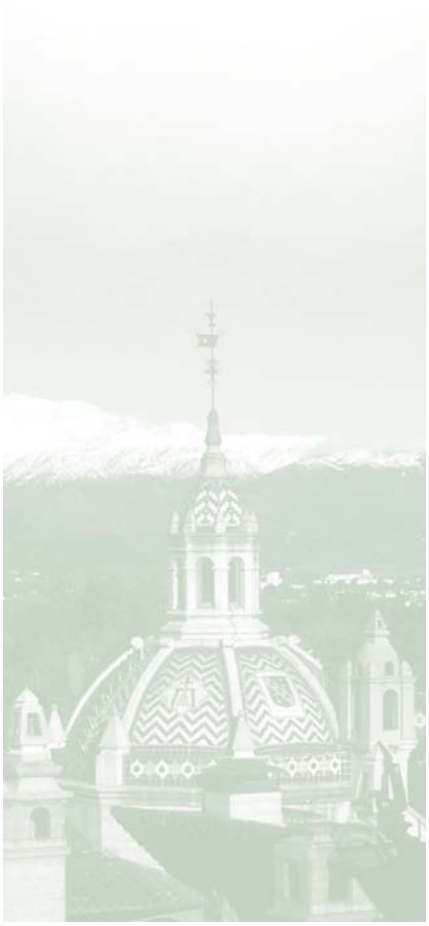
The federal Environmental Protection Agency (EPA) and the California Department of Health Services are the agencies responsible for establishing and enforcing drinking water quality standards. These standards limit the amount of certain contaminants in water provided by public water systems. While most of the local groundwater is of high quality, concentrations of nitrate, the pesticide DBCP and dissolved solids have been identified in some areas. Therefore, the City vigorously tests the quality of its drinking water to meet the standards required by State and federal regulatory agencies.

Groundwater quality and water rights issues are managed by the State Water Resources Control and the California Water Quality Control Board - Santa Ana Region (RWQCB). The RWQCB is authorized to adopt regional water quality control plans, enforce waste discharge requirements for point and non-point sources established by the state or federal Water Pollution Control Act, and to control groundwater quality through groundwater waste discharge requirements and well permitting.

The primary source of water pollution is urban runoff. Stormwater runoff from streets, parking lots, commercial businesses, private yards and agricultural land may contain oil, grease, pesticides and herbicides, heavy metals, paints, household chemicals, construction materials, sediment and eroded soil. These materials ultimately end up in the arroyos, streams and storm drains that lead directly into the Santa Ana River or Lake Mathews, where they have caused substantial water quality degradation. Polluted surface water significantly impacts the plant, wildlife and aquatic species that depend on the arroyos, the Santa Ana River and Lake Mathews for survival.

The City is a co-permittee with the County of Riverside in the National Pollution Discharge Elimination System (NPDES) program, which is designed to reduce pollutants in runoff. According to the NPDES permit, all new development projects and substantial rehabilitation projects are required to incorporate Best Management Practices (BMPs) as identified in the Santa Ana Regional Drainage Area Master Plan (SAR-DAMP).

The Public Facilities Element discusses in detail storm drain capacity and urban runoff.



As Riverside grows, demand for water will increase. The following goals and policies focus on promoting high water quality both in domestic supplies and surface waters that flow into the regional facilities and maximizing water conservation.

Objective OS-10: Preserve the quantity and quality of all water resources throughout Riverside.

Policy OS-10.1: Support the development and promotion of water conservation programs.

Policy OS-10.2: Coordinate plans, regulations and programs with those of other public and private entities which affect the consumption and quality of water resources within Riverside.

Policy OS-10.3: Provide incentives such as structured water rates to encourage residential and businesses customers to use less water.

Policy OS-10.4: Develop a recommended native, low-water-use and drought-tolerant plant species list for use with open space and park development. Include this list in the landscape standards for private development.

Policy OS-10.5: Establish standards for the use of reclaimed water for landscaping.

Policy OS-10.6: Continue to enforce RWQCB regulations regarding urban runoff.

Policy OS-10.7: Work with the RWQCB in the establishment and enforcement of urban runoff water quality standards.

Policy OS-10.8: Cooperate with Riverside and San Bernardino Counties and adjacent jurisdictions in the review and approval of new developments which affect the quality and quantity of basin-wide groundwater and surface water resources.

Policy OS-10.9: Evaluate development projects for compliance with NPDES requirements, and require new development to landscape a percentage of the site to filter pollutant loads in stormwater runoff and provide groundwater percolation zones.

Policy OS-10.10: Protect aquifer recharge features and areas of important aquifers from degradation of water quality and reduction of recharge.

Policy OS-10.11: Monitor the quality and quantity of groundwater and surface water resources and consider revisions to the General Plan's policies if monitoring identifies significant reductions in water quality.