

OPEN SPACE AND CONSERVATION ELEMENT

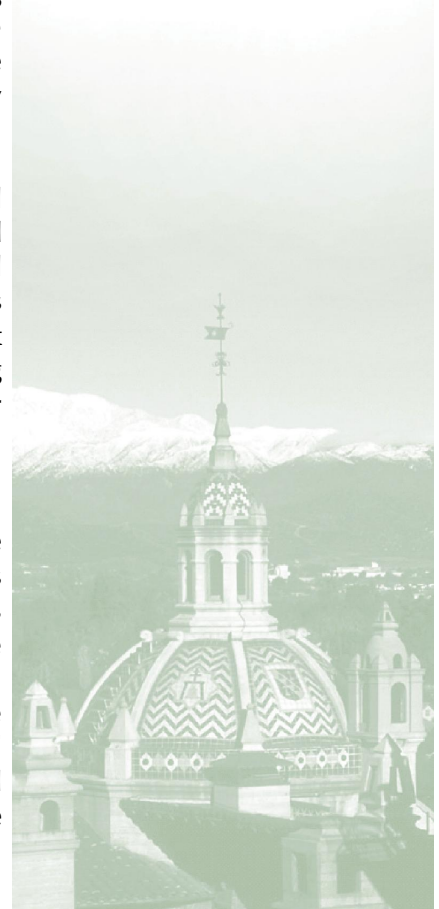


Riverside's abundant land resources and plentiful housing stock make it one of the fastest growing cities in southern California. Rapid growth has provoked some residents and City leaders to seek ways to preserve the City's natural resources. With the passage of Proposition R in 1979 and Measure C in 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 La Sierra/Norco Hills and Box Springs Mountain areas 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.





OPEN SPACE AND CONSERVATION ELEMENT

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 La Sierra/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-3 (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.

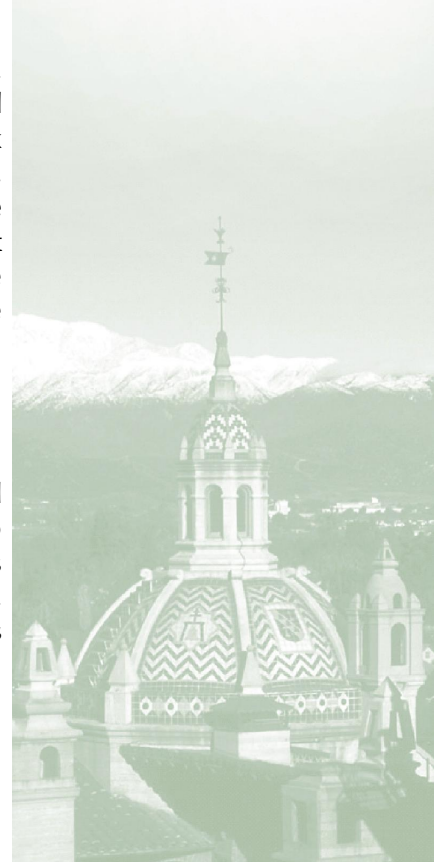
Box Springs Mountain Regional Park and Sycamore Canyon Wilderness Park provide vast areas of open space containing vital biological resources and wildlife habitat areas, including rare local species. They also retain welcome undeveloped islands within the urban environment.



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-3 (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 Parks and Recreation Element.

PARKS 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 Parks 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 Parks and Recreation Element.





OPEN SPACE AND CONSERVATION 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 La Sierra/Norco Hills, Sycamore Canyon Wilderness Park and Box Springs Park. The peaks of Box Springs Mountain, Mt. Rubidoux, Arlington Mountain, Alessandro Heights and the La Sierra/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). As shown in the Riverside County Integrated Plan, areas in the Sphere of Influence and areas located generally within the eastern half of the City are designated MRZ-3; indicating that the area contains known or inferred mineral occurrences of





undetermined mineral resource significance, see Figure OS-1 (Mineral Resources). Scattered areas harbor marginally economic deposits of feldspar, silica, limestone and other rock products.

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.

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

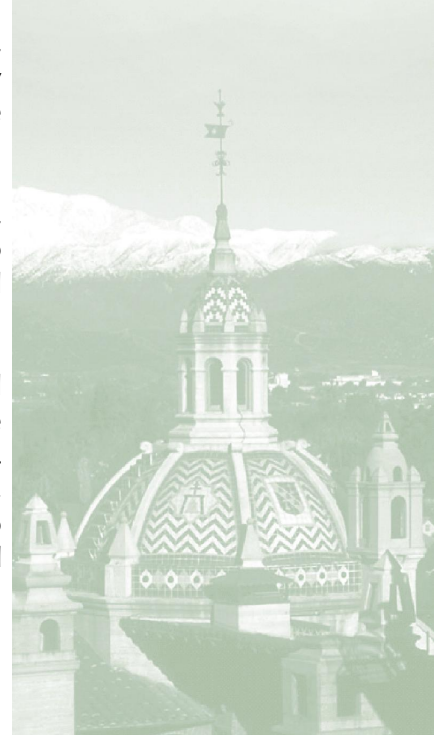
Policy OS-1.2: Establish an open space acquisition program that identifies acquisition area priorities based on capital costs, operation and maintenance costs, accessibility, needs, resource preservation, ability to complete or enhance the existing open space linkage system and unique environmental features.

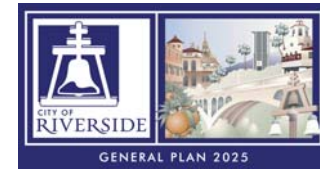
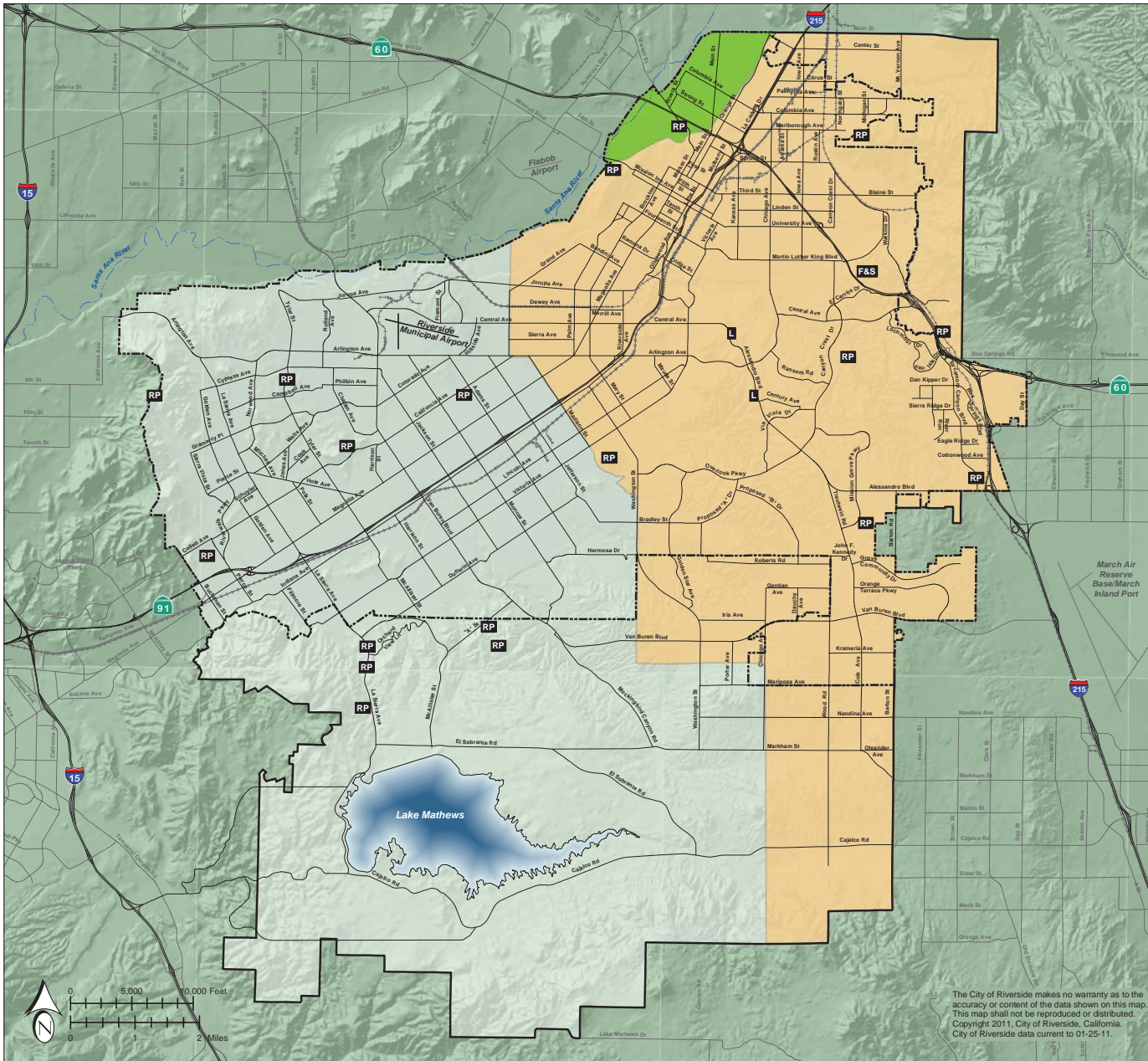
Policy OS-1.3: Work with Riverside County and adjacent cities, landowners and conservation organizations to preserve, protect and enhance open space and natural resources.

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.

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

In particular review Policy AQ-1.9.

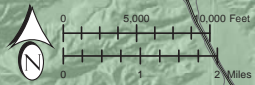




LEGEND

- MRZ-2
- MRZ-3
- F&S** FELDSPAR AND SILICA
- L** LIMESTONE
- RP** ROCK PRODUCTS
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY GIS DATA



The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2011, City of Riverside, California. City of Riverside data current to 01-25-11.

Figure OS-1
MINERAL RESOURCES

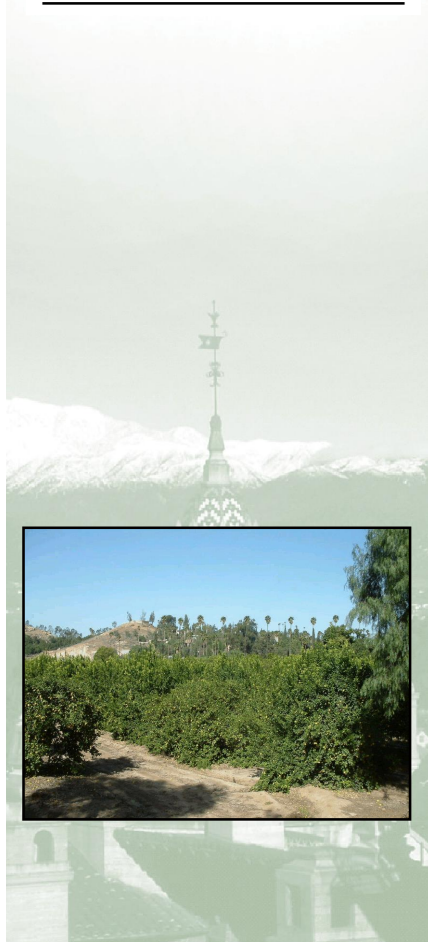
OPEN SPACE AND CONSERVATION ELEMENT



- 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 through convenient street and/or pedestrian connections, as well as through visual connections.
- 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 the City's 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.

See the Land Use and Urban Design Element under "Hillsides," "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-3, LU-87, LU-88 and AQ-7.





OPEN SPACE AND CONSERVATION ELEMENT

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.

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.

For more policies concerning Proposition R and Measure C review the Land Use and Urban Design and Open Space Elements.

In particular, review Policies LU-4.1, LU-4.4, LU-6.1, LU-6.3, LU-54.1, LU-54.3, LU-59.1, LU-63.5, LU-64.1, & OS-4.1.

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

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.

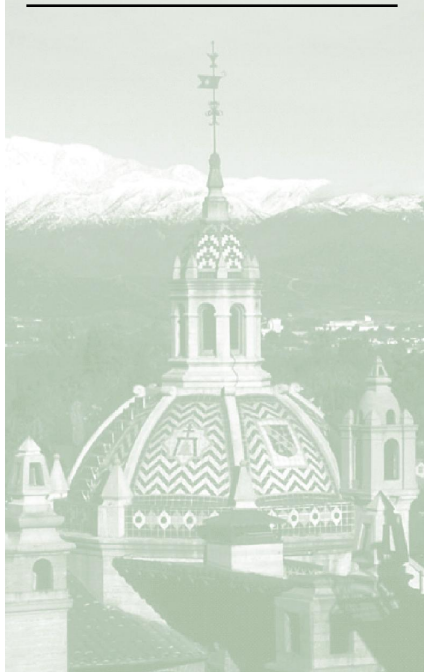
Policy OS-2.3: Control the grading of land, pursuant to the City’s Grading Code, to minimize the potential for erosion, landsliding and other forms of land failure, as well as to limit the potential negative aesthetic impact of excessive modification of natural landforms.

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

Policy OS-2.5: Review the feasibility of creating a “night-time sky” ordinance to reduce light pollution.

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, in the south and central portion of the City. Even in this area, many of the citrus groves are being converted to wholesale nurseries.

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.

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" for more information on agricultural preservation.

In particular, review Objective LU-6.

AGRICULTURE AND CITRICULTURE

Agricultural lands are categorized by State and Federal agencies in the following four categories:

Prime Farmland

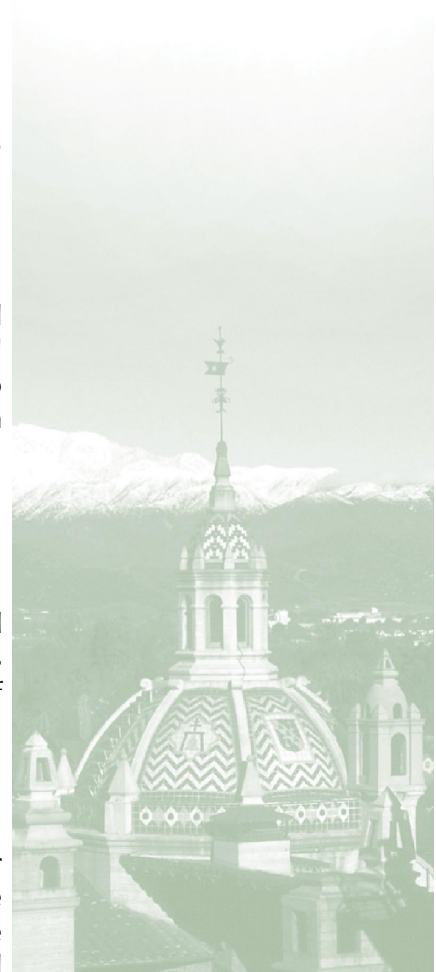
This category includes land with the best combination of physical and chemical characteristics for the production of crops. Prime farmland has the soil quality, growing season and moisture supply needed to produce sustained yields of crops when treated and managed. Such land must have been used for the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





OPEN SPACE AND CONSERVATION ELEMENT

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.

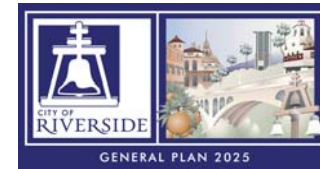
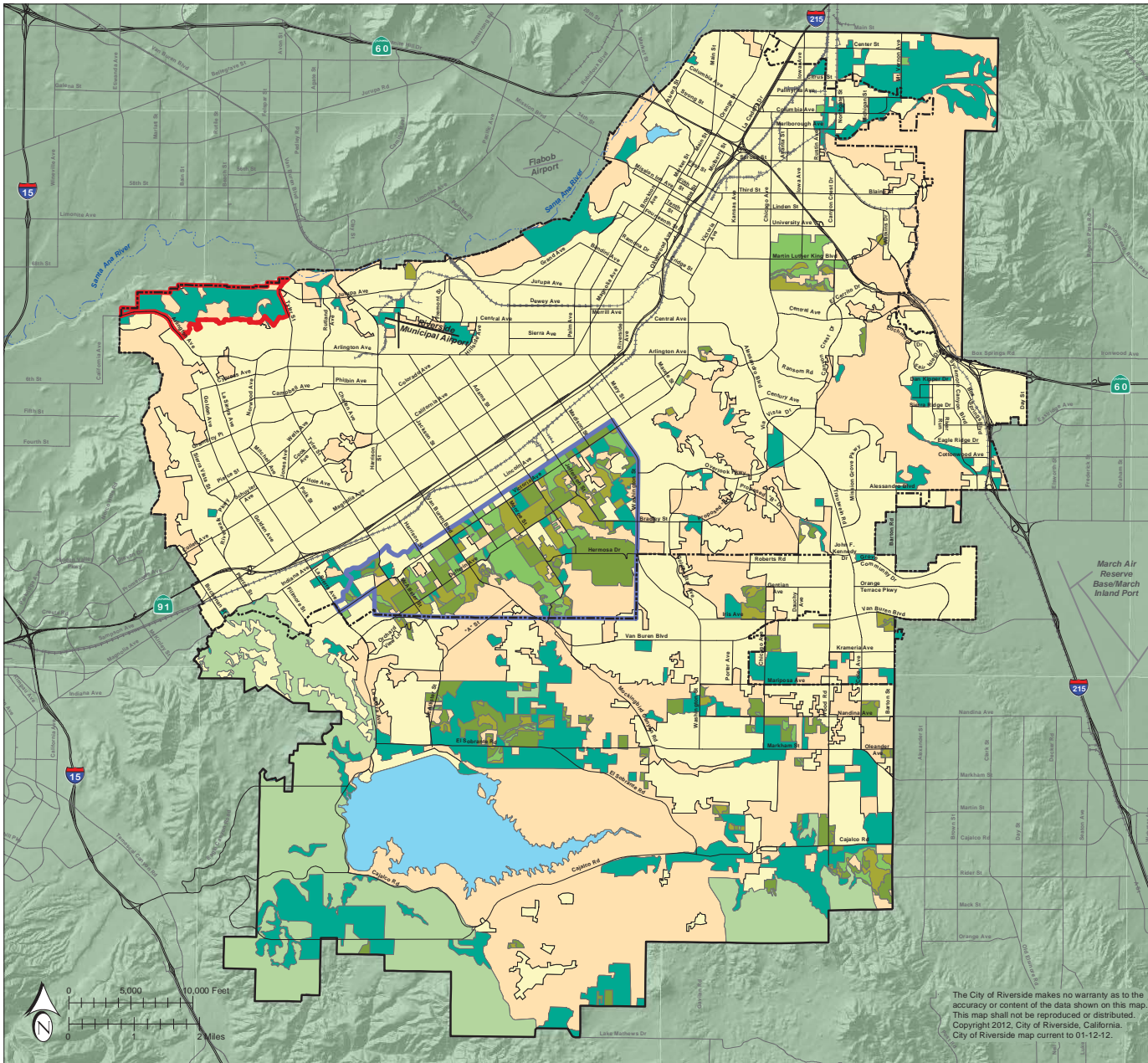
Figure OS-2 (Agricultural Suitability) shows the location of agricultural lands within the City and sphere of influence with these designations.

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.

Williamson Act

The California Land Conservation Act of 1965, also known as the Williamson Act (Government Code Section 51200 et seq.), defines prime agricultural soils as any one of the following soils which have capability groupings of Class I or II: soils which have Storie Index ratings of 80 to 100; land supporting livestock equivalent to a minimum of one animal unit per 0.405 ha (one acre); or land planted with fruit or nut bearing vegetation producing not less than \$81 per ha (\$200 per acre) annually (Government Code Section 51201[C]). The Williamson Act was adopted as an incentive program, encouraging the preservation of the State's agricultural lands. As a means to implement the Act, a land contract is established, whereby a county board of supervisors or city council stabilizes the taxes on qualifying lands in return for an owner's guarantee to keep the land in agricultural preserve status for a 10-year period. Each year, on its anniversary date, the contract is automatically renewed unless a notice of non-renewal is filed.





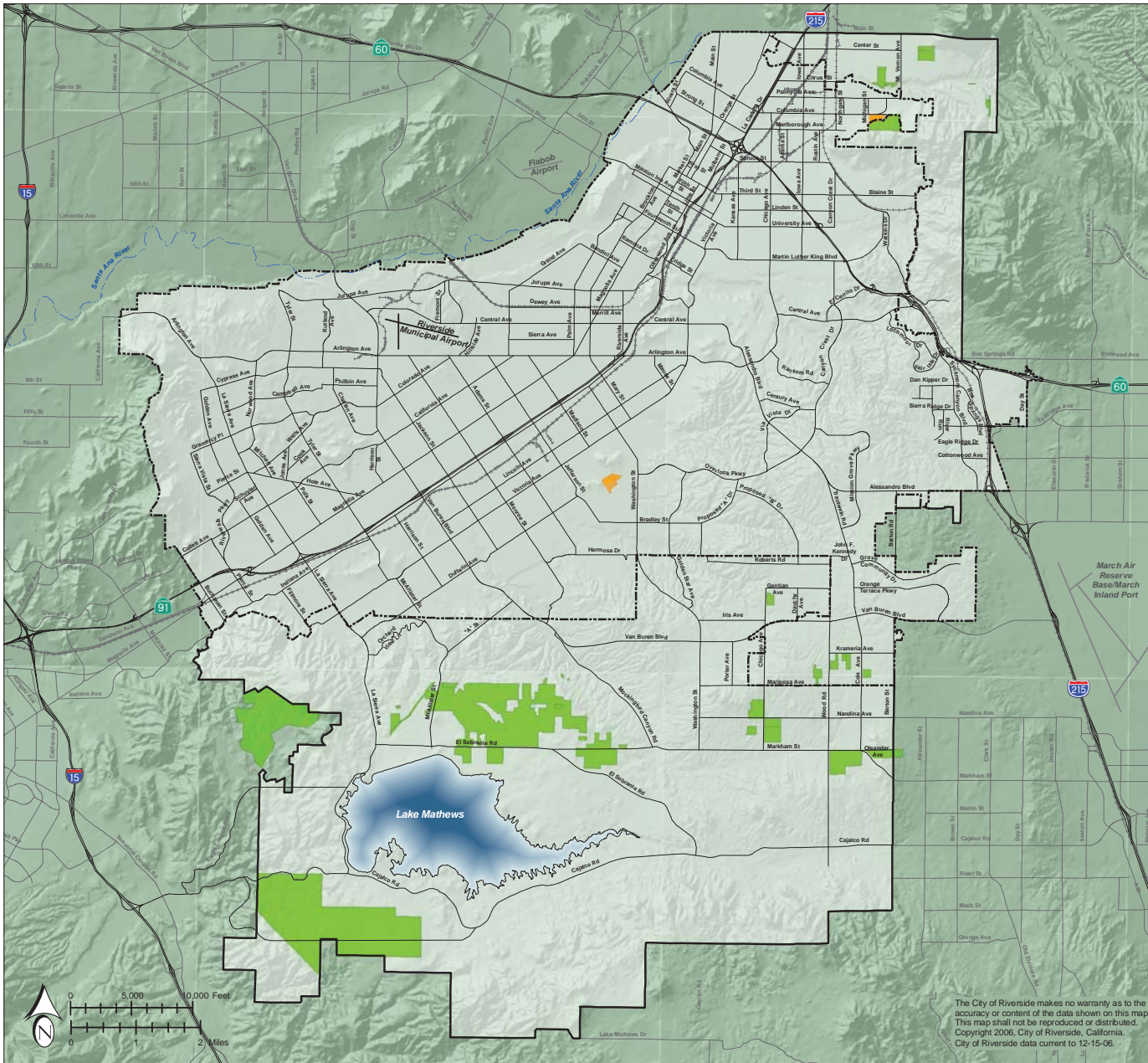
LEGEND

- D URBAN AND BUILT-UP LAND
- G GRAZING LAND
- L FARMLAND OF LOCAL IMPORTANCE
- P PRIME FARMLAND
- S FARMLAND OF STATEWIDE IMPORTANCE
- U UNIQUE FARMLAND
- W WATER
- X OTHER LAND
- ARLANZA-LA SIERRA AGRICULTURAL AREA
- ARLINGTON HEIGHTS GREENBELT
- RIVERSIDE CITY LIMITS
- RIVERSIDE SPHERE OF INFLUENCE

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION, FARMLAND MAPPING AND MONITORING PROGRAM, 2010

Figure OS-2
AGRICULTURAL SUITABILITY

The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2012, City of Riverside, California. City of Riverside map current to 01-12-12.



LEGEND

- WILLIAMSON ACT PRESERVE AND CONTRACTED LAND
- WILLIAMSON ACT PRESERVE
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY GIS DATA, AS UPDATED BY CITY STAFF FEBRUARY 2007

Figure OS-3
WILLIAMSON ACT PRESERVES

The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2006, City of Riverside, California. City of Riverside data current to 12-15-06.



As a general rule, land can be withdrawn from Williamson Act contract only through the nine-year nonrenewal process. Immediate termination via cancellation is reserved for “extraordinary,” unforeseen situations. Nonrenewal is the preferred approach to removing a parcel from a Williamson Act contract.

There are two Williamson Act preserve areas within City limits: one parcel within Hunter Business Park along the City border near the northeast part of the City at the intersection of Columbia Avenue and Michigan Avenue, and four parcels south of SR-91 and west of the intersection of Overlook Parkway and Washington Street (see Figure OS-3 – Williamson Act Preserves for locations of these contracted parcels). The preserve areas within the City are under active contracts that were approved for an initial ten-year term and that are subject to an automatic annual renewal. Riverside County indicates that there are numerous Williamson Act parcels within the Sphere Area (County of Riverside TLMA Geographic Information System, 2006). The active preserve areas within the City’s Sphere of Influence include El Sobrante No. 1, El Sobrante No. 2, El Sobrante No. 3, El Sobrante No. 14, Highgrove No. 1, Woodcrest No. 3, Woodcrest No. 4, Woodcrest No. 5 and Woodcrest No. 7. The status of the lands within County preserve areas include parcels in active agricultural/open space use within the El Sobrante and Highgrove Preserves, parcels that have filed for notices of non-renewal within the Woodcrest Preserves, and parcels that have completed their notice of non-renewal periods, but where a diminishment of the agricultural preserve has not been initiated and/or completed as in the case of the Highgrove and Woodcrest Preserves. Williamson Act preserves in the Sphere Area are shown on Figure OS-3 – Williamson Act Preserves.

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, in the south and central portion of the City; and 2) an area 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.





OPEN SPACE AND CONSERVATION ELEMENT

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:

For more policies concerning Proposition R and Measure C review the Land Use and Urban Design and Open Space Elements.

In particular, review Policies LU-4.1, LU-4.4, LU-6.1, LU-6.3, LU-54.1, LU-54.3, LU-59.1, LU-63.5, LU-64.1, OS-2.1, & OS-4.1.

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 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.

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.

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-3.1: Promote and encourage agriculture as an essential industry and a desirable open space use. The Arlington Heights 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.

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.

OPEN SPACE AND CONSERVATION ELEMENT



- 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, on a case-by-case basis.
- 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 where feasible.
- 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.
- Policy OS-3.12: Continue to support agricultural production within the City's agricultural areas including current Williamson Act program incentives through an

See the Land Use and Urban Design Element under "Sphere of Influence" for more information on annexation and the sphere of influence.

In particular, review Objective LU-87.



OPEN SPACE AND CONSERVATION ELEMENT

informative application processing packet that is kept up to date and in compliance with State law.

For more policies concerning Proposition R and Measure C review the Land Use and Urban Design and Open Space Elements.

In particular, review Policies LU-4.1, LU-4.4, LU-6.1, LU-6.3, LU-54.1, LU-54.3, LU-59.1, LU-63.5, LU-64.1, & OS-2.1.

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 the potential impacts from urban development will 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.

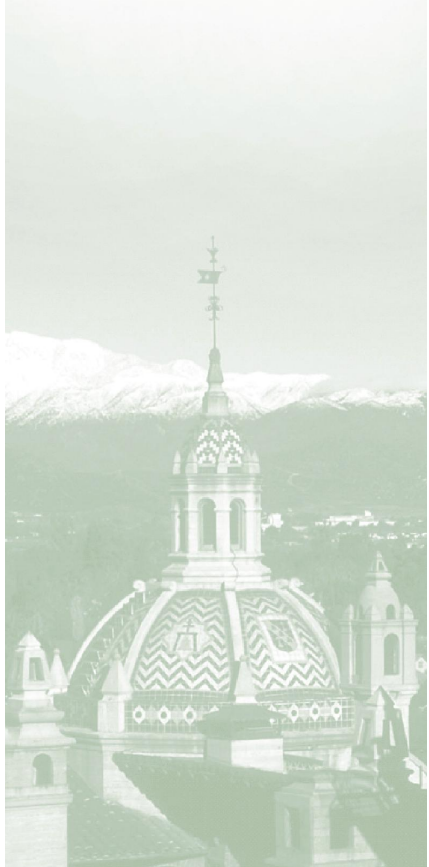


OUR ARROYOS AND BIOLOGICAL RESOURCES

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

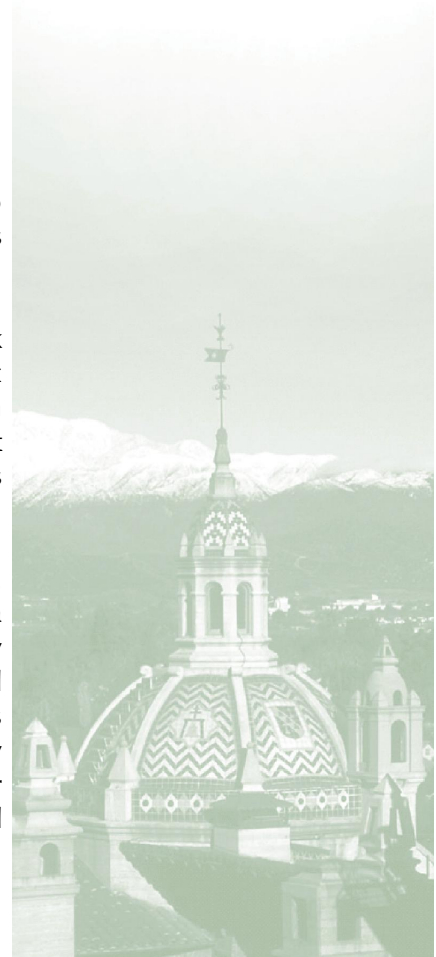
Six arroyos, recognized by the City's Grading Code (Title 17), traverse the City (see Figure OS-4 – Arroyos):

- ❖ Springbrook Wash Arroyo
- ❖ Woodcrest Arroyo
- ❖ Prenda Arroyo
- ❖ Alessandro Arroyo
- ❖ Mockingbird Canyon Arroyo
- ❖ Tequesquite 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.





OPEN SPACE AND CONSERVATION ELEMENT

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.

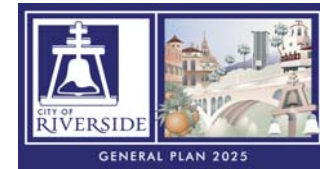
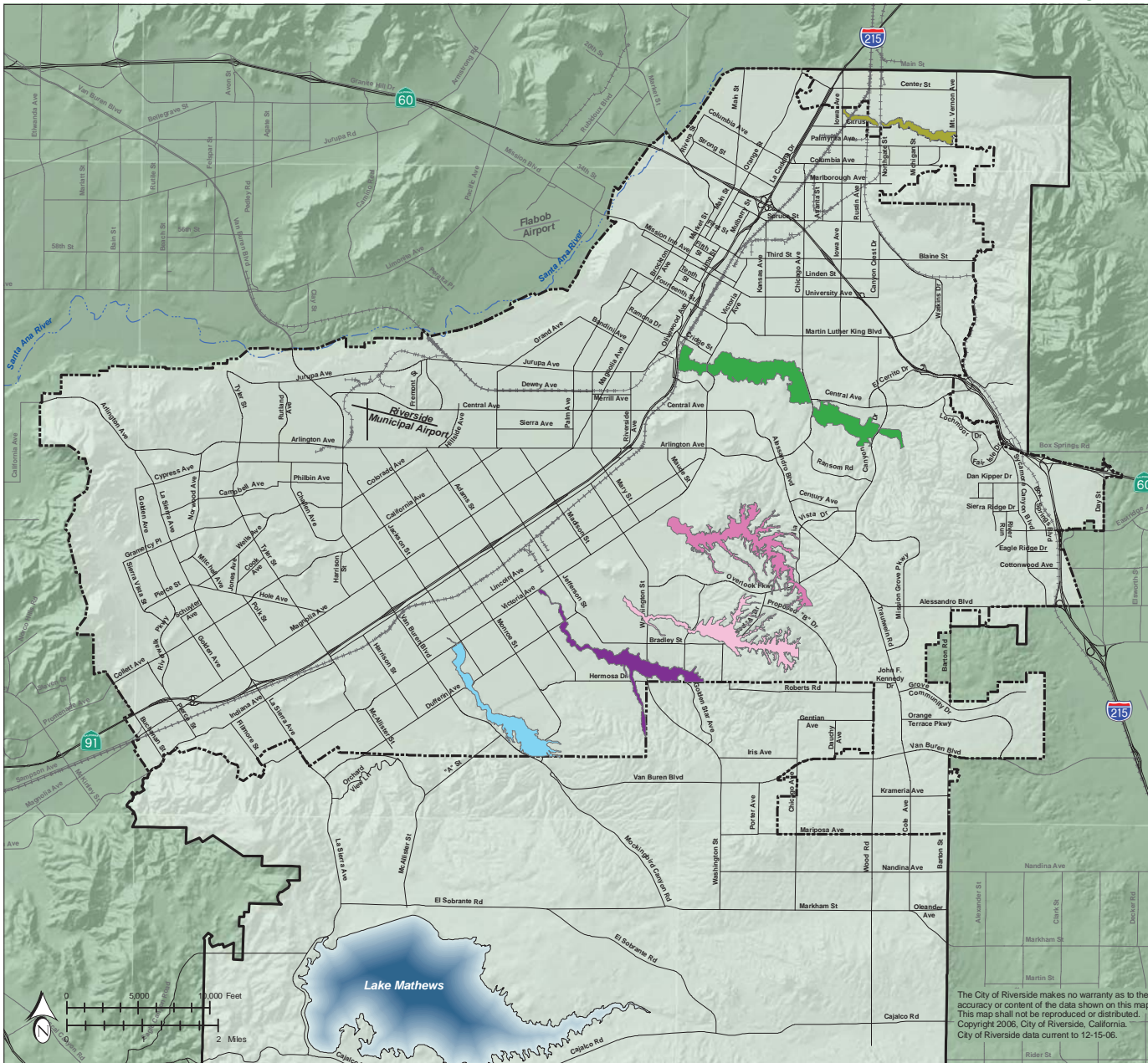
The second is the University Arroyo, also beginning in the Box Springs Mountains. It is partially channelized. The banks contain mainly non-native grasses, although some areas are characterized by rocky outcroppings and riparian vegetation. This Arroyo runs through UCR, under the 60/215 freeway and into 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-5 – 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.



LEGEND

- SPRINGBROOK WASH
- TEQUESQUITE
- ALESSANDRO
- PRENDA
- WOODCREST
- MOCKINGBIRD CANYON

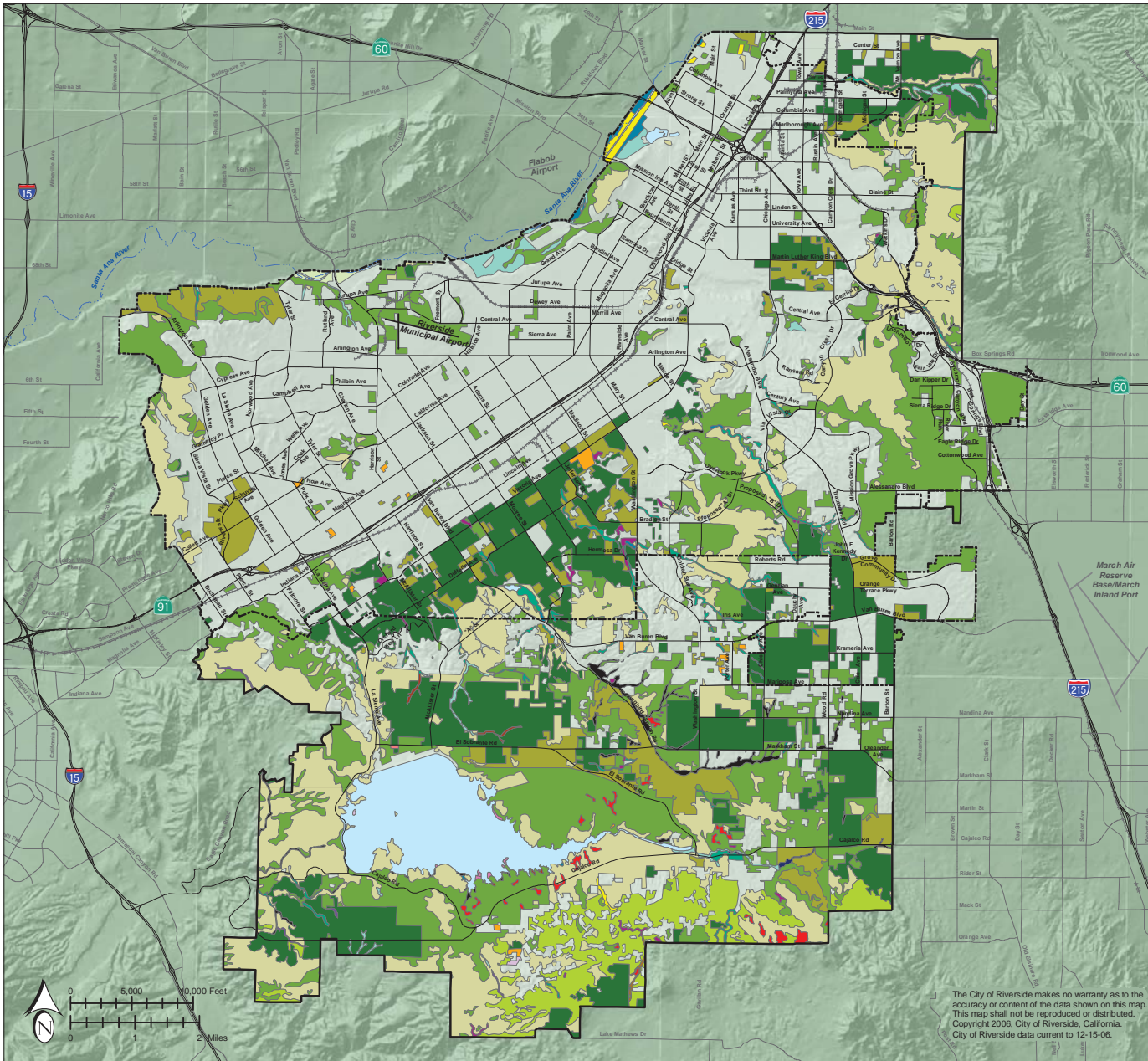
- RIVERSIDE CITY BOUNDARIES
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

NOTE: PORTIONS OF SOME HISTORIC ARROYOS HAVE BEEN CHANNELIZED

SOURCE: CITY OF RIVERSIDE

The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2006, City of Riverside, California. City of Riverside data current to 12-15-06.

Figure OS-4
ARROYOS



LEGEND

- ARUNDO/RIPARIAN FOREST
- CHAPARRAL
- CISMONTANE ALKALI MARSH
- COAST LIVE OAK WOODLAND
- COASTAL SCRUB
- DAIRY LIVESTOCK FEEDYARD
- DENSE ENGELMANN OAK WOODLAND
- DISTURBED ALLUVIAL
- FIELD CROPLANDS
- GROVE/ORCHARD
- MARSH
- MULE FAT SCRUB
- NON-NATIVE GRASSLAND
- OAK WOODLAND
- OPEN WATER/RESERVOIR/POND
- PENINSULAR JUNIPER WOODLAND AND SCRUB
- RESIDENTIAL/URBAN/EXOTIC
- RIPARIAN FOREST
- RIPARIAN SCRUB
- RIVERSIDEAN ALLUVIAL FAN SAGE SCRUB
- RIVERSIDEAN SAGE SCRUB
- SOUTHERN COTTONWOOD/WILLOW RIPARIAN
- SOUTHERN WILLOW SCRUB
- VERNAL POOL
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY GIS DATA

Figure OS-5
**HABITAT AREAS
AND VEGETATION
COMMUNITIES**

The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2006, City of Riverside, California. City of Riverside data current to 12-15-06.



PLANT COMMUNITIES

Plant communities are not always clearly defined with strictly delineated boundaries. They are dependent on or affected by factors such as geographical location, soil types, precipitation rates, angle and direction of slopes, elevations, microclimates and successional considerations. Each of these factors can exist in a broad spectrum of possibilities and in many different combinations. As conditions change from site to site, conditions may become less advantageous for some plants and more advantageous for others. The community character will change until a new community is formed. The area where one community intergrades into another usually results in a mixture of communities called an ecotone that display characteristics of two or more community types.

The term “plant communities” refers strictly to vegetation types or associations, whereas “habitat” refers to both biotic (i.e., vegetation, animals) and abiotic (i.e., soil, temperature) factors.

There are twelve major plant communities within the Planning Area: urban/developed; agriculture; non-native grassland; coastal scrub; open water/reservoir; chaparral; riparian scrub/woodland/forest; woodlands/forest; Riversidean alluvial fan sage scrub; marsh; cismontane alkali marsh; and vernal pools. These communities are shown on Figure OS-5 Habitat Areas and Vegetation Communities.

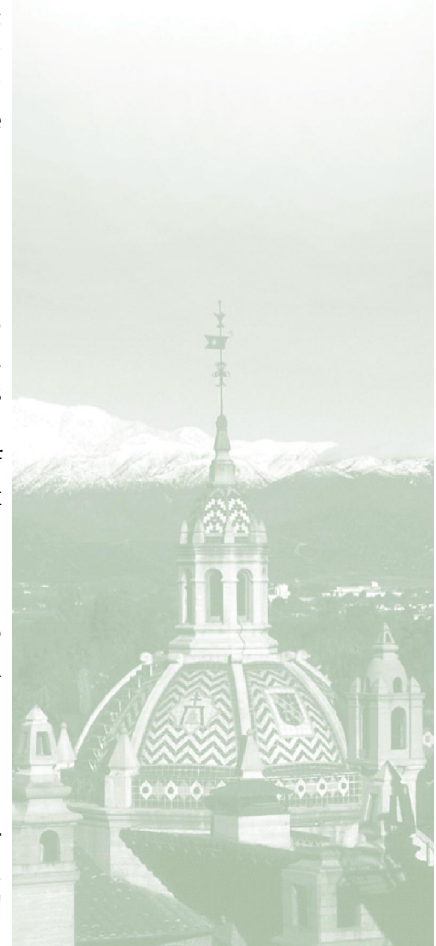
Urban/Developed

Urban or developed land is comprised of areas of intensive use with much of the land covered by structures. Included in this category are cities, transportation facilities, power and communications facilities, residences, shopping centers, industrial and commercial complexes and institutions that may, in some instances, be isolated from urban areas. Agricultural land, wetland, or water areas on the fringe of urban or built-up areas are not included in this category except where they are surrounded and dominated by urban development.

The City of Riverside is predominantly urban/developed with peripheral areas of open space characterized by agriculture (Arlington Heights Greenbelt) and native vegetation (e.g., La Sierra/Norco Hills, Sycamore Canyon Park, and arroyos).

Agriculture

Agricultural land may be defined broadly as land used primarily for production of food and fiber and includes crop fields, orchards, vineyards, and grazing lands. The number of buildings is smaller and the density of the road and highway network much lower in





OPEN SPACE AND CONSERVATION ELEMENT

agricultural land than in urban or developed land. When wetlands are drained for agricultural purposes, they are included in the agriculture category. Agricultural lands that are no longer in use and where wetlands vegetation has reestablished are included in the wetlands category.

The Arlington Heights Greenbelt is still characterized by agricultural uses, primarily in the form of citrus orchards and nursery stock yards. Other citrus orchards are located on properties within the southern Sphere of Influence.

Non-native Grassland

Non-native grasslands are characterized by a dense to sparse cover of annual grasses with flowering culms (stems) 0.2-0.5 meters (.66 feet-1.64 feet) high. They are often associated with numerous species of showy-flowered, native wildflowers, especially in years of favorable rainfall. Flowering occurs with the onset of the late fall rains and growth, flowering, and seed-set occur from winter through spring. With a few exceptions, the plants are dead through the summer-fall dry season, persisting as seeds. Non-native grasslands occur on fine-textured, usually clay soils which are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. Adjacent communities may include Oak Woodland on moister, better drained soils. Non-native grasslands can be found in valleys and foothills throughout most of California, except for the north coastal and desert regions at elevations below 3,000 feet, but reaching 4,000 feet in the Tehachapi Mountains and interior San Diego County.

The majority of flatter terrain in undeveloped portions of the Planning Area is dominated by introduced annual grasses. Non-native grassland is present in large expanses of Sycamore Canyon, Alessandro Hills, Box Springs Mountain and Canyon, the La Sierra/Norco Hills, the La Sierra Lands and the gently rolling slopes of Santa Ana River Regional Park.

Coastal Sage Scrub

Coastal Scrub

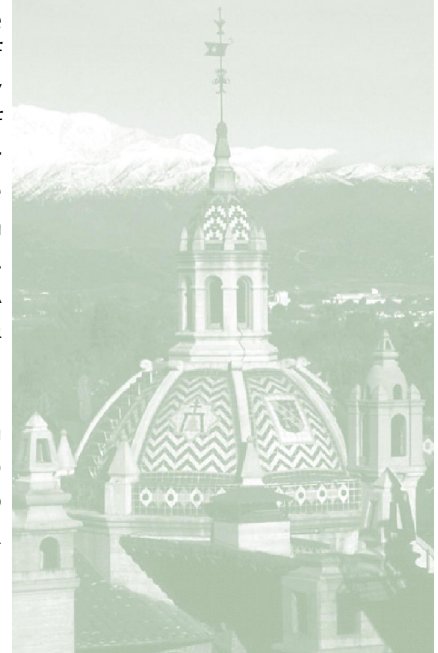
Coastal scrub is distributed throughout the Planning Area and is comprised of many different assemblages of scrub vegetation. Within the Planning Area, coastal scrub and Riversidean sage scrub have been known to occur with the latter being the most commonly found, but this diverse plant community can be subdivided into numerous “alliances” that are named according to which shrub species are the most abundant at a particular site.

OPEN SPACE AND CONSERVATION ELEMENT



As described in the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP), coastal sage scrub is dominated by a characteristic suite of low-statured, aromatic, drought-deciduous shrubs and subshrub species. Composition varies substantially depending on physical circumstances and the successional status of the Vegetation Community; however, characteristic species include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), California encelia (*Encelia californica*), and several species of sage (e.g., *Salvia mellifera*, *S. apiana*) (Holland 1986; Sawyer-Wolf 1995). Other common species include brittlebush (*E. farinosa*), lemonadeberry (*Rhus integrifolia*), sugarbush (*Rhus ovata*), yellow bush penstemon (*Keckiella antirrhinoides*), Mexican elderberry (*Sambucus mexicana*), sweetbush (*Bebbia juncea*), boxthorn (*Lycium* spp.), shore cactus (*Opuntia littoralis*), coastal cholla (*O. proliferata*), tall prickly-pear (*Opuntia oricola*), and several species of *Dudleya*. The California Native Plant Society notes additional species that may be present in scrub communities. These include common herbaceous perennials such as the wishbone plant (*Mirabilis laevis*), wild cucumber (*Mara macrocarpus* var. *macrocarpus*), and climbing milkweed (*Funastrum cynanchoides* ssp. *hartwegii*). The areas between shrubs are rich in annual herbaceous species in the spring during good rainfall years, especially in the first few years after wildfires. Some notable, common annuals include California poppy (*Eschscholzia californica*), baby blue eyes (*Nemophila menziesii*), popcorn flowers (*Cryptantha intermedia*), slender goldfields (*Lasthenia gracilis*), southern goldfields (*Lasthenia coronaria*), and tidy-tips (*Layia platyglossa*). In rocky ravines and places where the soil accumulates moisture, occasional stands of the deep rooted evergreen shrubs such as laurel sumac (*Malosma laurina*), and sugar bush (*Rhus ovata*) may occur. The rocky ravines with ephemeral watercourses often support stands of giant wildrye (*Leymus condensatus*) and Mexican elderberry (*Sambucus mexicana*). The relative abundance and dominance of species varies from place to place such that numerous “series” or “alliances” of coastal sage scrub can be named based on the dominant species. For example, one common alliance in the Plan Area is the *Artemisia californica*-*Eriogonum fasciculatum* alliance. Another is the *Encelia farinosa*-*Eriogonum fasciculatum* alliance. A less common series type is the *Salvia mellifera*-*Artemisia californica* alliance.

Within the Planning Area, coastal scrub is found on steep slopes in the southern hillsides, as well as at Sycamore Canyon, Alessandro Hills, Box Springs Mountain, Arlington Heights, Woodcrest, Rancho El Sobrante, and rocky outcroppings in the La Sierra Lands and the La Sierra/Norco Hills.





OPEN SPACE AND CONSERVATION ELEMENT

Riversidean Sage Scrub

Typical stands of Riversidean sage scrub are fairly open and dominated by California sagebush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*) and red brome (*Bromus rubens*), each attaining at least 20% cover. As shown on Figure OS-5 Habitat Areas and Vegetation Communities, Riversidean sage scrub is scattered throughout the southeastern half of the Planning Area. Large concentrations of Riversidean sage scrub are located along the eastern and western edges of the City and to the southeast of Lake Mathews.

Open Water/Reservoir

Open water/reservoir habitats are called lacustrine habitats and are characterized by inland depressions or dammed riverine channels containing standing water, including both the near-shore (limnetic) and deepwater habitat (littoral). Usually, to meet this criterion, each area must exceed 20 acres (8 hectares) and be deeper than 6.6 feet (2 meters). Lake Mathews, Lake Evans and Mockingbird Canyon Reservoir are classified as open water/reservoir habitats within the Planning Area.

Chaparral

Chaparral is a native plant community that supports a high diversity of plant and animal life. Chaparral is widely distributed on dry slopes and ridges at low and mid-elevations. It typically consists of shrubs with tough, broad leaves, although species composition may vary considerably with many different subtypes. Chamise chaparral, which is the most common chaparral type in San Bernardino and Riverside Counties, is dominated by chamise (*Adenostoma fasciculatum*). Southern mixed chaparral occurs adjacent to Riversidean sage scrub and chamise chaparral, but generally occurs on sites with more moisture. Common chaparral shrubs include toyon (*Heteromeles arbutifolia*), chamise, several California lilac(s) (*Ceanothus megacarpus*, *C. crassifolius*, *C. cuneatus* and *C. spinosus*), birch-leaved mountain mahogany (*Cercocarpus betuloides*), manzanita (*Arctostaphylos* spp.) and scrub oak (*Quercus berberidifolia*). Chaparral communities are found southwest of Lake Mathews.

Riparian Scrub, Woodland and Forest

Riparian vegetation, including scrub woodland, and forest subtypes, is distributed in waterways and drainages throughout the Planning Area. This community includes the sub-categories of arundo/riparian forest, riparian scrub, riparian forest, Southern cottonwood/willow riparian and Southern willow scrub.





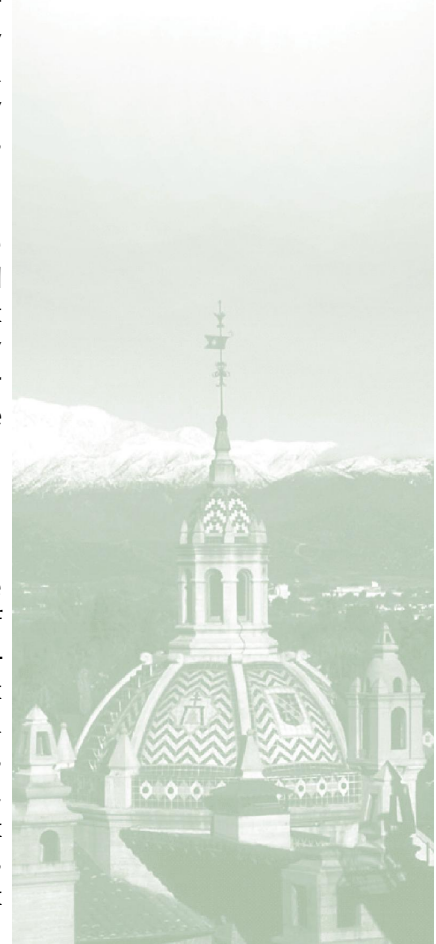
As described in the MSHCP, riparian communities typically consist of one or more deciduous tree species with an assorted understory of shrubs and herbs (Holland and Keil 1995). Depending on community type, a riparian community may be dominated by any of several trees/shrubs, including box elder (*Acer negundo*), big-leaf maple (*A. macrophyllum*), coast live oak (*Q. agrifolia*), white alder (*Alnus rhombifolia*), sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*), California walnut (*Juglans californica*), Mexican elderberry (*Sambucus mexicana*), wild grape (*Vitis girdiana*) giant reed (*Arundo donax*), mulefat (*Baccharis salicifolia*), tamarisk (*Tamarix* spp.), or any of several species of willow (*Salix* spp.). In addition, various understory herbs may be present, such as salt grass (*Distichlis spicata*), wild cucumber (*Marah macrocarpus*), mugwort (*Artemisia douglasiana*), stinging nettle (*Urtica dioica*), and poison oak (*Toxicodendron diversilobum*).

Riparian woodlands are dependent on the presence of or proximity to non-seasonal water sources. The water may be surface water or shallow ground water. Riparian woodlands may measure a few meters in width to much broader depending on water flow. Where non-seasonal streams flow out of the mountains and onto flatter grasslands, the riparian woodland community may be a relatively broad one, but in the higher elevations where water flows down a narrow passageway often confined by steep hillsides, this community may be very narrow. Riparian woodland may also occupy areas surrounding man-made lakes and reservoirs.

The presence of perennial water in the Santa Ana River, Tequesquite Arroyo, Sycamore Canyon, and Box Springs Canyon has supported the development of riparian woodland plant communities at scattered locations. The MSHCP notes Southern cottonwood/willow forest vegetation community occurs along the Santa Ana River drainage near Lake Evans to beyond the Prado Basin outside the Planning Area.

Arundo/Riparian Forest

Arundo/Riparian forests are characterized by dense impenetrable stands of riparian vegetation dominated or exclusively composed of giant reed (*Arundo donax*). The California Invasive Plant Council (Cal-ICP) includes giant reed on its "Exotic Pest Plants of Greatest Ecological Concern in California" list. Giant reed is documented as a widespread, aggressive, invader that displaces native plant species and disrupts natural habitats. Giant reed is suited to tropical, subtropical and warm temperate climates of the world. Although it tolerates some salt and can grow on sand dunes, giant reed grows best along river banks and in other wet places. Giant reed is best





OPEN SPACE AND CONSERVATION ELEMENT

developed in poor sandy soil but is tolerant of all types of soils, from heavy clays to loose sands and gravelly soils.

Arrundo/Riparian forests are known to occur along the Santa Ana River near Van Buren Boulevard at the City's northern boundary. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

Mulefat Scrub

Mulefat scrub is characterized by tall, herbaceous riparian scrub strongly dominated by Mulefat (*Baccharis salicifolia*). 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.

Riparian Scrub

Riparian scrub is characterized as a scrubby streamside thicket, dominated by any of several willows. Vegetation may vary from open to impenetrable. This community typically occurs on relatively fine-grained sand and gravel bars that are close to river channels and/or ground water. Coarser substrate soils or areas where there is relatively great depth to the water table favors dominance by mulefat (*Baccharis salicifolia*). This early successional community may precede any of several riparian woodland or forest types absent severe flooding disturbance.

Riparian scrub is located throughout the Planning Area along streams and drainages. The largest riparian scrub communities are located northeast of Mockingbird Canyon Road and south of Markham Street. Other larger communities occur along the shores of Lake Mathews, and near Nandina Avenue between Wood Road and Cole Avenue.





Southern Willow Scrub

Southern willow scrub is distinguished by dense, broadleaved, winter-deciduous riparian thickets dominated by several willow species including black willow (*Salix gooddingii*), sandbar willow (*S. hindsiana*), red willow (*S. laevigata*), pacific willow (*S. lasiandra*) and arroyo willow (*S. lasiolepis*), with scattered Fremont cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*). 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 to small reservoir, approximately 1.5 air miles southwest of Mockingbird Reservoir. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

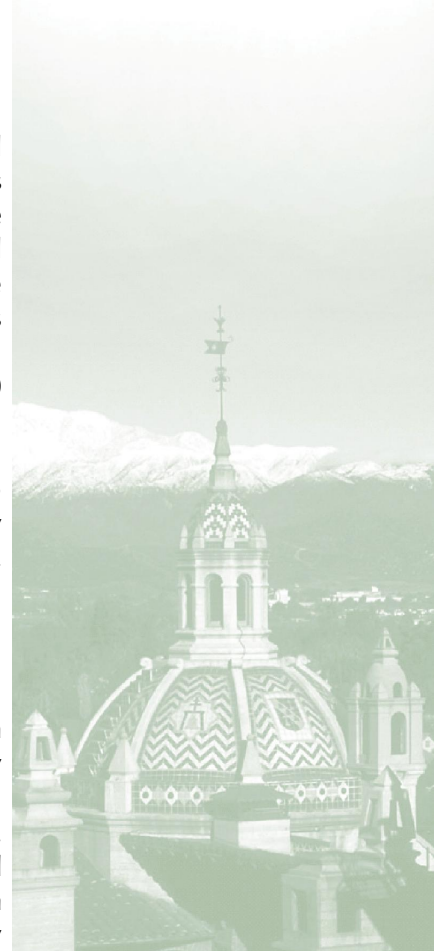
Southern Riparian Forest

Southern riparian forest communities are characterized by wetland species dominated by willows (*Salix* spp.), cottonwoods (*Populus* spp.), big leaf maple (*Acer macrophyllum*) and/or western sycamore (*Platanus racemosa*). 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 2,400 meters.

Southern riparian forests occur along an unnamed tributary to Cajalco Canyon, east of Cajalco Tin Mine and south of Eagle Valley near Lake Mathews. This community may also be found along lakes, rivers, and other drainages throughout the Planning Area.

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





OPEN SPACE AND CONSERVATION ELEMENT

south of Pt. Conception. Characteristic plant species include big-leaf maple (*Acer macrophyllum*), California mugwort (*Artemisia douglasiana*), California toothwort (*Cardamine californica*), eucrypta (*Eucrypta chrysanthemifolia*), toyon (*Heteromeles arbutifolia*), bush penstemon (*Keckiella cordifolia*), California honeysuckle (*Lonicera hispidula*), wild cucumber (*Marah macrocarpus*), fiesta flower (*Pholistoma auritum*), skunkbrush (*Rhus trilobata*), California wild rose (*Rosa californica*), California blackberry (*Rubus ursinus*), Mexican elderberry (*Sambucus mexicana*), creeping snowberry (*Symphoricarpos mollis*), poison oak (*Toxicodendron diversilobum*), and bay laurel (*Umbellularia californica*).

Southern coast live oak riparian forests occur along Gavilan Road in vicinity of Harford Spring, east of Lake Mathews. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forests are tall, open, broadleaved winter-deciduous riparian forests dominated by Fremont cottonwood (*Populus fremontii*), black cottonwood (*Populus trichocarpa*) 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. Other typical plant species include California mugwort (*Artemisia douglasiana*), mulefat (*Baccharis salicifolia*), wild cucumber (*Marah macrocarpus*), western sycamore (*Platanus racemosa*), Goodding's black willow (*Salix gooddingii*), sandbar willow (*S. hindsiana*), pacific willow (*S. lasiandra*), arroyo willow (*S. lasiolepis*) and stinging nettle (*Urtica holosericea*).

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, within the Planning Area. This community may also be found along lakes and drainages throughout the Planning Area.

Southern Sycamore-Alder Riparian Woodland

Southern sycamore-alder riparian woodland is a tall, open, broadleaved, winter-deciduous streamside woodland dominated by western sycamore (*Platanus racemosa*) and white alder (*Alnus rhombifolia*). 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



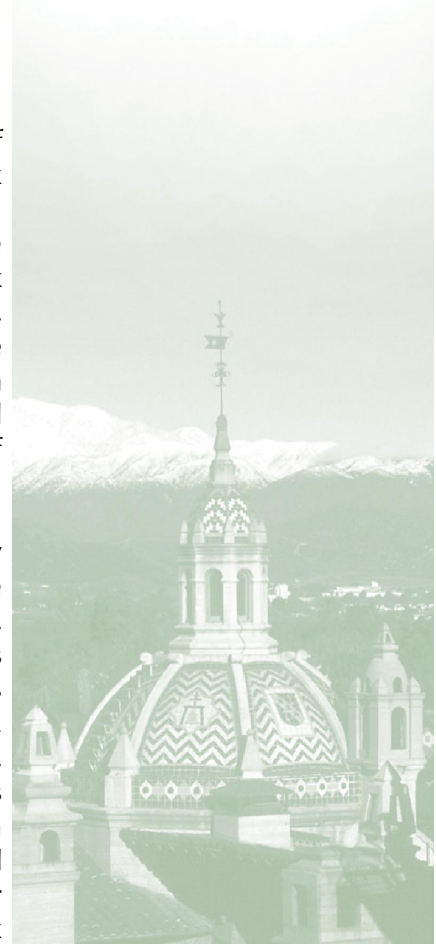


rocky streambeds subject to seasonally high-intensity flooding. White alder increases in abundance on more perennial streams, while western sycamore favors more intermittent hydrographs. Other common forms of vegetation include big-leaf maple (*Acer macrophyllum*), California mugwort (*Artemisia douglasiana*), coast live oak (*Quercus agrifolia*), elk clover (*Aralia californica*), horsetail (*Equisetum hymale*), smilo grass (*Piptatherum miiaceum*), California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), Mexican elderberry (*Sambucus mexicana*), California bay laurel (*Umbellularia californica*) and stinging nettle (*Urtica dioica*). Southern sycamore-alder riparian woodlands occupy areas in the Transverse and Peninsular ranges from Point Conception south into northern Baja, California.

Although not mapped in Figure OS-5 Habitat Areas and Vegetation Communities, Southern sycamore-alder riparian forests occur along an unnamed tributary to the Belvedere Heights area on the west side of Box Springs Mountains and along an unnamed tributary to the creek running along Santa Rosa Mine Road, northwest of Steele Peak/Steele Valley. This community may also be found along lakes, rivers and other drainages throughout the Planning Area.

Woodlands and Forest

The Planning Area supports woodlands and forests composed of coast live oak woodlands, dense Engelmann oak woodlands, oak woodlands and peninsular juniper woodland and scrub vegetation communities. Woodland and forest vegetation communities are dominated by Englemann oak (*Quercus englemannii*), coast live oak (*Q. agrifolia*), canyon live oak (*Q. chrysolepis*), interior live oak (*Q. wislizenii*), and black oak (*Q. kelloggii*) in the canopy, which may be continuous to intermittent or savannah-like. Four-needle pinyon (*Pinus quadrifolia*), single-leaf pinyon pine (*Pinus monophylla*) and California juniper (*Juniperus californica*) are the canopy species of peninsular juniper woodland which most commonly occur in Southern California, forming a scattered canopy from 3 to 15 m tall (Sawyer and Keller-Wolf 1995; Holland and Keil 1995). Many understory plants in oak woodlands are shade tolerant and include wild blackberry (*Rubus ursinus*), snowberry (*Symphoricarpos mollis*), California walnut (*Juglans californica*), California-lilac (*Ceanothus* spp.), Rhus spp., currant (*Ribes* n spp.), toyon (*Heteromeles arbutifolia*), California bay (*Umbellularia californica*), Engelmann oak, manzanita (*Arctostaphylos* spp.), laurel sumac (*Malosma laurina*), poison-oak (*Toxicodendron diversilobum*) and herbaceous plants including bracken fern (*Pteridium aquilinum*), polypody fern (*Polypodium californicum*), fiesta flower (*Pholistorma auritum*) and miner’s lettuce (*Claytonia perfoliata*) (Holland and Keil 1995, Sawyer and Keeler-Wolf 1995, Thorne 1976, Brown 1982). Munz and Keck





OPEN SPACE AND CONSERVATION ELEMENT

(1968) identify similar species for this vegetation community and include that a variety of grasses and soft shrubs also are commonly found. This vegetation community can occur on all aspects, on stream sides, canyon bottoms and flat to very steep topography.

Woodlands and forests are known to occur throughout the Planning Area. More specifically, oak woodlands are known to occur along El Sobrante Road between La Sierra Avenue and McAllister Street. Dense Englemann oak woodlands are known to occur southeast of Lake Mathews between Gavilan Road and Lake Mathews Drive. 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.

Peninsular Juniper Woodland and Scrub

Peninsular juniper woodland and scrub is dominated by California juniper (*Juniperus californica*). 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, juniper woodland is located to the south and east of Lake Mathews and integrates with non-native grassland and Riversidean Sage Scrub communities.

Riversidean Alluvial Fan Sage Scrub

Riversidean alluvial fan sage scrub occurs throughout numerous drainages in the Planning Area and comprises approximately 0.28% (258.5 acres) of the Planning Area. This habitat type includes disturbed alluvial areas in addition to Riversidean alluvial fan sage scrub areas.

As described in the MSHCP, Riversidean alluvial fan sage scrub is a Mediterranean shrubland type that occurs in washes and on gently sloping alluvial fans. Alluvial scrub is made up predominantly of drought-deciduous soft-leaved shrubs, but with significant cover of larger perennial species typically found in chaparral (Kirkpatrick and Hutchinson 1977). Scalebroom generally is regarded as an indicator of Riversidean alluvial scrub (Smith 1980; Hanes et al. 1989). In addition to scalebroom, alluvial scrub typically is composed of white sage (*Salvia apiana*), redberry (*Rhamnus crocea*), flat-top buckwheat (*Eriogonum fasciculatum*), our lord's candle (*Yucca whipplei*), California croton (*Croton californicus*), cholla (*Opuntia* spp.), tarragon (*Artemisia dracuncululus*), yerba santa (*Eriodictyon* spp.), mule fat (*Baccharis salicifolia*), and mountain-mahogany (*Cercocarpus betuloides*) (Hanes et al. 1989; Smith 1980). Annual





species composition has not been studied but is probably similar to that found in understories of neighboring shrubland vegetation. Two sensitive annual species are endemic to alluvial scrub vegetation in the Plan Area: slender-horned spine lower (*Dodecahema leptocerus*) and Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*).

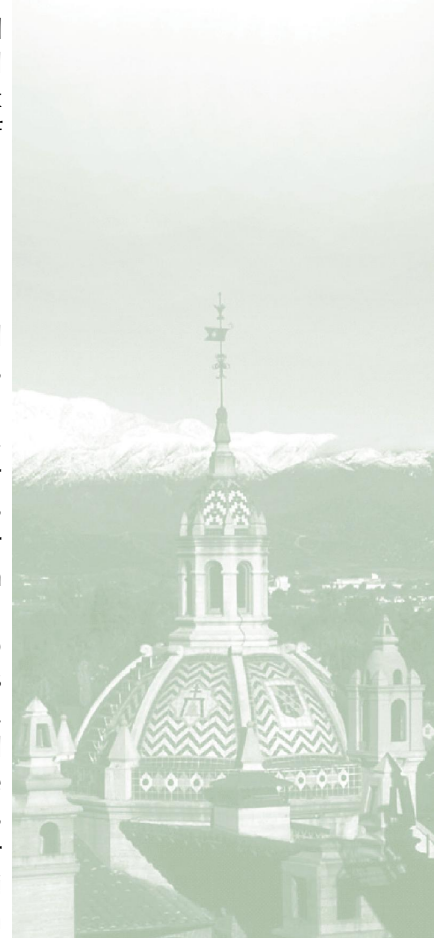
Riversidean alluvial fan sage scrub is known to occur in the northernmost parts of the Planning Area and southeast of Lake Mathews between Galivan Road and Lake Mathews Drive. A large concentration of the vegetation occurs on the Santa Ana River near Lake Evans. Areas identified in Figure OS-5 as “Disturbed Alluvial” indicates some type of human disturbance such as grading and/or a large influx of non-native plant species (i.e., weeds) where soils and other conditions would otherwise permit growth of Riversidean alluvial fan sage scrub.

Marsh

Marsh communities are dominated by perennial, emergent flowering plants (monocots) generally up to four to five meters tall. Vegetation often forms completely closed canopies. Bull rush (*Scirpus* spp.) and Cattail (*Typha* spp.) species dominate. Marsh communities are found on sites permanently flooded by fresh water and lacking significant current. Conditions of prolonged saturation permit accumulation of deep, peaty soils in this community. Marsh communities are known to occur along the shores of Lake Mathews.

Cismontane Alkali Marsh

Cismontane alkali marsh vegetation communities are scattered sparsely over the Planning Area. 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 similar to coastal brackish marsh in its quantitative range of saltiness, but is more alkaline and usually contains 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 integrate with alkali marshes. As noted in the MSHCP, typical cismontane alkali marsh





OPEN SPACE AND CONSERVATION ELEMENT

species include yerba mansa (*Anemopsis californica*), saltgrass (*Distichlis spicata*), alkali-heath (*Frankenia salina*), cattails (*Typha* spp.), common pickleweed (*Salicornia virginica*), rushes (*Juncus* spp.), marsh flea-bane (*Pluchea odorata*), and sedges (*Carex* spp.) (Holland 1986).

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

Vernal Pools

Vernal Pools, as noted in the MSHCP, are ephemeral wetlands that form in shallow depressions underlain by a substrate near the surface that restricts the downward percolation of water. Depressions in the landscape fill with rainwater and runoff from adjacent areas during the winter and may remain inundated until spring or early summer, sometimes drying more than once during the wet season. Smaller pools can fill and dry. Larger pools can hold water longer and may in the deeper portions support species that are more representative of freshwater marshes. Vernal pools are well-known for their high level of endemism (Stone 1990) and abundance of rare, threatened, or endangered Species (Sawyer and Keeler-Wolf 1995). Many vernal pools are characterized by concentric rings of plants that flower sequentially as the pools dry. Vernal pools are dominated by native annual plants, with low to moderate levels of perennial herbaceous cover. Common vernal pool plant species in Western Riverside County include woolly marbles (*Psilocarphus brevissimus*), toad rush (*Juncus bufonius*), and spike rush (*Eleocharis* spp.). In addition, the following sensitive or listed plant species are found in one or more of these pools: California Orcutt grass (*Orcuttia californica*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus* ssp. *apus*), spreading navarretia (*Navarretia fossalis*), low navarretia (*N. prostrata*), Orcutt's brodiaea (*Brodiaea orcuttii*), thread-leaved brodiaea (*Brodiaea filifolia*), Parish brittlescale (*Atriplex parishii*), Parish meadowfoam (*Limnanthes gracilis* ssp. *parishii*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), and smooth tarplant (*Hemizonia pungens* ssp. *laevis*) (Sawyer and Keeler-Wolf 1995).

Vernal pools exist in the Lake Mathews Ecological Preserve and adjacent to the Santa Ana River between Main Street and Bandini Avenue. Undeveloped lands located on relatively flat terrain represent areas in which vernal pools could be found.

An additional ecosystem lying along the northern edge of the Planning Area is the Southern California arroyo chub/Santa Ana sucker streams that 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, and urbanization and pollution impacts.

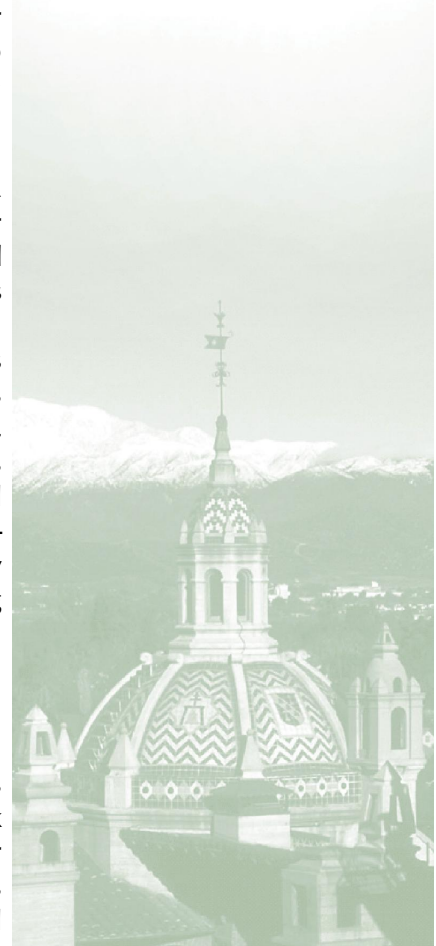
WILDLIFE SPECIES

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 vulnerable or declining and is likely to become endangered or threatened in a significant portion of its range within the State without cooperative management or removal of threats. 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.

WILDLIFE CORRIDORS

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





OPEN SPACE AND CONSERVATION ELEMENT

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 Regional Parks and Open Space District.

See the Introduction under “Stephens’ Kangaroo Rat Habitat Conservation Plan” for more information on the Stephens’ Kangaroo Rat Habitat Conservation Plan.

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 valuable for wildlife migration. By working closely with developers and conservationists, the City will attempt to secure this and other areas for wildlife migration. A final example of a wildlife corridor is the La Sierra/Norco Hills.

STEPHENS’ KANGAROO RAT HABITAT CONSERVATION PLAN

The Planning Area is located within the boundary of the adopted Habitat Conservation Plan (HCP) for the endangered Stephens’ kangaroo rat (SKR) implemented by the Riverside County Habitat Conservation Agency (RCHCA) (see Figure OS-6 – Stephens’ Kangaroo Rat (SKR) Core Reserves and Other Habitat Conservation Plans (HCP)). The SKR HCP mitigates impacts from development on the SKR by establishing a network of preserves and a system for managing and monitoring them. Through implementation of the SKR HCP, more than \$45 million has been dedicated to the establishment and management of a system of regional preserves designed to ensure the persistence of SKR in the plan area. This effort has resulted in the permanent conservation of approximately 50% of the SKR occupied habitat remaining in the HCP area. Through direct funding and in-kind contributions, SKR habitat in the regional reserve system is managed to ensure its continuing ability to support the species. The City of Riverside is a member agency of the RCHCA. The proposed project is located within the SKR HCP area and will be required to comply with applicable provisions of this plan.



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



LAKE MATHEWS MULTIPLE SPECIES HABITAT CONSERVATION PLAN & NATURAL COMMUNITY CONSERVATION PLAN

The Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (Lake Mathews Plan) is a joint conservation effort initiated by the Metropolitan Water District of Southern California and the Riverside County Habitat Conservation Agency. The conservation area includes 5,993.5 acres located adjacent to Lake Mathews and is owned by the Metropolitan Water District (MWD) (see Figure OS-6 – Stephens’ Kangaroo Rat (SKR) Core Reserves and Other Habitat Conservation Plans (HCP)).

The Lake Mathews Plan area consists of two components: (1) the Multiple Species Reserve, which conserves 2,544.9 acres of land through a Mitigation Bank Agreement and 2,565.5 acres of an existing ecological reserve under an agreement with the California Department of Fish and Game (CDFG); and (2) areas not included in the Multiple Ecological Reserve, including 728.6 acres designated for the operation of the reservoir and 154.5 acres designated for water facility improvements.

The Lake Mathews Plan minimizes and mitigates the impacts of MWD projects and activities in a way that satisfies the requirements and intent of Sections 7 and 10(a) of the Federal Endangered Species Act (ESA), Section 2081 of the California ESA, and Section 2835 of the California Natural Community Conservation Plan. Projects and activities covered by the Lake Mathews Plan include:

1. Biological management of the Lake Mathews Plan Combined Reserve (multi-jurisdictional reserve);
2. Property management in the Lake Mathews Plan area, including maintenance of roads and fences and implementation of a Fire Management Plan;
3. Facility improvements and related projects in operations, and operation and maintenance, activities at the MWD Lake Mathews facility;
4. Construction, operation, and maintenance of the MWD Lake Mathews Plan area projects;
5. MWD projects and/or activities outside the Lake Mathews Plan area that would use the Mitigation Bank credits for impacts to habitats and/or sensitive species (outside projects); and





OPEN SPACE AND CONSERVATION ELEMENT

- 6. Construction, operation, and maintenance of additional MWD projects within the Multiple Species Reserve.

EL SOBRANTE LANDFILL HABITAT CONSERVATION PLAN

The El Sobrante Landfill is a municipal solid waste facility that is located southwest of the Riverside General Plan southern sphere area and owned and operated by Waste Management, Inc. A Habitat Conservation Plan (HCP) approved by the U.S. Fish & Wildlife Service and California Department of Fish and Game covers the active landfill, future expansion phases and undisturbed open space on the property (El Sobrante Plan area) which is adjacent to the Southern Sphere area (see Figure OS-6 – Stephens’ Kangaroo Rat (SKR) Core Reserves and Other Habitat Conservation Plans (HCP)). The El Sobrante Plan area is comprised of approximately 1,333 acres. The landfill area constitutes approximately 645 acres of the total property, while undisturbed open spaces account for approximately 688 acres.

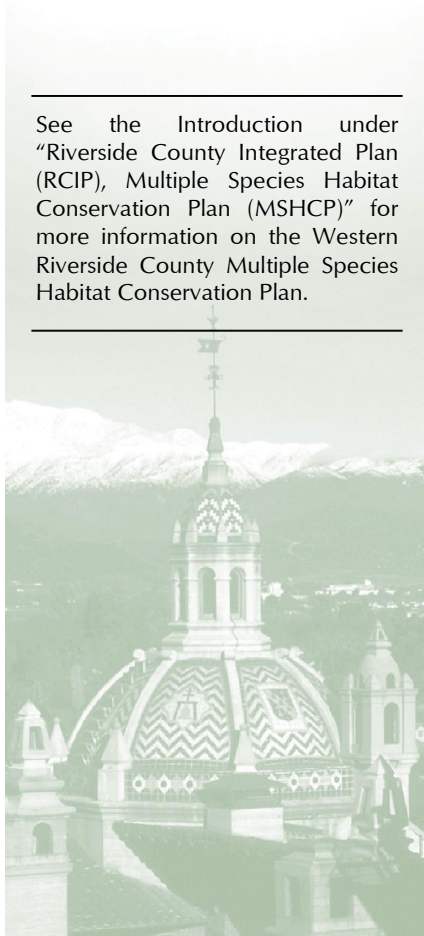
MULTIPLE SPECIES HABITAT CONSERVATION PLAN

See the Introduction under “Riverside County Integrated Plan (RCIP), Multiple Species Habitat Conservation Plan (MSHCP)” for more information on the Western Riverside County Multiple 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 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. Federal and State wildlife agencies approved permits required to implement the MSHCP on June 22, 2004.

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

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





MSHCP Criteria Area

The City of Riverside’s Planning Area is located within the Riverside Area Plan, partially within the Highgrove Area Plan, and Lake Mathews Area Plan of the MSHCP. The target for conservation within the Riverside Area Plan is between 90 to 240 acres, within the Highgrove Area Plan is 345 and 675 acres, and within the Lake Mathews Area plan is 3,215 to 5,470 acres. Each Area Plan is further divided into subunits, cell groups and cells with specific conservation objections, as shown on Figure OS-8, MSHCP Criteria Cells.

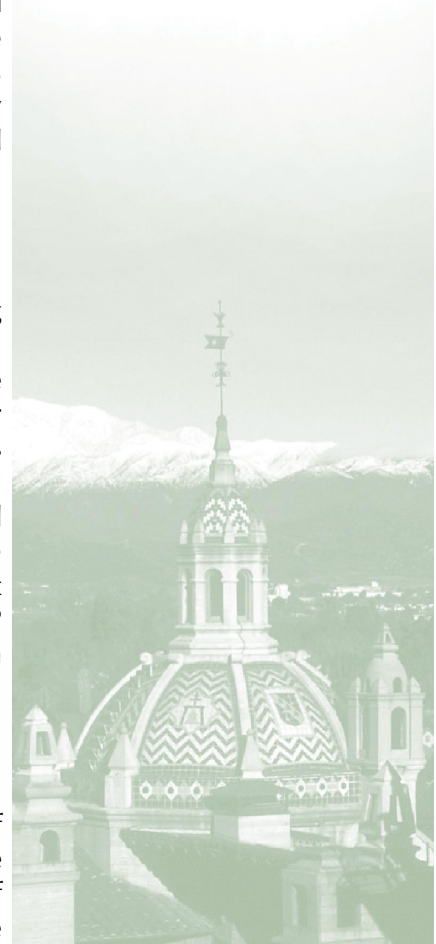
Pursuant to the provisions of the MSHCP, all discretionary development projects within the Criteria Area are to be reviewed for compliance with the “Property Owner Initiated Habitat Evaluation and Acquisition Negotiation Strategy” (HANS) process or equivalent process. The HANS process “ensures that an early determination will be made of what properties are needed for the MSHCP Conservation Area, that the owners of property needed for the MSHCP Conservation Area are compensated, and that owners of land not needed for the MSHCP Conservation Area shall receive Take Authorization of Covered Species Adequately Conserved through the Permits issued to the County and Cities pursuant to the MSHCP.” Proposed development projects and public projects located within Criteria Area will undergo the Joint Project Review (JPR) process through the Western Riverside County Regional Conservation Authority (RCA).

MSHCP Conservation Area Cores and Linkages/Wildlife Corridors

The MSHCP Conservation Area is comprised of a variety of existing and proposed Cores, Extensions of Existing Cores, Linkages, Constrained Linkages and Non-contiguous Habitat Blocks. The MSHCP identifies cores for habitat conservation and linkages for wildlife movement, Figure OS-7 MSHCP Cores and Linkages. As shown on the figure, there are three Existing Cores (A, C, D), an existing Non-Contiguous Habitat, and a Proposed Constrained Linkage 7 within the Planning Area. As certain public projects are proposed within the Planning Area, an evaluation of how the project might contribute to, or conflict with, assembly of the MSHCP Conservation Area consistent with reserve configuration requirements, shall be performed.

Riparian/Riverine Areas and Vernal Pools

As projects are proposed within the Planning Area, an assessment of the potentially significant effects of those projects on riparian/riverine areas, and vernal pools shall be performed pursuant to Section 6.1.2 of the MSHCP, Protection of Species Associated with Riparian/Riverine





OPEN SPACE AND CONSERVATION ELEMENT

Areas and Vernal Pools. If riparian/riverine areas or vernal pools occur on site and, project implementation does not completely avoid these areas, a Determination of Biologically Equivalent or Superior Preservation (DPESP) must be made. If the habitat assessment identifies suitable habitat for listed species in this section of the plan and the project design does not incorporate avoidance, focused surveys shall be conducted, and avoidance and minimization measures implemented in accordance with the species-specific objectives for the species occurring on site.

Riparian/Riverine areas are lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or portion of the year. Vernal pools are seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soil, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portions of the growing season.

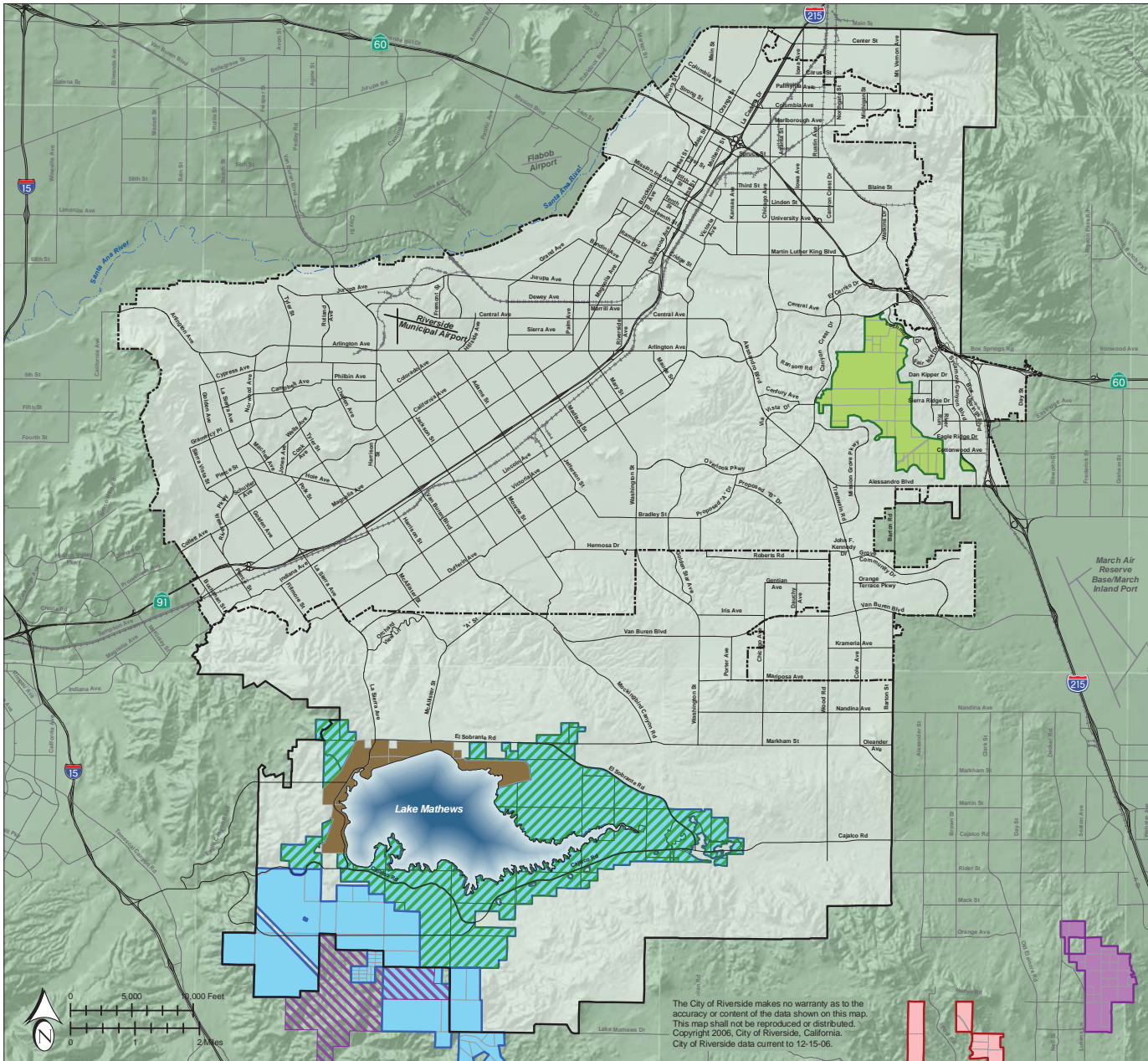
Narrow Endemic Plant Species

Under Section 6.1.3, Protection of Narrow Endemic Plant Species, site-specific focused surveys for narrow endemic plant species shall be required where appropriate or suitable habitat is present within the identified Narrow Endemic Plant Species Survey Area. The Planning Area contains portions of Species of Concern in Area 1 and 7 of the Narrow Endemic Plant Species Survey Area. Projects with the potential to affect Narrow Endemic Plant Species shall be subject to avoidance, minimization and mitigation strategies as outlined in Section 6.1.3 of the MSHCP.

Additional Survey Needs and Procedures

As outlined in Section 6.3.2, Additional Survey Needs and Procedures of the MSHCP, habitat assessments are required for proposed projects located within the survey areas. If any proposed project is located within the Burrowing Owl Survey Area, the Criteria Area Species Survey Area 6 and 1, habitat assessments are required, which need to address, at a minimum potential habitat for these species. If potential habitat for these species is determined to be located within the proposed project site, focused surveys are required during the appropriate season.

If any proposed project within the Planning Area, as a result of land uses within the General Plan, fall within survey areas the project's applicant needs to follow the procedures for Sections 6.1.3 and 6.3.2 or burrowing owl.



LEGEND

- STEPHENS' KANGAROO RAT (SKR) CORE RESERVES
- LAKE MATHEWS - ESTELLE MOUNTAIN (INCLUDES LAKE MATHEWS HCP)
- MOTTE
- SYCAMORE CANYON
- STEELE PEAK
- HABITAT CONSERVATION PLAN (HCP)
- EL SOBRANTE LANDFILL
- LAKE MATHEWS
- OPERATIONS AREA (EXCLUDED FROM CORE RESERVE AND HCP)
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY HABITAT CONSERVATION AGENCY: "HABITAT CONSERVATION PLAN FOR THE STEPHENS' KANGAROO RAT IN WESTERN RIVERSIDE COUNTY CALIFORNIA" AS UPDATED BY COUNTY OF RIVERSIDE ENVIRONMENTAL PROGRAMS STAFF, THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA AND RIVERSIDE COUNTY WASTE MANAGEMENT DEPARTMENT

Figure OS-6
STEPHENS' KANGAROO RAT (SKR) CORE RESERVES AND OTHER HABITAT CONSERVATION PLANS (HCP)

The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2006, City of Riverside, California. City of Riverside data current to 12-15-06.



OPEN SPACE AND CONSERVATION ELEMENT

Section 6.1.4, Guidelines Pertaining to the Urban/Wildlife Interface, outlines the minimization of indirect effects associated with locating development in proximity to the MSHCP Conservation Area. To minimize these effects, guidelines in Section 6.1.4 of the MSHCP shall be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area and address the following: drainage, toxics, lighting, noise, invasive species, barriers, and grading/land development.

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.

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.

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 and ensure all projects comply with applicable requirements.

Policy OS-5.3: Continue to participate in the Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan including collection of mitigation fees..

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

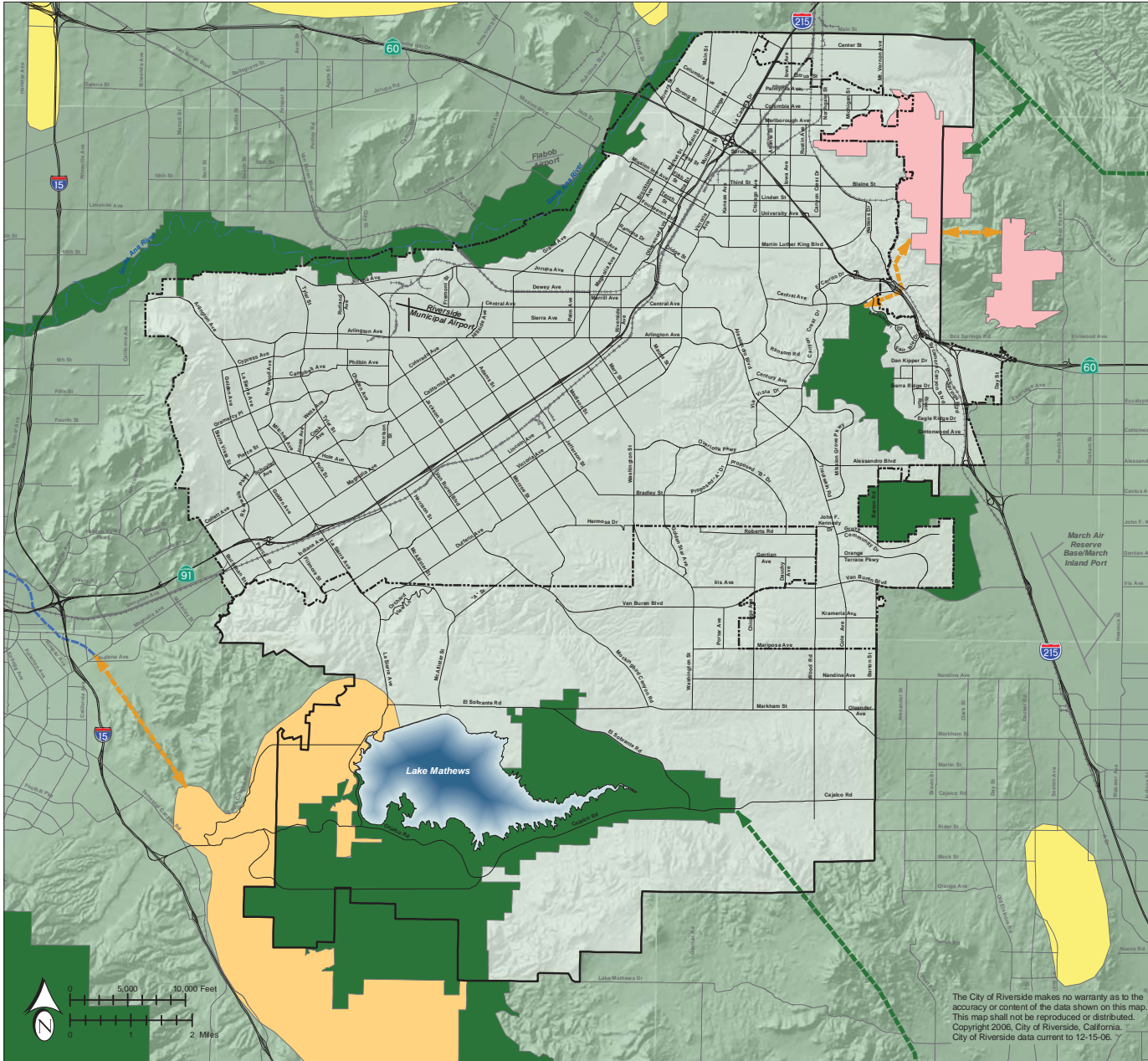
Objective OS-6: Preserve and maintain wildlife movement corridors.

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

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.





LEGEND

EXISTING CORES AND LINKAGES

- CORE
- NONCONTIGUOUS HABITAT BLOCK
- EXISTING CHANNEL

PROPOSED CORES AND HABITAT BLOCKS

- PROPOSED EXTENSION OF EXISTING CORES
- NONCONTIGUOUS HABITAT BLOCK

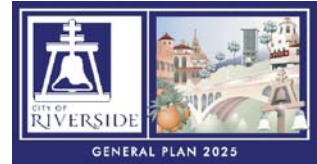
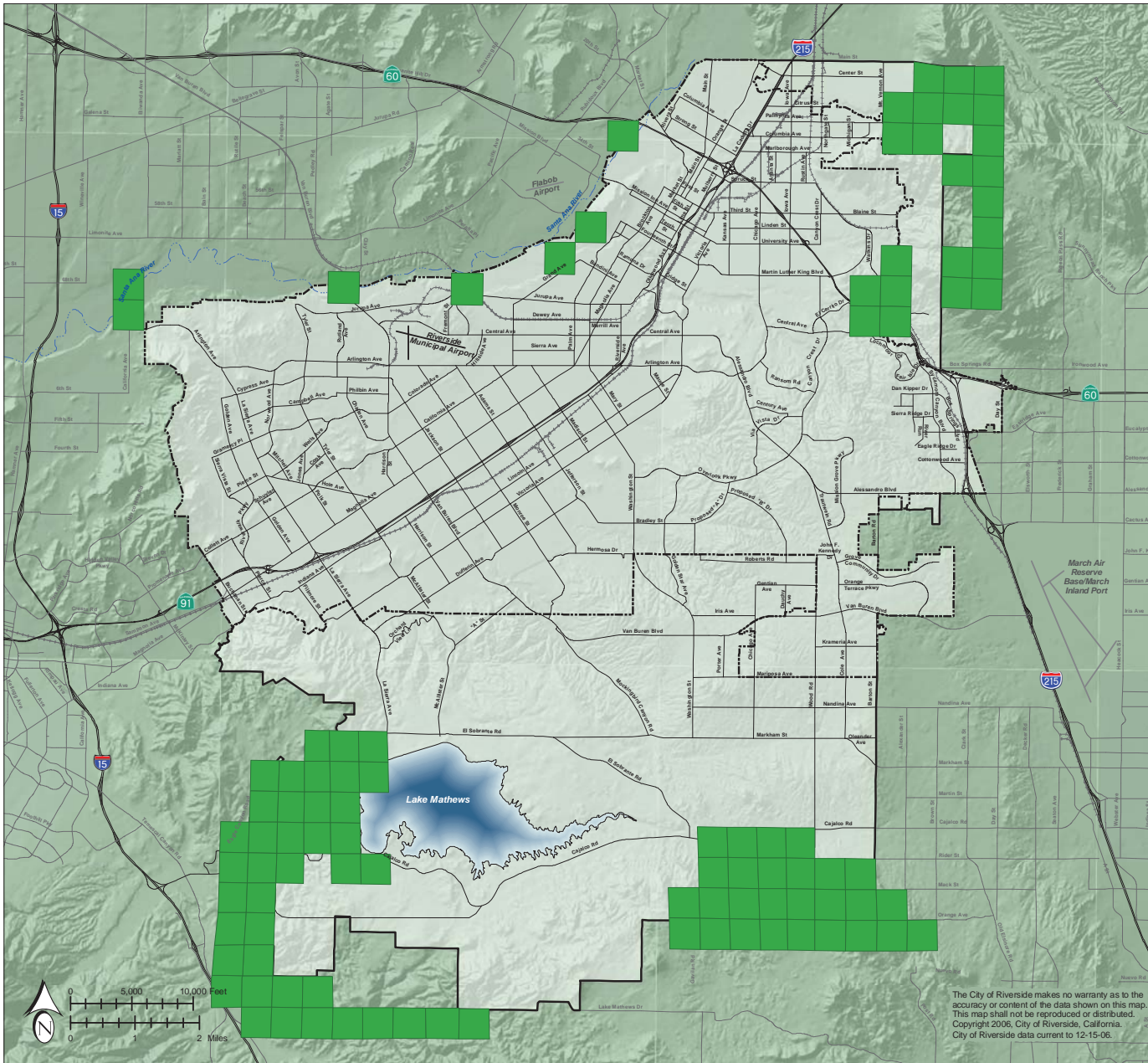
PROPOSED LINKAGES

- CONSTRAINED LINKAGE
- LINKAGE
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: DUDEK & ASSOCIATES, INC. 2002

Figure OS-7
MSHCP CORES AND LINKAGES

The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2006, City of Riverside, California. City of Riverside data current to 12-15-06.



LEGEND

- MSHCP CELLS WITH UNIQUE ID (CRITERIA AREA)
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY GIS DATA

Figure OS-8
**MSHCP
 CELL AREAS**

The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2006, City of Riverside, California. City of Riverside data current to 12-15-06.



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 at 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.

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.

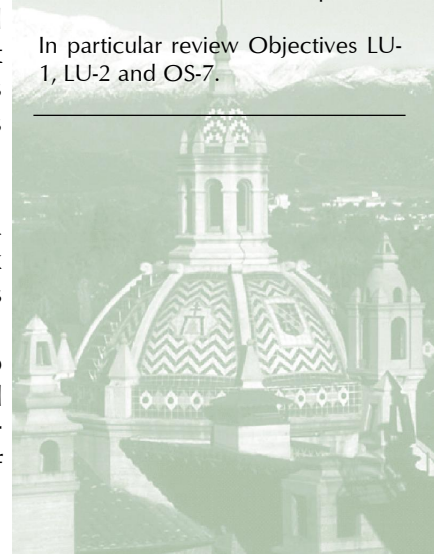
Growth in Riverside and other areas in the watershed has been a threat to the health of the Santa Ana River. Increased urban runoff and erosion from population growth place a heavy flood control burden on the River system and pollute the water. Development along the river banks weakens the stability of the banks and destroys riparian communities and wetlands. Residents and visitors lack access to the river and its aesthetic and recreation benefits.

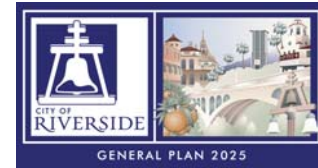
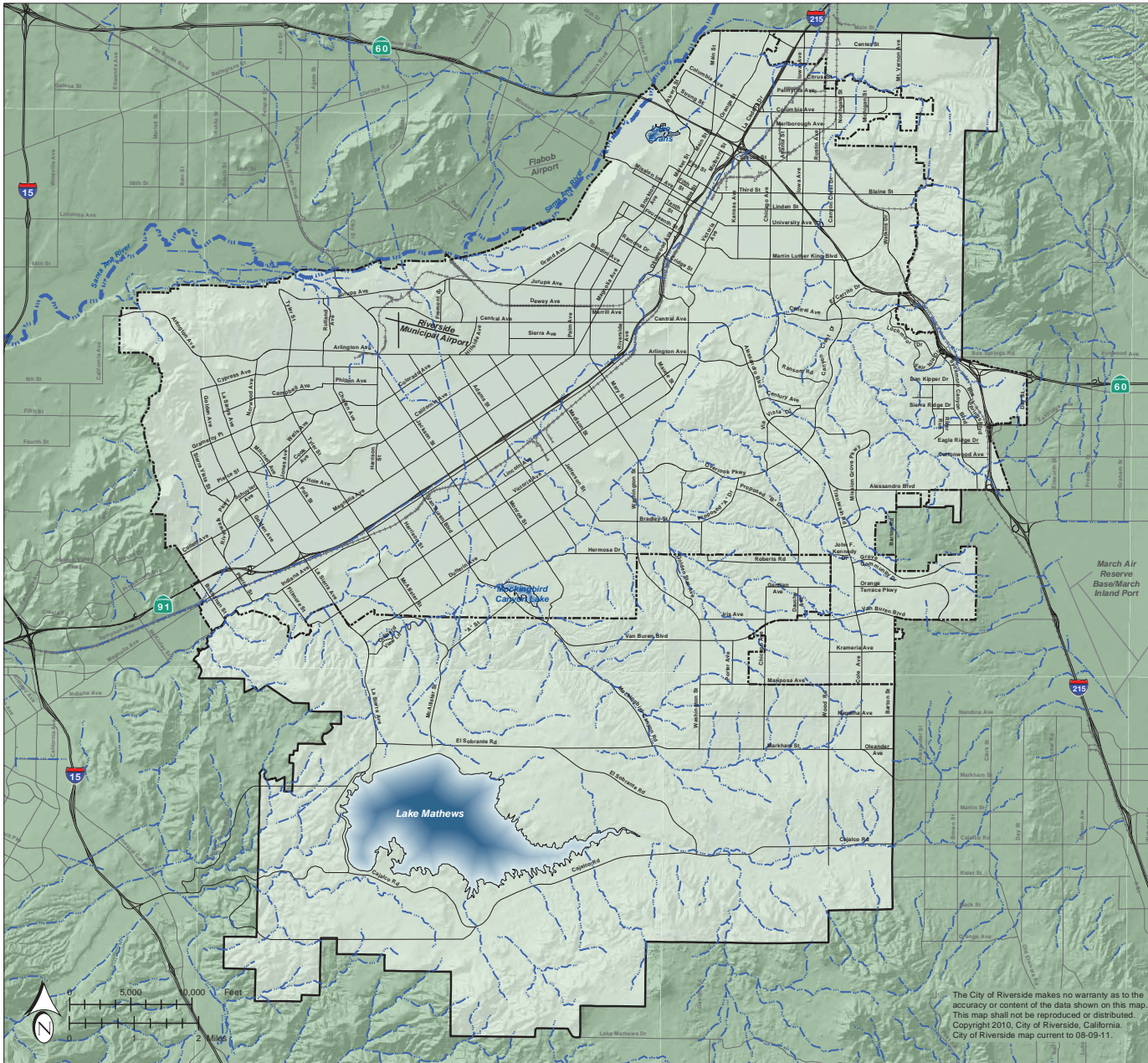
In partial response to these potential threats to river health, the Santa Ana River County Regional Park was established. The Regional Park contains the Hidden Valley Wildlife Area, Martha McLean Narrows Park and Rancho Jurupa Park within and adjacent to Riverside. Planning agencies with jurisdiction 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.

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.

See the Introduction under “Santa Ana River Task Force Plan,” Land Use and Urban Design Element under “Citywide Objectives: Protecting Riverside’s Natural Environment - Santa Ana River” and the Open Space Element under “The Santa Ana River” for more information on this topic.

In particular review Objectives LU-1, LU-2 and OS-7.





LEGEND

- SANTA ANA RIVER
- BLUELINE STREAMS
- RIVERSIDE CITY LIMITS
- RIVERSIDE SPHERE OF INFLUENCE

SOURCE: STREAMS FROM 2006 USGS QUAD SHEETS

Figure OS 8.1
**RIVERS, CREEKS,
 AND STREAMS**

The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2010, City of Riverside, California. City of Riverside map current to 08-09-11.



SURFACE HYDROLOGY

The City of Riverside is located within the Santa Ana Region (Region 8) of the California Regional Water Quality Control Board (RWQCB). The Planning Area (City and Sphere Area) is located within the RWQCB Middle Santa Ana River Watershed Management Area and in the Santa Ana Hydrologic Unit. For most of the Planning Area, surface drainage generally flows in a northerly direction into the Santa Ana River. Figure OS-8.1, Rivers, Creeks, and Streams, depicts natural surface drainage areas within the City of Riverside. There are eleven principal drainage areas for which Master Drainage Plans have been completed in the City of Riverside, ten of which eventually flow into the Santa Ana River. These main drainage areas are: University, Box Springs, Central, Riverside, Monroe, La Sierra, Southwest Riverside, Home Gardens, Mead Valley, Moreno Valley West End, Norco and Perris Valley.

There is a small portion of the eastern edge of the Orancrest Neighborhood, in the Perris Valley drainage area, that is located in the San Jacinto Watershed, instead of the Santa Ana River Watershed. Figure OS-9, Watersheds depicts the boundary between the Santa Ana Watershed and San Jacinto Watershed.

The Santa Ana River flows from the San Bernardino Mountains to the Pacific Ocean for over 100 miles. The Santa Ana River is the “receiving water” for over 2,700 square miles covering portions of San Bernardino, Riverside and Orange Counties.

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.)





OPEN SPACE AND CONSERVATION ELEMENT

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 recreational 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.

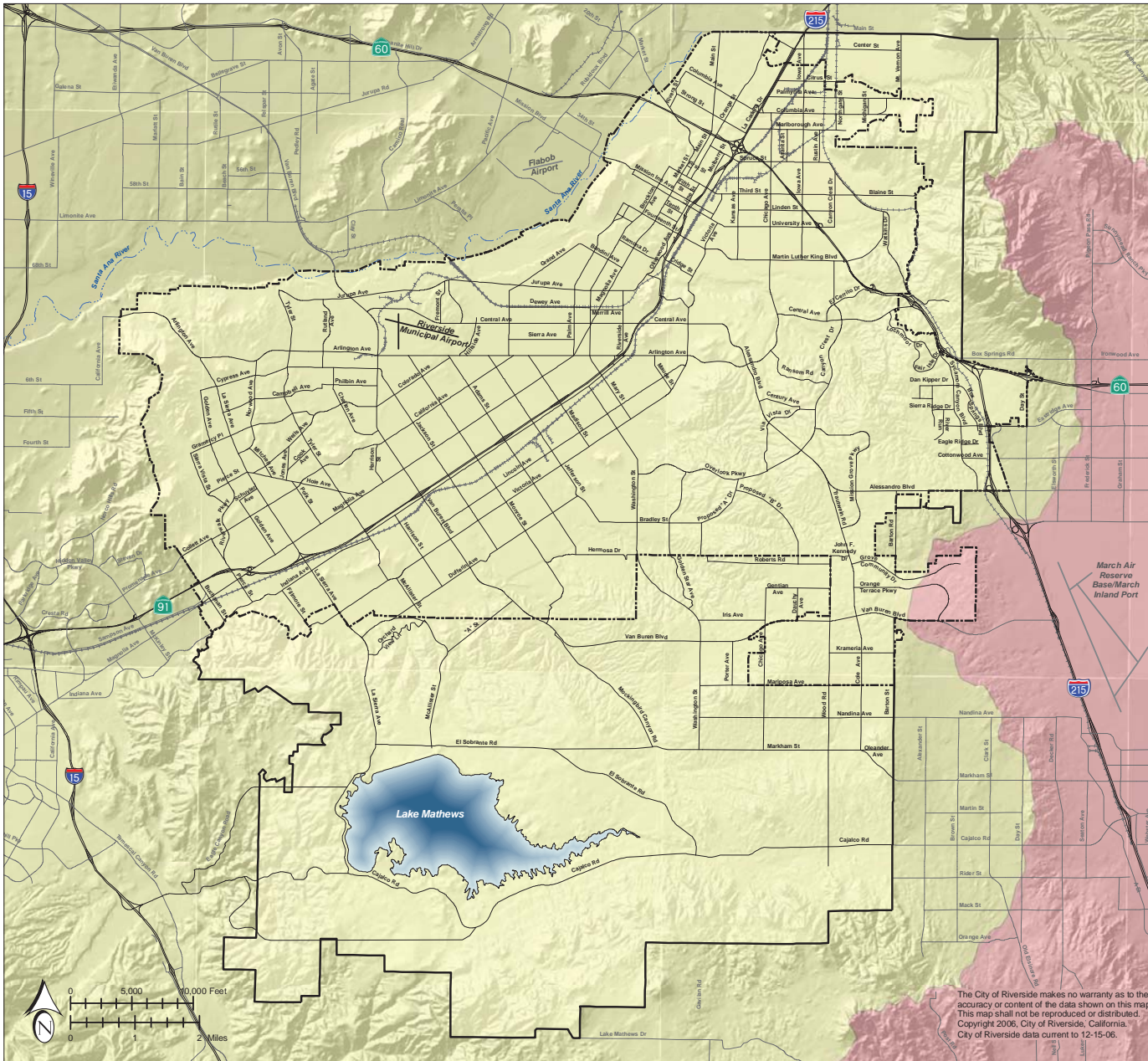
HABITAT

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.



LEGEND

- SANTA ANA RIVER WATERSHED
- SAN JACINTO VALLEY WATERSHED
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY GIS DATA

The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2006, City of Riverside, California. City of Riverside data current to 12-15-06.

Figure OS-9
WATERSHEDS



OPEN SPACE AND CONSERVATION ELEMENT

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.

SANTA ANA RIVER TASK FORCE

“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-9 (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.

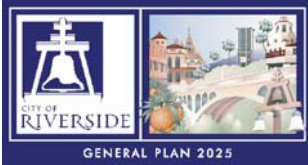
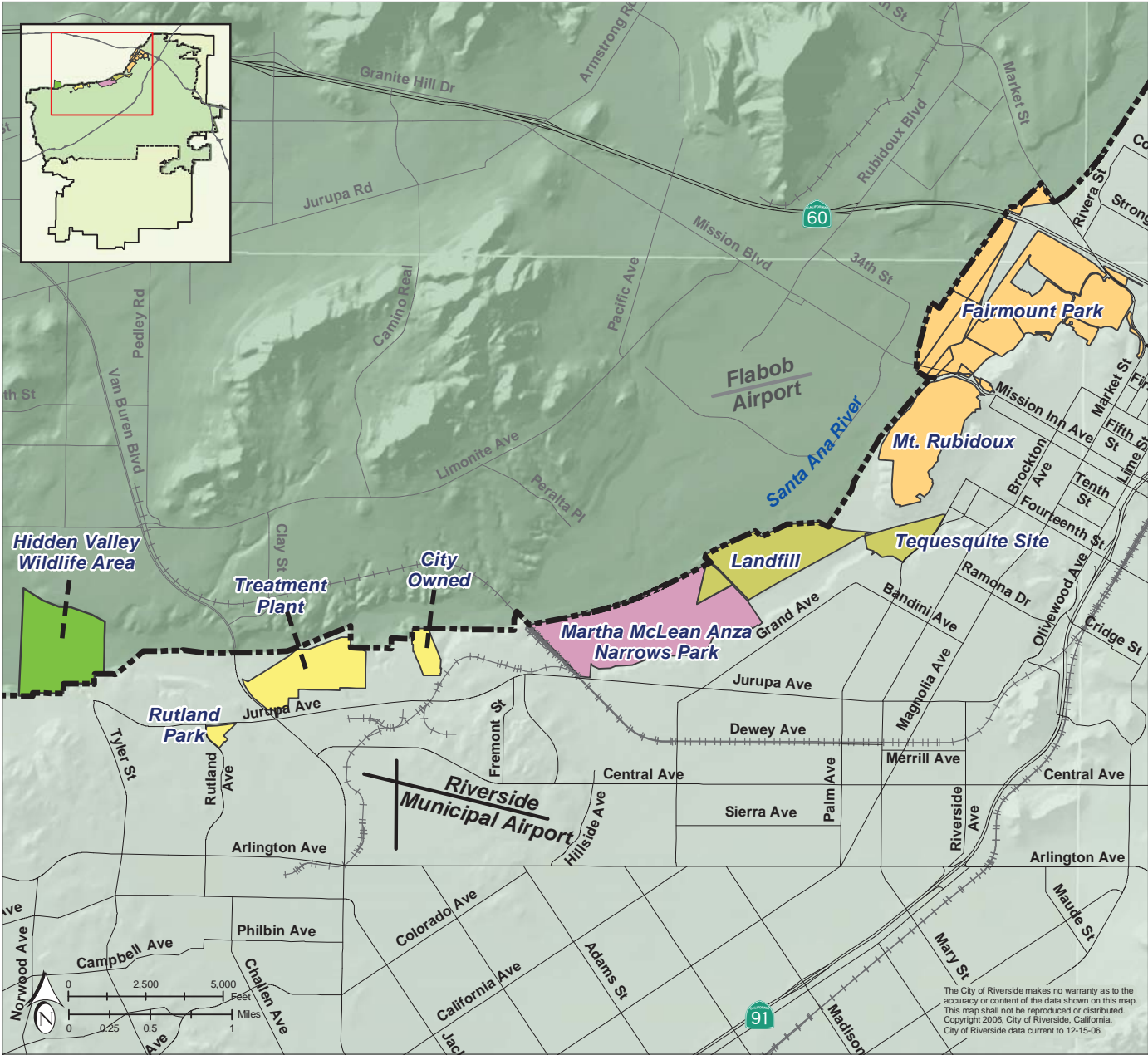
Fairmount Park and Mt. Rubidoux

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.





LEGEND

FIVE SANTA ANA TASK FORCE AREAS:

- FAIRMOUNT PARK/ MT. RUBIDOUX
- TEQUESQUITE AVENUE AND OLD LANDFILL
- MARTHA MCLEAN-ANZA NARROWS
- VAN BUREN BRIDGE
- HIDDEN VALLEY WILDLIFE AREA

- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: CITY OF RIVERSIDE

Figure OS-10
SANTA ANA TASK FORCE AREAS

The City of Riverside makes no warranty as to the accuracy or content of the data shown on this map. This map shall not be reproduced or distributed. Copyright 2006, City of Riverside, California. City of Riverside data current to 12-15-06.



OPEN SPACE AND CONSERVATION ELEMENT

Martha McClean-Anza Narrows

The Martha McClean-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 State 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.

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.

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 McClean 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.

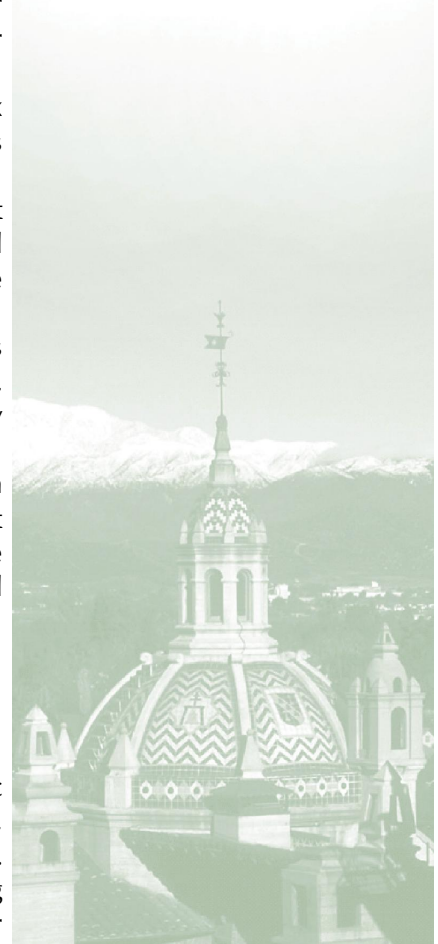
OPEN SPACE AND CONSERVATION ELEMENT



- 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





OPEN SPACE AND CONSERVATION ELEMENT

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.

Other elements, including Land Use and Urban Design, Circulation and Community Mobility, Air Quality and Public Safety all tie into this Element's commitment of improving residents' quality of life and well-being.

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 that have been recently annexed. 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.

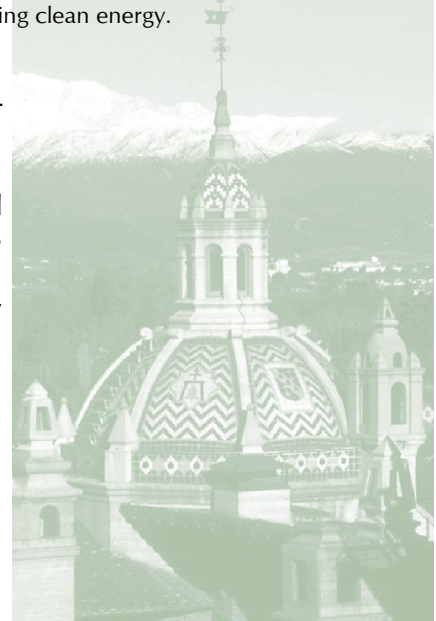
Green power is environmentally friendly electricity that is generated from renewable resources such as wind, sun and water.

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.



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

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.





OPEN SPACE AND CONSERVATION ELEMENT

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



Rooftop solar panels provide clean electricity to homeowners.

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

Policy OS-8.2: Require incorporation of energy conservation features in the design of all new construction and substantial rehabilitation projects pursuant to Title 24, 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.

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 for compatibility with renewable energy sources (i.e., solar pools).

Policy OS-8.6: Require all new development to incorporate energy-efficient lighting, heating and cooling systems pursuant to the Uniform Building Code and Title 24.

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 and explore ways to participate in California New Solar Homes Partnerships.

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

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.



- Policy OS-8.10: Support the use of public transportation, bicycling and other alternative transportation modes in order 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.
- Policy OS-8.12: Require bicycle parking in new non-residential development.

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

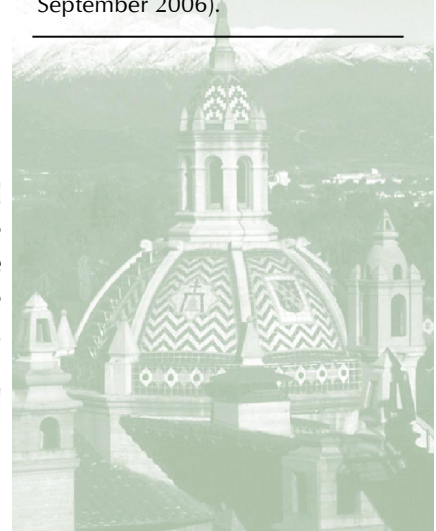
- Policy OS-9.1: Encourage the most energy-efficient design for local government facilities and equipment consistent with reasonable rate of return and the recognition of the environmental benefits from energy conservation.
- Policy OS-9.2: Evaluate and implement measures to improve energy efficiency in City operations, including efficient load management systems in City buildings and regular energy audits of City facilities and operations.
- Policy OS-9.3: Identify and report annually to customers and the state Energy Commission potentially achievable cost-effective electricity efficiency savings and the establishment of annual targets for efficiency savings and demand reduction for 10-year horizons.

See Air Quality Element under Sustainable Riverside and Global Warming for additional policies relating to energy resources.

See Section 25310 of the Public Resources Code and Section 9615 of the Public Utilities Code relating to energy efficiency (AB 2021, September 2006).

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.





OPEN SPACE AND CONSERVATION ELEMENT

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) or Riverside Highland Water Company (See Figure PF-1 – Water Service Areas). 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



OPEN SPACE AND CONSERVATION ELEMENT



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.

See the Introduction under “Porter-Cologne Water Quality Act” for more information on RWQCB.

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).

See the Introduction under “Porter-Cologne Water Quality Act” for more information on NPDES.

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.

See also Policy PF-1.7 in the Public Facilities and Infrastructure Element.

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.

See also Policy AQ-8.40 in the Air Quality Element.

Policy OS-10.2: Coordinate plans, regulations and programs with those of other public and private entities which



OPEN SPACE AND CONSERVATION ELEMENT

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.

For more information on NPDES see the City's MS4 Permit.

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.

