5.4 BIOLOGICAL RESOURCES

The six components of the project analyzed herein are:

1) Adoption and implementation of the General Plan;
2) Adoption and implementation of the revised Zoning Code;
3) Adoption and implementation of the revised Subdivision Code;
4) Adoption and implementation of an amendment to the Noise Code;
5) Adoption and implementation of the Magnolia Specific Plan (MASP); and
6) Adoption and implementation of the Citywide Design and Sign Guidelines.

This analysis focuses on the project's six components listed above and the subsequent potential impacts related to biology. Since an initial study was not prepared with the issuance of the Notice of Preparation, the focus of the following discussion is related to the potential impacts to an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan, such as the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and whether the impact will have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service, have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service, have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means, interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The Biological Resources Section of this EIR has been changed from the previously circulated EIR. In addition to the overall changes listed in the Project Description Section of this EIR, some setting and background information was added and/or updated, for example, information on procedures and background of the MSHCP was added, and the Special Status plant and wildlife list was updated with the most current information from the California Natural Diversity Database; information was added about the MSHCP Core and Linkages; missing existing regulations were added to the Section; an addition of flow charts and text describing procedures for implementing the MSHCP was added in the analysis portion of the Section; as well as the additional analysis of all of the threshold questions. Information for all topics within this Section was verified and updated as necessary.

In addition to other reference documents, the following references were used in the preparation of this Section of the EIR:

- California Natural Diversity Database (CNDDB), Riverside East, Riverside West, and Lake Mathews USGS quads, October 3, 2006.
- County of Riverside, *Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), Final MSHCP, including Volume IV, Final EIR/EIS (State Clearinghouse No. 2001101108, CEQ Number 020463, ERP Number SFW-K99032-CA)*, June 17, 2003.
- Metropolitan Water District, *Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan,* July 1995.
- Riverside County Habitat Conservation Agency, *Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan,* July 1995.
- U. S. Environmental Protection Agency, *Availability of an Environmental Assessment and Receipt of an Application for an Incidental Take Permit for the El Sobrante Landfill Expansion Project in an Unincorporated Area of Riverside County, California,* accessed July 2007, http://www.epa.gov/fedrgstr/EPA-SPECIES/2001/April/Day-17/e9518.htm.
- Waste Management, *Wildlife Habitat*, accessed July 2007, http://www.keepinginlandempireclean.com/wh.html.

Setting

The Planning Area contains a diverse mix of existing land uses. Urban land uses (residential, commercial, office and industrial) are concentrated in the north of the Planning Area. Most of the City's moderate density residential development is north and west of the 91 Freeway. Land south and east of Victoria Avenue is predominantly characterized by rural or semi-rural land uses (agricultural, open space, and residential uses at less than three units per acre). Lake Mathews, the City's network of arroyos, and its hillsides and ridgelines are the predominant features of the southeastern areas. The Santa Ana River forms most of the Planning Area's northern border.

Climate

The climate of Southern California is described at Mediterranean, a wet-winter, dry-summer climate. Extremely dry summers are cause by the sinking air of the subtropical highs and may last for up to five months. Average mountain temperature in Southern California ranges from 32 to 60 degrees Fahrenheit (ºF), getting colder with an increase in elevation.

Riverside's climate is characterized as mild and semi-arid. Summer highs frequently reach over 90° F, but evening temperatures can drop as much as 30 to 49 degrees accompanied by cool breezes. Low humidity keeps even hot summer days from being oppressive. The average rainfall each year is generally 10 to 12 inches, falling mostly from September through April.

Within Mediterranean climates there can be dramatic differences in rainfall from year to year. Consequently, the plant communities growing in these regions often consist of drought-tolerant, woody shrubs and trees, and fall-sprouting grasses.

Watersheds

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. There is a small portion of the eastern edge of the Orangecrest Neighborhood that is located in the San Jacinto Watershed, instead of the Santa Ana River Watershed. **Figure 5.8-1, Watersheds**, Hydrology and Water Quality Section 5.8, 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. Section 5.8 (Hydrology and Water Quality) of this EIR contains detailed descriptions of these two watersheds.

The Santa Ana River is located along the northern boundary of the City and 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 region. 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. The Santa Ana River also supports important riparian habitat, those plant communities supporting woody vegetation found along rivers, creeks, and streams. This habitat type is of special value for wildlife. The Santa Ana River provides food, nesting habitat, cover and migration corridors, as well as riverbank protection, erosion control and improved water quality.

A number of arroyos, which are tributary to the Santa Ana River, traverse the Planning Area; portions are in their natural state, portions are disturbed by human activities, and portions are piped under the urbanized areas of the City before they reach the Santa Ana River. The major arroyos identified on General Plan Figure OS-4 include, from northeast to southwest: Springbrook Wash, Tequesquite Arroyo, Alessandro Arroyo, Prenda Arroyo, Woodcrest Arroyo, and Mockingbird Canyon. These are the major arroyos as defined and protected in the city's Grading Code, Title 17. Other minor arroyos also exist in the Planning Area. Some of these arroyos are currently crossed by roads, at-grade or via various types of bridges. Crossings which are proposed as part of the General Plan Master Plan of Roadways that will cross natural portions of these named arroyos include: Proposed Drive 'A', which will cross Prenda Arroyo, Proposed Drive 'B', which may cross tributaries of both Prenda and Alessandro Arroyos, and the connection of Overlook Parkway across the Alessandro Arroyo. Although more disturbed in its present state, Springbrook Wash will be crossed by Mt. Vernon Avenue within the County portion of the Planning Area.

Arroyos

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

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

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

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

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

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.

Habitat Types

Wildlife Habitat

The City of Riverside's unique landscape supports a rich diversity of biological resources, including a number of sensitive species. Isolation of a species, as a result of development, can disrupt biodiversity and cause long-term consequences for survival of a species and those animals that rely upon it. 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 Regional Park, Box Springs Canyon, Alessandro Hills, a number of arroyos, Mockingbird Canyon, the La Sierra/Norco Hills and Lake Mathews Preserve.

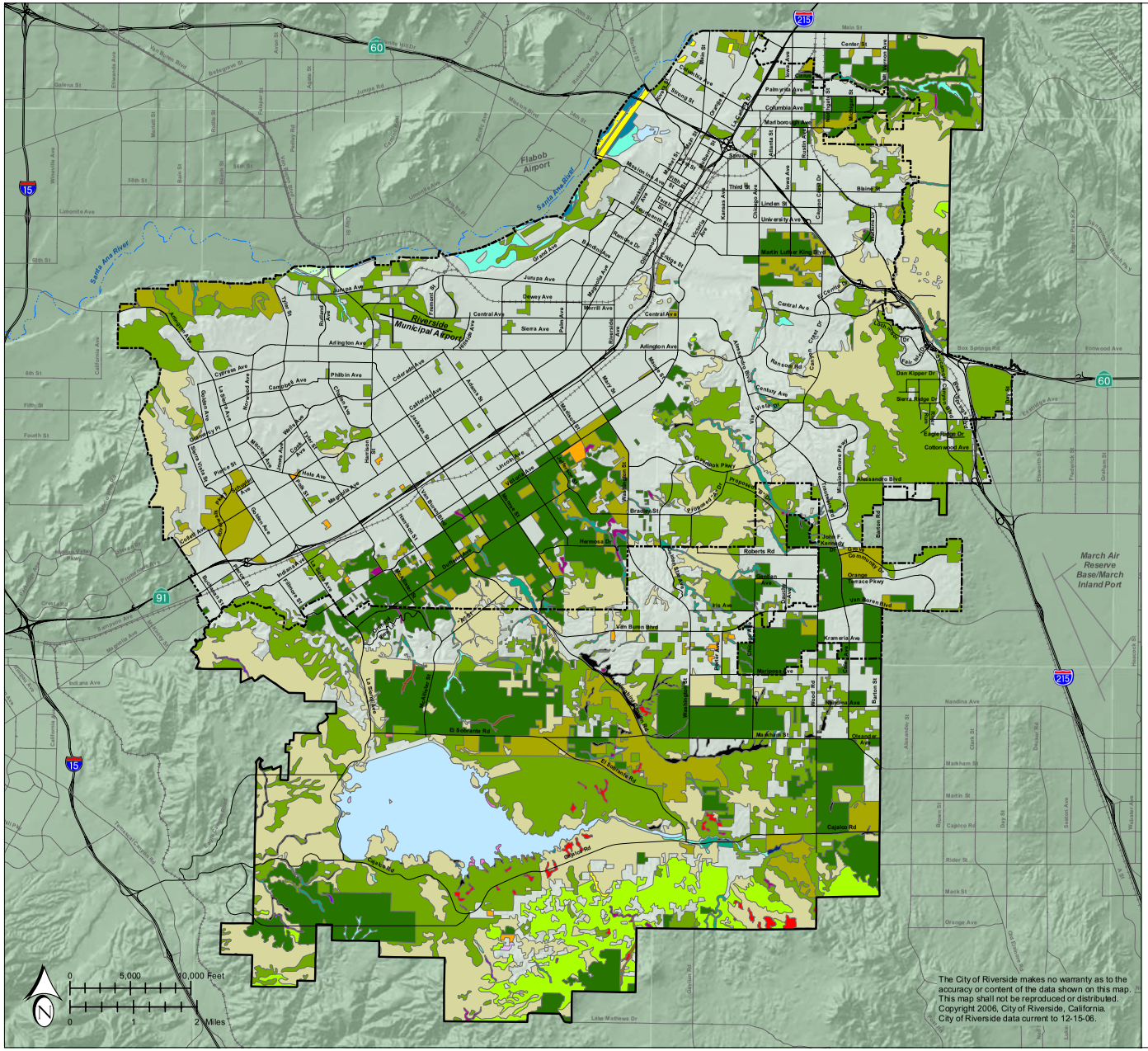
Preserving and protecting wildlife habitat equates to the preservation and protection of wildlife species. The great diversity of vegetation types and habitat located in the hillsides and arroyos of the City of Riverside support a wide variety of animal populations. Natural habitat such as riparian areas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

Plant Communities

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 12 major plant communities within the Planning Area shown with their approximate percentage of land within the Planning Area: urban/developed (44%); agriculture (16.9%); non-native grassland (16.9%); coastal scrub (14.7%); open water/reservoir (3%); chaparral (2.6%); riparian scrub/woodland/forest (1.7%); woodlands/forest (0.34%); Riversidean alluvial fan sage scrub (0.28%); marsh (0.02%); cismontane alkali marsh (0.18%); and vernal pools (0.00028%). These communities are shown on **Figure 5.4-1, Habitat Areas and Vegetation Communities,** and are discussed below**.**



CITY OF RIVERSIDE
ENVIRONMENTAL IMPACT REPORT

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
- 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 5.4-1
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, are 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 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 stockyards. Other citrus orchards are located on properties within the southern Sphere of Influence For more information on this topic see Section 5.2 – Agriculture Resources of this EIR and the Land Use and Urban Design Element under "Greenbelt and Agricultural Uses" and Arlington Heights and the Greenbelt" and the Open Space and Conservation Element under "Agricultural Preservation."

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 that 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, occupying approximately 14.7% (13,419 acres) of the Plan Area (GIS 2007). The plant community 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.

As described in the 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. prolifera*), tall prickly-pear (*Opuntia oricola*), and 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 plattyglossa*). 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.

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 5.4-1, 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 species of California lilac (*Ceanothus megacarpus*, *C. crassifolius, C. cuneatus and C. spinosus*), birch-leaved mountain mahogany (*Cercocarpus betuloides*), manzanita (*Arctostaphylos* spp.) and scrub oak (*Quercus berberdifolia*). 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, covering approximately 1.75% (1,596 acres) of 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 riverbanks and in other wet places. Giant reed is best developed in poor sandy soil but is tolerant of all types of soils, from heavy clays to loose sands and gravelly soils.

Arundo/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 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 (*Loncera 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 5.4-1**, the CNDDB database indicates that 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 approximately 309 acres (0.34% of Planning Area) of 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* 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 (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 streamsides, 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 dracunculus*), 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 5.4-1** 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, occupying approximately 0.018% (16.4 acres) of 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 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 comprise 0.00028% (0.25 acres) of the Planning Area. As noted in the MSHCP, vernal pools 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

Wildlife Species

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, burrowing rodents, woodrats and raccoons. 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. 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 within vernal pools in the Planning Area.

Wildlife Corridors

Terms such as habitat corridors, linkages, crossings, and travel routes are used to describe physical connections that allow wildlife to move between patches of suitable habitat in undisturbed landscapes as well as environments fragmented by urban development. To clarify the meaning of these terms and facilitate the discussion of wildlife movements in this analysis, these terms are further defined below.

Wildlife corridors link areas of suitable habitat that are otherwise separated by areas of nonsuitable habitat such as rugged terrain, changes in vegetation, or human disturbance. Wildlife corridors are essential to the regional ecology of a species because they provide avenues of genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities. Fragmentation of open space areas by urbanization creates "islands" of wildlife habitat that are more or less isolated from each other. In the absence of habitat corridors that allow movement between habitat islands, studies have concluded that some wildlife species, especially the larger and more mobile mammals, would not persist over time because fragmentation limits infusion of new individuals and erodes genetic diversity. Corridors mitigate the effects of this fragmentation by (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbance, thus reducing the risk of catastrophic events (such as fire or disease) that could lead to local extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and shelter. Wildlife corridors are typically relatively small, linear habitats that connect two or more habitat patches that would otherwise be fragmented or isolated from one another.

Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscaped-level corridors can provide both transitory and resident habitat for a variety of species. Although it is commonly used a synonym for wildlife corridor, a habitat linkage refers to a more substantial, or wider, land connection between two habitat areas. Habitat linkages allow for the periodic exchange of animals between habitat areas, which is essential to maintain adequate gene pools. This linkage is most notable among populations of medium-sized and larger animals.

A travel route is usually a landscape feature (such as ridgeline, drainage, canyon, or riparian corridor) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It provides adequate food, water, or cover for individuals moving between habitat areas and provide a relatively direct link between target habitat areas. Wildlife crossings are small, narrow areas that are relatively short in length. They allow wildlife to bypass an obstacle or barrier. Crossings typically are manmade and include culverts, underpasses, drainage pipes, bridges, and tunnels to provide access over/under roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent "choke points" along a movement corridor.

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.

Riparian corridors in the Planning Area serve as important migratory corridors between major open space areas. The Santa Ana River is an example of a protected migratory corridor preferred

by native wildlife, permanently set aside as open space by the County of Riverside Parks Department within its jurisdiction.

The City's canyons and 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. For example, at Central Avenue, where Box Springs Mountain and Sycamore Canyon pass near one another, is considered valuable for wildlife migration. 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.

Sensitive Biological Resources

Rare, Threatened, Endangered, Endemic, and/or Sensitive Species, or MSHCP Covered Species

Sensitive species include species listed as threatened or endangered under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). Species proposed for listing are also considered sensitive. Sensitive species also include those identified by U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Game (CDFG) as a Federal Species of Concern, Species of Special Concern, or a Special Animal. Species of Special Concern are considered sensitive because of declining population levels, limited ranges, and/or continuing threats, which have made them vulnerable to extinction. Special Animals refers to taxa, or group, that meets criteria established by the California Department of Fish and Game Natural Diversity Database (CNDDB). These species are either listed, rare, declining, associated with a declining habitat, have a limited range, or are listed as sensitive by other State or Federal agencies, or non-governmental organizations.

Information regarding the occurrences of special-status species in the vicinity of the Planning Area was obtained from searching the CDFG CNDDB for the Riverside East, Riverside West, and Lake Mathews USGS Quads. This database contains records of reported occurrences of Federal- or State-listed endangered, threatened, rare, or proposed engendered or threatened species, Federal species of concern, State species of special concern, or otherwise sensitive species or habitat that may occur within or in the immediate vicinity of the Planning Area. The results of the database search are listed in **Tables 5.4-1 and 5.4-2**.

Sensitive Plant Species

Sensitive plant species include those that have been afforded special status and/or recognition by Federal and State resource agencies, as well as private conservation organizations. In general, the principal reason an individual taxon (species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution resulting in most cases from habitat loss. **Table 5.4-A, Special-Status Plant Species Potentially Occurring in the Riverside Vicinity**, summarizes sensitive plant species known to occur in the Planning Area as identified using the CNDDB database, their status designation and habitat types in which they are likely to occur. This list is taken from the CNDDB database and does not indicate all species that may occur within the Planning Area.

All of these species may not occur in the study area. However, plant growth is dependent on or affected by factors such as geographical location, soil types, precipitation rates, angle, and direction of slopes, elevations, microclimates, and successional considerations. Therefore, it is not uncommon to find a particular plant or grouping of plants growing outside what would be considered their customary habitats if some of the above factors are advantageous to that growth.

Sensitive Wildlife Species

Among the diverse wildlife species within the City of 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.

Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These resources have been defined by Federal, State, and local government conservation programs. The source used to determine the sensitive status of vegetation communities was the California Natural Diversity Database (CNDDB). Sensitive vegetation communities within the Planning Area include vernal pools, southern cottonwood-willow riparian forest, southern sycamore-alder riparian forest, southern willow scrub, Southern California arroyo chub/Santa Ana sucker stream, southern coast live oak riparian forest, southern riparian forest, Riversidean alluvial fan sage scrub, Riversidean sage scrub, peninsular juniper woodland and scrub and cismontane alkali marsh, dense Englemann oak woodland, coast live oak woodland and mulefat scrub.

Table 5.4-A
Special-Status Plant Species Potentially Occurring in the Riverside Vicinity

Common Name	Scientific Name	Status Designation	Distribution Notes	MSHCP Status
Chaparral sand-verbena	*Abronia villosa var. aurita*	Federal: None State: None CNPS: 1B	Chaparral, coastal scrub, sandy areas. 80-1,600 m elevation.	Not Covered
Munz's onion	*Allium munzii*	Federal: END State: THR CNPS: 1B	Chaparral, coastal scrub, cismontane woodland, pinyon-juniper woodland, valley and foothill grassland. Only in Riverside Co. Heavy clay soils; grows in grasslands and openings within shrublands or woodlands. 300-1,035m elevation.	Covered
San Diego ambrosia	*Ambrosia pumila*	Federal: END State: None CNPS: 1B	Chaparral, coastal scrub, valley and foothill grassland, vernal pools. In the U.S., known only from San Diego and Riverside Co. Sandy loam or clay soil. In valleys, persists where disturbance has been superficial. 20-415m elevation.	Covered
Marsh sandwort	*Arenaria paludicola*	Federal: END State: END CNPS: 1B	Marshes and swamps. Growing up through dense mats of typha, juncus, scirpus, etc. in freshwater marsh.	Not Covered
Smooth tarplant	*Centromadia pungens ssp. laevis*	Federal: None State: None CNPS: 1B	Valley and foothill grassland, chenopod scrub, meadows, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 0-480m elevation.	Covered
Parry's spineflower	*Chorizanthe parryi var. parryi*	Federal: None State: None CNPS: 1B	Coastal scrub, chaparral. Dry slopes and flats; sometimes at interface of 2 vegetation such as chaparral and oak woodland; dry, sandy soils. 40-1,705m elevation.	Covered
Long-spined spineflower	*Chorizanthe polygonoides var. longispina*	Federal: None State: None CNPS: 1B	Chaparral, coastal scrub, meadows, valley, and foothill grassland. Gabbroic clay. 30-1,450m elevation.	Covered
Slender-horned spineflower	*Dodecahema leptoceras*	Federal: END State: END CNPS: 1B	Chaparral, coastal scrub (alluvial fan sage scrub), flood deposited terraces and washes.	Covered
Many-stemmed dudleya	*Dudleya multicaulis*	Federal: None State: None CNPS: 1B	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. 0-790m elevation.	Covered
Round-leaved filaree	*Erodium macrophyllum*	Federal: None State: None CNPS: 2	Cismontane woodland, valley and foothill grassland. Clay soils. 15-1,200m elevation.	Covered

Table 5.4-A
Special-Status Plant Species Potentially Occurring in the Riverside Vicinity

Common Name	Scientific Name	Status Designation	Distribution Notes	MSHCP Status
Coulter's goldfields	*Lasthenia glabrata ssp. coulteri*	Federal: None State: None CNPS: 1B	Coastal salt marshes, playas, valley and foothill grassland, vernal pools. Alkaline soils in playas, sinks, and grasslands. 1-1,400m elevation.	Covered
Robinson's pepper-grass	*Lepidium virginicum var. robinsonii*	Federal: None State: None CNPS: 1B	Chaparral, coastal scrub. Dry soils, shrubland. 1-945m elevation.	Not Covered
Parish's desert-thorn	*Lycium parishii*	Federal: None State: None CNPS: 2	Coastal scrub, Sonoran desert scrub, 300-1,000m elevation.	Not Covered
Rayless ragwort	*Senecio aphanactis*	Federal: None State: None CNPS: 2	Cismontane woodland, coastal scrub, drying alkaline flats. 20-575m elevation.	Not Covered

Federal designations: (Federal Endangered Species Act, USFWS):
- END: Federally listed, endangered
- THR: Federally listed, threatened
- SOC: Federal Species of Concern
- Candidate: Federal Candidate

State designations: (California Endangered Species Act, CDFG)
- END: State-listed, endangered
- THR: State-listed, threatened
- SOC: State Species of Special Concern

California Native Plant Society (CNPS) Designations:
- List 1A: Plants presumed extinct in California.
- List 1B: Plants rare and endangered in California and throughout their range.
- List 2: Plants rare and endangered in California, but more common elsewhere.
- List 3: More information is needed.
- List 4: Limited distribution.

Source:
California Natural Diversity Database (CNDDB 2003), Riverside East, Riverside West, and Lake Mathews USGS quads, October 3, 2006.

Table 5.4-B, Special-Status Wildlife Species Potentially Occurring in the Riverside Vicinity, summarizes sensitive wildlife species known to occur in the Planning Area as identified using the CNDDB Database, their status designation and habitat types in which they are likely to occur. This list is not all inclusive as the CNDDB is not an all inclusive list of species occurring in an area.

Table 5.4-B
Special-Status Wildlife Species Potentially Occurring in the Riverside Vicinity

Common Name	Scientific Name	Status Designation	Preferred Habitat	MSHCP Status
Birds				
Tricolor Blackbird	*Agelaius tricolor*	Federal: FSOC State: CSC	Freshwater marshes. Suitable breeding habitat includes cattails and bulrushes, as well as non-native thistles and mustards.	Covered
Southern California Rufous-Crowned Sparrow	*Aimophila ruficeps canescens*	Federal: None State: CSC	Rocky slopes, especially where a relatively open shrub cover dominated by California sagebrush is interspersed with grassy areas.	Covered
Bell's Sage Sparrow	*Amphispiza belli belli*	Federal: FSOC State: CSC	Relatively open chaparral, especially where dominated by chamise, but also occurs in sage scrub, especially in the more arid associations of this plant community.	Covered
Burrowing Owl	*Athene cunucularia*	Federal: FSOC State: CSC	Requires fairly large expanses of relatively open level terrain, including grasslands, agricultural fields, and dairies and occasionally may use undisturbed edges of golf courses or airports.	Covered
Western Yellow-Billed Cuckoo	*Coccyzus americanus occidentalis*	Federal: FC State: SE	Restricted to extensive deciduous riparian thickets or forest with dense, low-level or understory foliage which occur along slow moving watercourses, backwaters or seeps. Willows are almost always a dominant component-nesting habitat.	Covered
Bald Eagle	*Haliaeetus leucocephalus*	Federal: FT State: FE	Open areas, forest edges and mountains near large lakes and rivers. Requires tall trees for nesting.	Covered
Yellow-Breasted Chat	*Icteria virens*	Federal: None State: CSC	Edges of woods, fencerows, dense thickets and brambles in low wet places near streams, pond edges or swamps and in old overgrown clearings and fields. Nests in small trees such as wild rose, hawthorn and snowberry thickets, elderberry and saskatoon.	Covered
Loggerhead shrike	*Lanius ludovicianus*	Federal: FSOC State: CSC	Open areas (e.g., grassland, rangeland, fallow agricultural fields), especially where there are scattered large shrubs or trees.	Covered
Coastal California Gnatcatcher	*Polioptila californica californica*	Federal: FT State: CSC	Obligate resident of several distinct sub-associations of the coastal sage scrub plant community.	Covered
Least Bell's Vireo	*Vireo bellii pusillus*	Federal: FE State: SE	Mature riparian habitat with a dense understory of young willows, mule fat,	Covered

Table 5.4-B
Special-Status Wildlife Species Potentially Occurring in the Riverside Vicinity

Common Name	Scientific Name	Status Designation	Preferred Habitat	MSHCP Status
			blue elderberry, California rose, desert wild grape, and a variety of other shrubby species.	
Fish				
Santa Ana Sucker	*Catostomus santaanaae*	Federal: FT State: CSC	Small- to medium-sized permanent streams in water of varying depth. Flow is also variable. Usually found in clear water, they are able to tolerate seasonal turbidity. Prefers substrates that are generally coarse and consist of gravel, rubble, and boulder, but are occasionally found on sandy or muddy substrates.	Covered
Arroyo Chub	*Gila orcutti*	Federal: None State: CSC	Lowland habitats, and prefers freshwater streams and rivers with steady currents and emergent vegetation. Prefers slower-moving pools and ponded areas of streams with mud or sand substrates.	Covered
Santa Ana Speckled Dace	*Rhinichthys osculus ssp. 3*	Federal: None State: CSC	Requires permanent flowing streams with summer water temperatures of 17-20 C (60-68 F). Typically, streams are maintained by outflows of cool springs. Inhabits shallow cobble and gravel riffles.	Not Covered
Mammals				
Northwestern San Diego Pocket Mouse	*Chaetodipus fallax fallax*	Federal: None State: CSC	Coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper and annual grassland in sandy herbaceous areas, usually in association with rocks or course gravel.	Covered
Stephens' Kangaroo Rat	*Dipodomys stephensi*	Federal: FE State: ST	Inhabits annual grassland with sparse perennial vegetation in the San Jacinto Valley and adjacent areas of western Riverside and northwestern San Diego County.	Covered
San Diego Black-Tailed Jackrabbit	*Lepus californicus bennettii*	Federal: None State: CSC	Arid regions supporting short-grass habitats such as annual grassland, Riversidean sage scrub, alluvial fan sage scrub. Great Basin sagebrush, chaparral, disturbed habitat and agriculture.	Covered
Los Angeles Pocket Mouse	*Perognathus longimenbris brevinasus*	Federal: None State: CSC	Restricted to lower elevation grasslands and coastal sage scrub associations in the Los Angeles Basin.	Covered

Reptiles				
Orange Throated Whiptail	*Aspidoscelis hyperythrus*	Federal: None State: CSC	Inhabits low-elevation coastal scrub, chaparral and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks.	Covered
Coastal Western Whiptail	*Aspidoscelis tigris stejnegeri*	Federal: None State: CSC	Found in deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy or rocky.	Covered
Rosy Boa	*Charina trivirgata*	Federal: FSOC State: CSC	Desert and chaparral. Prefers moderate to dense vegetation and rocky cover. Mix of brushy cover and rocky soil such as coastal canyons and hillsides, desert canyons, washes and mountains.	Not Covered
Northern Red-Diamond Rattlesnake	*Crotalus rubber rubber*	Federal: None State: CSC	Chaparral, woodland, grassland, and desert areas. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Covered
Coast (San Diego) Horned Lizard	*Phrynosoma coronatum (blainvillei)*	Federal: None State: CSC	Open or sparse scrub and chaparral communities. This species prefers loose, friable soil for burrowing.	Covered
Western Spadefoot Toad	*Spea hammondii*	Federal: FSOC State: CSC	Grassland, coastal sage scrub and other habitats with open sandy gravel soils. Breeds in vernal pools and temporary ponds/pools associated with river bottoms and floodplains. Primarily a species of the lowlands, frequenting washes, floodplains of rivers, alluvial fans and alkali flats.	Not Covered
Invertebrates				
Riverside Fairy Shrimp	*Streptocephalus woottoni*	Federal: FE State: None	Areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	Covered

Status Codes

Federal		State	
FE	= Federal listed; Endangered	**ST**	= State-listed; Threatened
FT	= Federal listed; Threatened	**SE**	= State-listed; Endangered
FPE	= Federal Proposed Endangered	**CSC**	= California Species of Special Concern
FPT	= Federal Proposed Threatened		
FSOC	= Federal Species of Concern		
FC	= Federal Candidate Species		

Source:
California Natural Diversity Database (CNDDB 2003), Riverside East, Riverside West and Lake Mathews USGS quads. October 3, 2006.

Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. Therefore, significance determinations utilized in this Section are from Appendix G of the CEQA Guidelines. A significant impact will occur if implementation of the project will:

- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan, such as the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP);
- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Related Regulations

The following paragraphs summarize the regulatory context under which biological resources are managed at the Federal, State, and local levels.

Federal Regulations

Federal Endangered Species Act (FESA; 16 U.S. Code Section 153 *et seq.*)

The United States Fish and Wildlife Service (USFWS), under the auspices of the Federal Endangered Species Act of 1973 (as amended), manage and protect species listed as endangered or threatened. The USFWS can issue a permit for incidental "take" of listed species as a result of otherwise lawful activities. Take, under the Federal definition, means to harass, harm (including habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. The permitting process is used to determine if a project would jeopardize the continued existence of listed species and what mitigation measures would be required to avoid or minimize impacts to listed species. Procedures for obtaining a permit for incidental take are identified under Section 7 of the Act for Federal properties or where Federal actions are involved, and are identified under Section 10 of the Act for non-Federal actions.

Candidate species do not have the full protection of the FESA; however, the USFWS advises applicants that candidate species could be elevated to listed species at any time.

The MSHCP was prepared to provide for the take and mitigation of the 146 species covered under the MSHCP pursuant to the FESA. The MSHCP allows for the issuance of take at the local level, by MSHCP permittees including the City of Riverside, thereby streamlining the take authorization process on a project-by-project basis.

Migratory Bird Treaty Act (16 USC Section 703-711)

The Migratory Bird Treaty Act (MBTA) of 1918, implemented by the USFWS, is an international treaty that makes it unlawful to take, possess, buy, sell, purchase, or barter, any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs or products, except as allowed by implementing regulations (50 CFR 21). The MSHCP Section 10 Take Permit constitutes a Special Purpose Permit pursuant to the MBTA.

Bald and Golden Eagle Protection Act (16 USC Section 668)

The Bald and Golden Eagle Protection Act provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. If compatible with the preservation of bald and golden eagles, the Secretary of the Interior may permit the taking, possession and transportation of bald and golden eagles and nests for scientific or religious purposes, or for the protection of wildlife, agricultural or other interests. The Secretary of the Interior may authorize the take of golden eagle nests, which interfere with resource development or recovery operations. Bald eagles may not be taken for any purpose unless the Secretary issues a permit prior to the taking.

Clean Water Act (33 USC 1252–1376)

Section 401 of the Clean Water Act (CWA) requires an applicant to obtain certification for any activity that may result in a discharge of a pollutant into Waters of the United States. As a result, proposed fill in waters and wetlands requires coordination with the appropriate State Regional Water Quality Control Board (RWQCB) that administers Section 401 and provides certification. The RWQCB also plays a role in review of water quality and wetland issues, including avoidance and minimization of impacts. Section 401 certification is required prior to the issuance of a Section 404 permit.

Under Section 404 of the CWA, the U.S. Army Corps of Engineers (ACOE) has jurisdiction over "Wetlands" and "Waters of the United States." Permitting of activities that could discharge fill or dredge materials or otherwise adversely modify wetlands or other waters of the United States and associated habitat is required. Permits authorized by ACOE under the Act typically contain mitigation to offset unavoidable impacts on wetlands and other waters of the United States in a manner that achieves no net loss of wetland acres or values.

Executive Order 11990, Protection of Wetlands (May 24, 1977)

This Executive Order establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On projects with Federal actions or approvals, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm to those wetlands must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding in the final environmental document for the proposed project.

State Regulations

California Endangered Species Act (Fish and Game Code 2050 *et seq*.)

The California Endangered Species Act (CESA) establishes State policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that State agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. CESA definitions of endangered and threatened species parallel those defined in the FESA. Take authorizations from California Department of Fish and Game (CDFG) are required for any unavoidable impact to State-listed species resulting from proposed projects.

Prior to being considered for protected status, the CDFG designates a species as a species of special concern. Species of special concern are those species for which CDFG has information indicating that the species is declining.

The MSHCP was prepared to provide for the take and mitigation of species covered under the MSHCP pursuant to the California Natural Community Conservation Planning Act. The MSHCP allows for the issuance of take at the local level, by MSHCP permittees including the City of Riverside, thereby streamlining the take authorization process on a project-by-project basis.

Native Plant Protection Act (Fish and Game Code Sections 1900–1913)

California's Native Plant Protection Act (NPPA) requires all State agencies to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of the CDFG at least 10 days in advance of any change in land use, which would adversely impact, listed plants. This requirement allows CDFG to salvage listed plant species that would otherwise be destroyed.

Fish and Game Code Sections 1600–1603

The CDFG, through provisions of the Fish and Game Code Sections 1600–1603, is empowered to issue agreements (Streambed Alteration Agreements) for projects that would "divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" (Fish and Game Code Section 1602[a]). Streams and rivers are defined by the presence of a channel bed and banks, and intermittent flow. The limits of CDFG jurisdiction are also based on riparian habitat and may include wetland areas that do not meet ACOE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

Unlawful Take or Destruction of Nests or Eggs (Fish and Game Code Sections 3503.5-3513)

Section 3503.5 of the Fish and Game Code of California specifically protects birds of prey. The Code states:

> It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

Section 3513 of the Fish and Game Code of California duplicates the Federal protection of migratory birds. The Code states:

> It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act.

Natural Community Conservation Planning Act (Fish and Game Code Sections 2800–2835)

The purpose of natural community conservation planning is to sustain and restore those species and their habitat identified by the department that are necessary to maintain the continued viability of those biological communities impacted by human changes to the landscape. It is also the policy of the State to conserve, protect, restore, and enhance natural communities. The State may acquire a fee or less than fee interest in lands consistent with approved natural community conservation plans and may provide assistance with the implementation of those plans. The MSHCP satisfies the requirements of the California Natural Community Conservation Planning Act.

California Environmental Quality Act-Treatment of Listed Plant and Animal Species

The FESA and CESA protect only those species formally listed as threatened or endangered (or rare in the case of the State list). However, Section 15380 of the CEQA Guidelines independently defines "endangered" species of plants or animals as those whose survival and reproduction in the wild are in immediate jeopardy and "rare" species as those who are in such low numbers that they could become endangered if their environment worsens.

California Wetlands Conservation Policy (1993)

California wetlands policy is more restrictive than Federal wetlands policy. The goal of California Wetlands Conservation Policy (1993) is to ensure no net loss of wetlands within the State. This policy, incorporated in an executive order by then Governor Pete Wilson, also encourages a long-term net gain in the State's quantity, quality, and permanence of wetlands acreage and values. Interpretation of this order indicates that any developer wishing to fill in wetlands for construction for new development must perform mitigation in the form of constructed wetlands elsewhere at ratios raging from 2:1 to 10:1. In addition to the USACE, State regulatory agencies claiming jurisdiction over wetlands include the CDFG and the State Water Resources Control Board.

Porter-Cologne Water Quality Act

The *Porter-Cologne Water Quality Control Act* charges the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCB) statewide with protecting water quality throughout California. Typically, the SWRCB and RWQCB act in concert with the ACOE under Section 401 of the CWA in relation to permitting fill of Federal jurisdiction of the ACOE under Section 404 pf the CWA. This action did not limit the State's regulatory jurisdiction over Waters of the State. Waters of the State are defined in Section 13050(c) of the *Porter-Cologne Water Quality Control Act* "… any surface water or groundwater, including saline waters, within the boundaries of the State." Currently, an applicant would delineate the wetlands on their property utilizing methodology presented in the *1987 Corps of Engineers Wetland Delineation Manual* and the delineation would be verified by the ACOE. In cases where an area meets the criteria to be considered a wetland, but the ACOE does not have jurisdiction, the applicant is referred to the appropriate RWQCB. In these cases, the

project must receive a permit for Waste Discharge Requirements or Waiver of Waste Discharge Requirements from the RWQCB. Projects that affect Waters of the State are required by the RWQCB to incorporate mitigation. Mitigation ratios are determined on a project-specific basis during the permitting process and are based on the quality of the wetlands impacts by the project.

Local Regulations, Habitat Conservation Plans, and Policies

Stephens' Kangaroo Rat Habitat Conservation Plan

The proposed project 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). 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.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The MSHCP serves as a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP), pursuant to Section (a)(1)(B) of the Federal Endangered Species Act of 1973, as well as a Natural Communities Conservation Plan (NCCP) under the State NCCP Act of 2001. The plan "encompasses all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto." The overall biological goal of the MSHCP is to conserve covered species and their habitats, as well as maintain biological diversity and ecological processes while allowing for future economic growth within a rapidly urbanizing region.

Federal and State wildlife agencies approved permits required to implement the MSHCP on June 22, 2004. The City of Riverside adopted the MSHCP on October 7, 2003. Implementation of the plan will conserve approximately 500,000 acres of habitat, including 347,000 acres of land already in public or quasi-public ownership and about 153,000 acres of land that will be purchased or conserved through other means, such as land acquisition, conservation easements or designated open space. The money for purchasing private land will come from numerous sources such as development mitigation fees as well as State and Federal funds.

The MSHCP includes a program for the collection of development mitigation fees, policies for the review of projects in areas where habitat must be conserved and policies for the protection of

riparian areas, vernal pools, and narrow endemic plants. It also includes requirements to perform plant, bird, reptile, and mammal surveys in certain areas.

The primary intent of the MSHCP is to provide for the conservation of a range of plants and animals and in return, provide take coverage and mitigation for projects throughout Western Riverside County to avoid the cost and delays of mitigating biological impacts on a project-by-project basis. It would allow the incidental take (for development purposes) of species and their habitat from development.

The City is a permittee to the MSHCP. As part of the General Plan Update, continued participation of the MSHCP is desired, and any new proposed project is required to comply with applicable provisions of the plan.

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).

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 Act. Projects and activities covered by the Lake Mathews Plan include:

- Biological management of the Lake Mathews Plan Combined Reserve (multi-jurisdictional reserve);
- Property management in the Lake Mathews Plan area, including maintenance of roads and fences and implementation of a Fire Management Plan;
- Facility improvements and related projects in operations, and operation and maintenance, activities at the MWD Lake Mathews facility;
- Construction, operation, and maintenance of the MWD Lake Mathews Plan area projects;
- 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

- 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. 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.

City of Riverside Urban Forest Tree Policy

The City of Riverside is known as a "City of Trees." The City's Urban Forest Tree Policy Manual provides guidelines for the preservation and protection of the City of Riverside's tree heritage.

Related General Plan Policies

Implementation of the following General Plan policies will assist in minimizing adverse conditions to biological resources for the City. A key objective of the overall General Plan 2025 Program is to preserve the City's natural and historic assets by focusing new development within already urbanized areas along major transportation corridors. The General Plan enacts policies that actively discourage intensive "greenfield" development at the urban periphery as a means of reducing urban sprawl. The General Plan, in particular, the Open Space and Conservation, Air Quality and Land Use and Urban Design Elements include the following policies designed to limit potential impacts on biological resources over the long term:

Overarching Objectives – Open Space Element

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 organization to acquire properties for open space and conservation uses.

Support efforts of nonprofit preservation groups, such as the Riverside Land Conservancy, to acquire properties for open space and conservation purposes.

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

Policy OS-1.8: 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.

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.

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-2.4: 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.

Agricultural Preservation – 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

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.

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 the arroyos of Riverside and riparian habitat areas through the preservation of native plants.

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

Santa Ana River Task Force

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

Housing Strategies

Policy AQ-1.9: Adhere to the adopted Master Plan for open spaces, trails and bikeways.

Santa Ana River

Policy LU-2.2: Utilize the 2004 Santa Ana River Task Force Report in planning, programming, and implementing environmental and recreational improvements to the River area.

Hillsides

Policy LU-3.1: Pursue methods to preserve hillside open space and natural habitat.

Policy LU-3.2: Seek annexation of properties that will reduce ridgeline/hillside development on the City's periphery.

Policy LU-4.1: Adhere to the protections for hillside development set forth in Proposition R and Measure C.

Policy LU-4.2: Enforce the hillside grading provisions of the City's Grading Code (Title 17) to minimize ground disturbance associated with hillside development; respect existing land contours to maximum feasible extent.

Policy LU-4.3: Work closely with the County of Riverside, emphasizing the City's need to participate in the development review of projects proposed in surrounding unincorporated areas. Work to ensure that such developments proceed in concert with City of Riverside standards.

Policy LU-4.4: Ensure that the City provides comments to Riverside County on proposed new hillside development in the City's Sphere of Influence, include recommendations for compliance with the provisions of Proposition R and Measure C, the RC Zone, the Hillside Residential land use designation, and the City's Grading Code (Title 17).

Policy LU-4.5: Seek opportunities for new or enhanced trail/pedestrian linkages between hillside areas and other components of Riverside Park.

Arroyos

Policy LU-5.1: Minimize public and private development in and in close proximity to any of the City's arroyos.

Policy LU-5.2: Recognize the City's arroyos as components of Riverside Park.

Policy LU-5.3: Encourage that any crossings of the City's major arroyos are span bridges or soft bottom arch culverts that minimize disturbance of the ground and any wetland area. At grade crossings are strongly discouraged in major arroyos. To minimize disturbance of the arroyo the design will take into consideration aesthetics, biological, hydrological and permitting (i.e., MSHCP, ACOE, DFG, etc.) requirements to promote the free movement of water and wildlife.

In addition, areas of the arroyo disturbed by construction will be restored consistent with requirements of the MSHCP, as well as the ACOE's 404 Permit Program and DFG's Streambed Alteration Agreement Program as applicable.

Policy LU-5.4: Continue to require open space easements in conjunction with new development to be recorded over arroyo areas, per the City's Grading Code.

Policy LU-5.5: Work with Riverside County to develop, implement and maintain comprehensive management plans for protection of entire arroyo systems.

Policy LU-5.6: The design of the crossing of the Alessandro Arroyo, for the purposes of connecting Overlook Parkway, will be considered through the Specific Plan process noted in polices CCM-4.2 and LU-13.2. The design will take into consideration aesthetics, biological, hydrological and permitting (i.e., MSHCP, ACOE, DFG, etc.) requirements to promote the free movement of water and wildlife. In addition, areas of the arroyo disturbed by construction will be restored consistent with requirements of the MSHCP, as well as the ACOE's 404 Permit program as DFG's Streambed Alteration Agreement program as applicable.

Protecting Wildlife, Endangered Species, and Their Habitat

Policy LU-7.1: Continue to maintain Sycamore Canyon Wilderness Park as primarily a functioning wildlife habitat.

Policy LU-7.2: Design new development adjacent and in close proximity to native wildlife in a manner which protects and preserves habitat.

Policy LU-7.3: Continue to require natural open space easements in conjunction with new development in hillside and arroyo areas over non-graded areas of the development.

Policy LU-7.4: Continue to participate in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

Overlook Parkway

Policy CCM-4.1: Limit the Overlook Parkway completion over the arroyo to a two-lane roadway within a one-hundred-ten-foot right-of-way.

Policy CCM-4.2: The connection of Overlook Parkway across the Alessandro Arroyo shall not be completed until a detailed specific plan analyzing potential connection routes between Washington Street and the SR-91 has been adopted. Analysis of the fore mentioned connection route should, at a

minimum include the area bounded by Mary Street, Adams Street, Dufferin Street, and SR-91. See Figure CCM-3 for a map of the study area.

Policy CCM-4.3: Ensure that LOS D or better is maintained along Victoria Avenue for intersections related to the Overlook Parkway extension. For more information on Victoria Avenue see LU-13 and CCM-2.14.

Policy CCM-4.4: Prohibit the removal of the Crystal View Terrace barrier prior to the connection of Overlook Parkway across the Alessandro Arroyo.

Victoria Avenue

Policy LU-13.2: Intersection improvements on Victoria Avenue related to the extension of Overlook Parkway shall be determined in conjunction with a specific plan for Overlook Parkway between Alessandro Boulevard and the 91 Freeway. The specific plan shall address the crossing of the Alessandro Arroyo, traffic-calming measures necessary to protect local streets in the area and the extension of Overlook Parkway westerly of the Washington Street/Overlook Parkway intersection. Acceptable levels of service of intersection(s) on Victoria Avenue related to the extension of Overlook Parkway shall be determined as a part of the specific plan process. In any event, all improvements shall be designed to sensitively reflect Victoria Avenue's historic character.

Environmental Impacts Before Mitigation

Threshold*: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan, such as the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).*

Implementation of the proposed General Plan within the City and Sphere Area would be subject to the MSHCP. General Plan Policy OS-5.2 states that the City will continue to participate in the MSHCP Program and LU 7.1 through 7.4, above, reinforce generally and specifically the MSHCP. The General Plan is also in conformance with the MSHCP. For example, the General Plan land use designations within and adjacent to MSHCP Criteria Cells (shown on **Figure 5.4-4, MSHCP Criteria Cells**) are such that conservation may be able to be achieved easily. In the Northern Sphere Area, land uses within and/or adjacent to Criteria Cells include Agriculture, Hillside Residential, Public Park, and Open Space/Natural Resource. In the Southern Sphere area, land uses within and/or adjacent to Criteria Cells include Agriculture/Rural Residential and Kangaroo Rat Habitat. The isolated Criteria Cells that are located along the Santa Ana River are designated as Open Space/Natural Resource, Public Park, Private Recreation and a small area of Industrial. Criteria Cells 545, 634, 634, 719 and 721 are in part identified to provide a linkage from Sycamore Canyon to Box Springs Mountain as supported by General Plan Policy OS-6.4 which requires the City to 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.

Implementation of the proposed General Plan within the City and Sphere Area would also be subject to the SKR HCP. Policy OS-5.3 states that the City will continue to participate in the SKR HCP including collection of mitigation fees. The General Plan is in conformance with the SKR HCP as evidenced by the areas of the core reserve located near Lake Mathews being designated as Kangaroo Rat Habitat, and the Recreation Element of the General Plan identifies Sycamore Canyon Park as a wilderness reserve and SKR core reserve.

Located within the southern Sphere Area is the Lake Mathews Multiple Species Habitat Conservation Plan & Natural Community Conservation Plan. This HCP applies to Metropolitan Water District land and projects. Adjacent to the southern Sphere Area is the El Sobrante Landfill Habitat Conservation Plan, which applies to projects within the landfill area (**see Figure 5.4-3, Stephens' Kangaroo Rat (SKR) Core Reserves and Other Habitat Conservation Plans (HCP)**). Since the Lake Mathews Plan and the El Sobrante Plan apply to individual agencies, the City will not have jurisdiction over proposed projects within these HCP's. The City will comply with all applicable policies and procedures in the MSHCP and SKR HCP as outlined below.

MSHCP Criteria Area

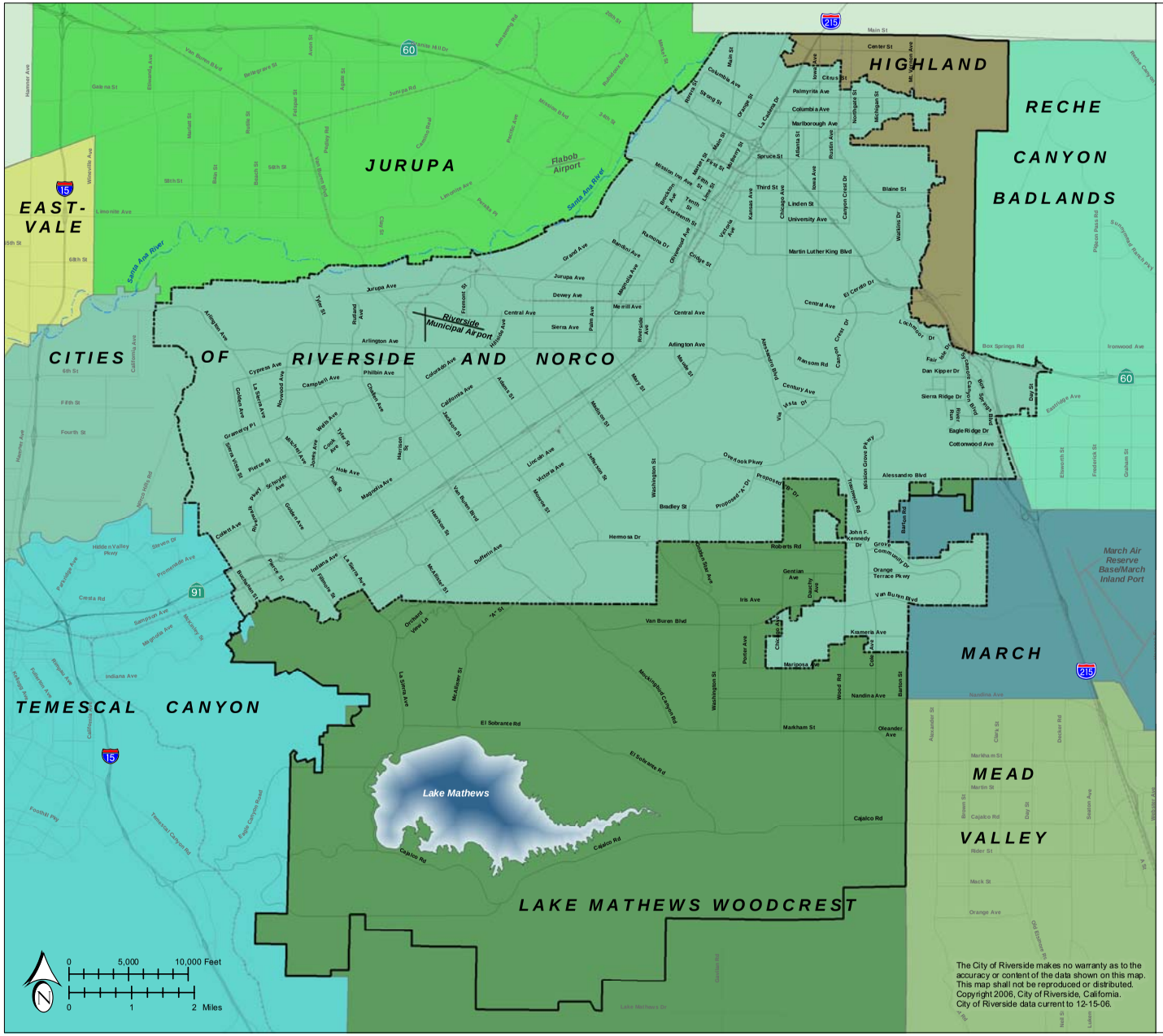
The City of Riverside's Planning Area is located within the Riverside Area Plan, partially within the Highgrove Area Plan, and Lake Mathews Area Plan of the MSHCP, as shown on **Figure 5.4-2, MSHCP Area Plans**. The target for conservation within the Riverside Area Plan is between 90 to 240 acres, within 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 5.4-4, MSHCP Criteria Cells and Subunit Areas.**

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 issues to the County and Cities pursuant to the MSHCP." Proposed development projects and public projects located within Criteria Area will also 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 5.4-5 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 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.



CITY OF RIVERSIDE
ENVIRONMENTAL IMPACT REPORT

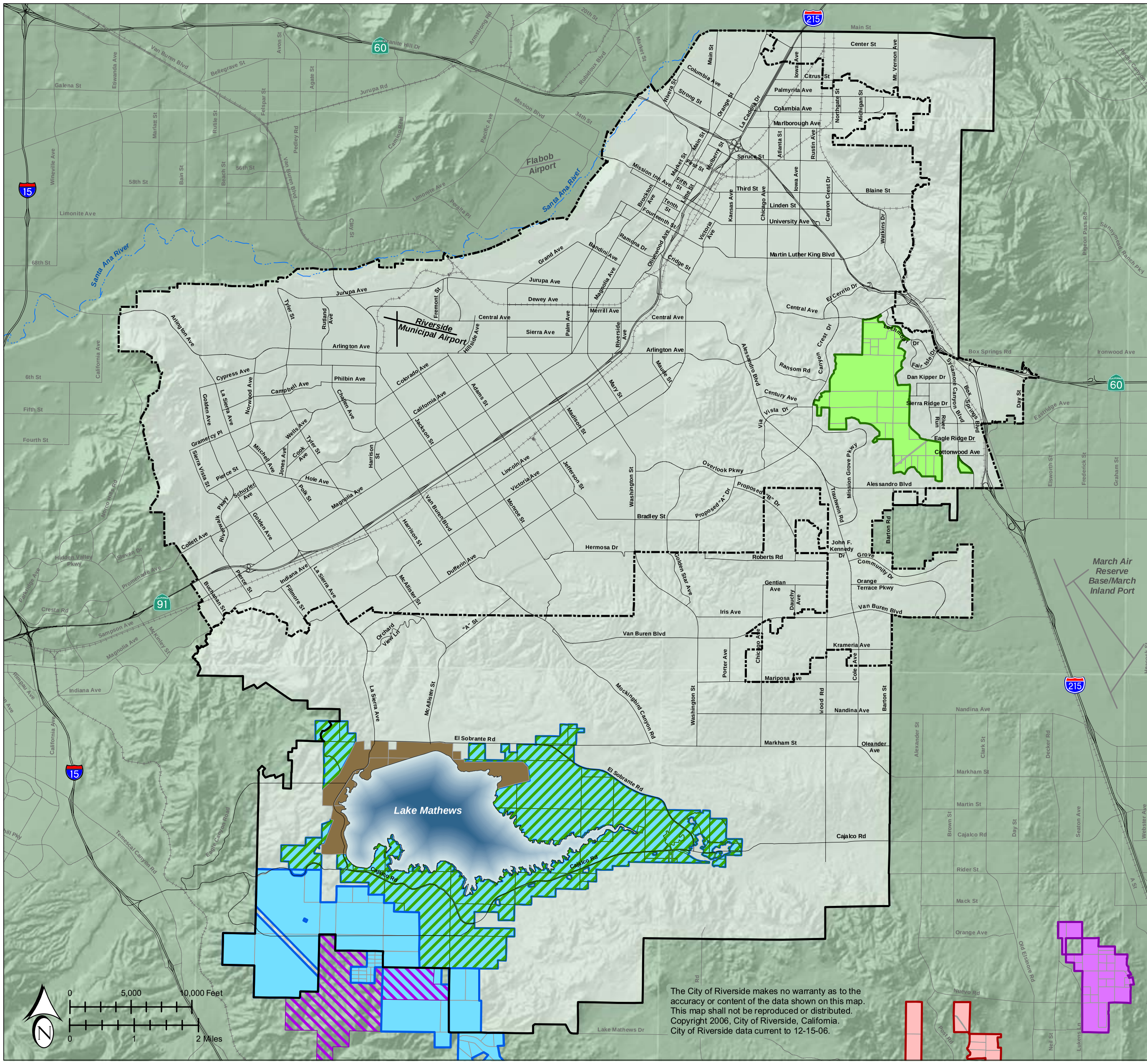
LEGEND

- CITIES OF RIVERSIDE AND NORCO
- EASTVALE
- HIGHGROVE
- JURUPA
- LAKE MATHEWS WOODCREST
- MARCH
- MEAD VALLEY
- RECHE CANYON BADLANDS
- TEMESCAL CANYON
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY GIS DATA

Figure 5.4-2

MSHCP AREA PLANS



CITY OF RIVERSIDE
ENVIRONMENTAL IMPACT REPORT

L E G E N D

STEPHENS' KANGAROO RAT (SKR) CORE RESERVES

- LAKE MATHEWS - ESTELLE MOUNTAIN (INCLUDES LAKE MATTHEWS HCP)
- MOTTE
- SYCAMORE CANYON
- STEELE PEAK

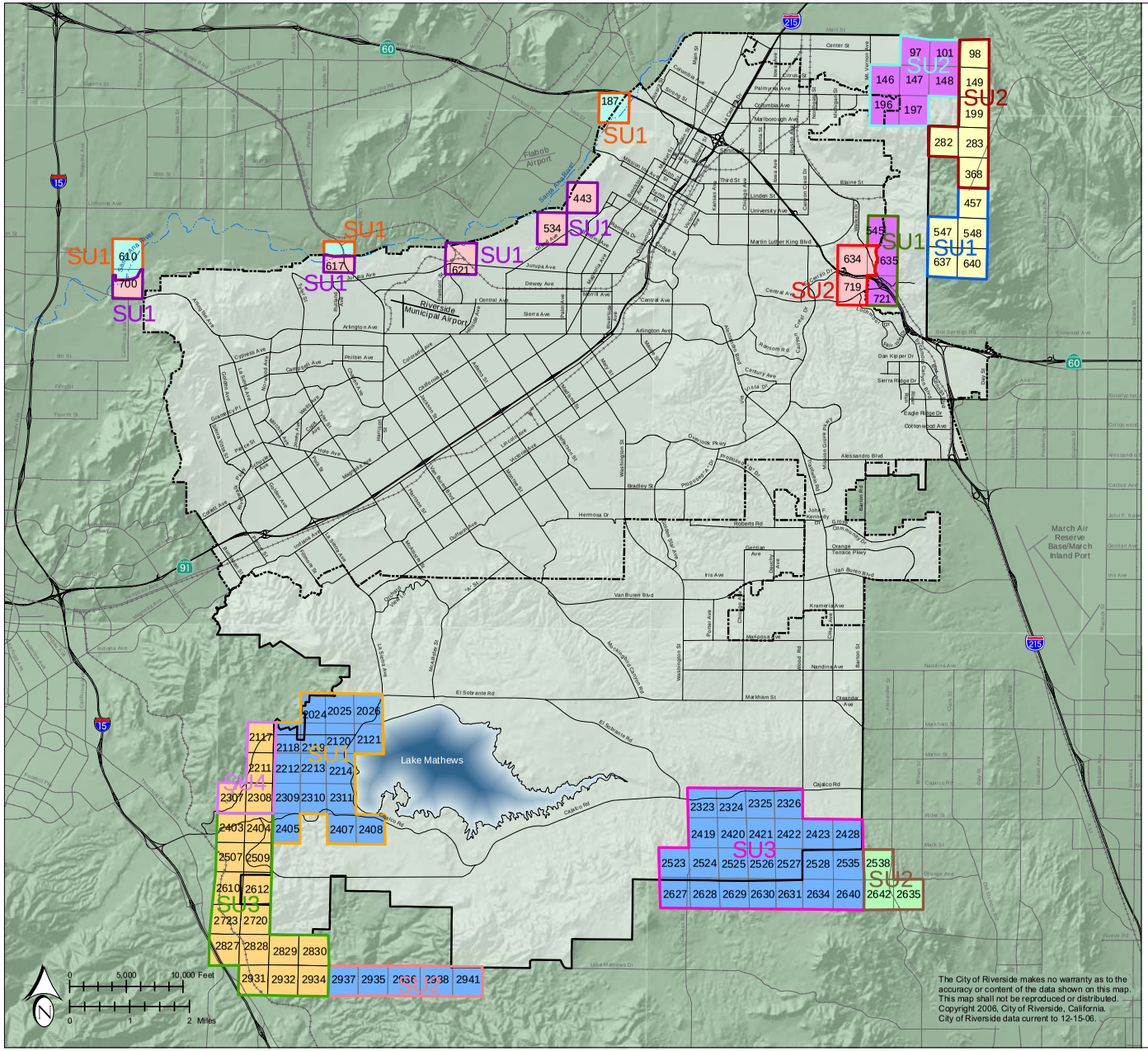
HABITAT CONSERVATION PLAN (HCP)

- 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 5.4-3

STEPHENS' KANGAROO RAT (SKR) CORE RESERVES AND OTHER HABITAT CONSERVATION PLANS (HCP)



CITY OF RIVERSIDE
ENVIRONMENTAL IMPACT REPORT

LEGEND

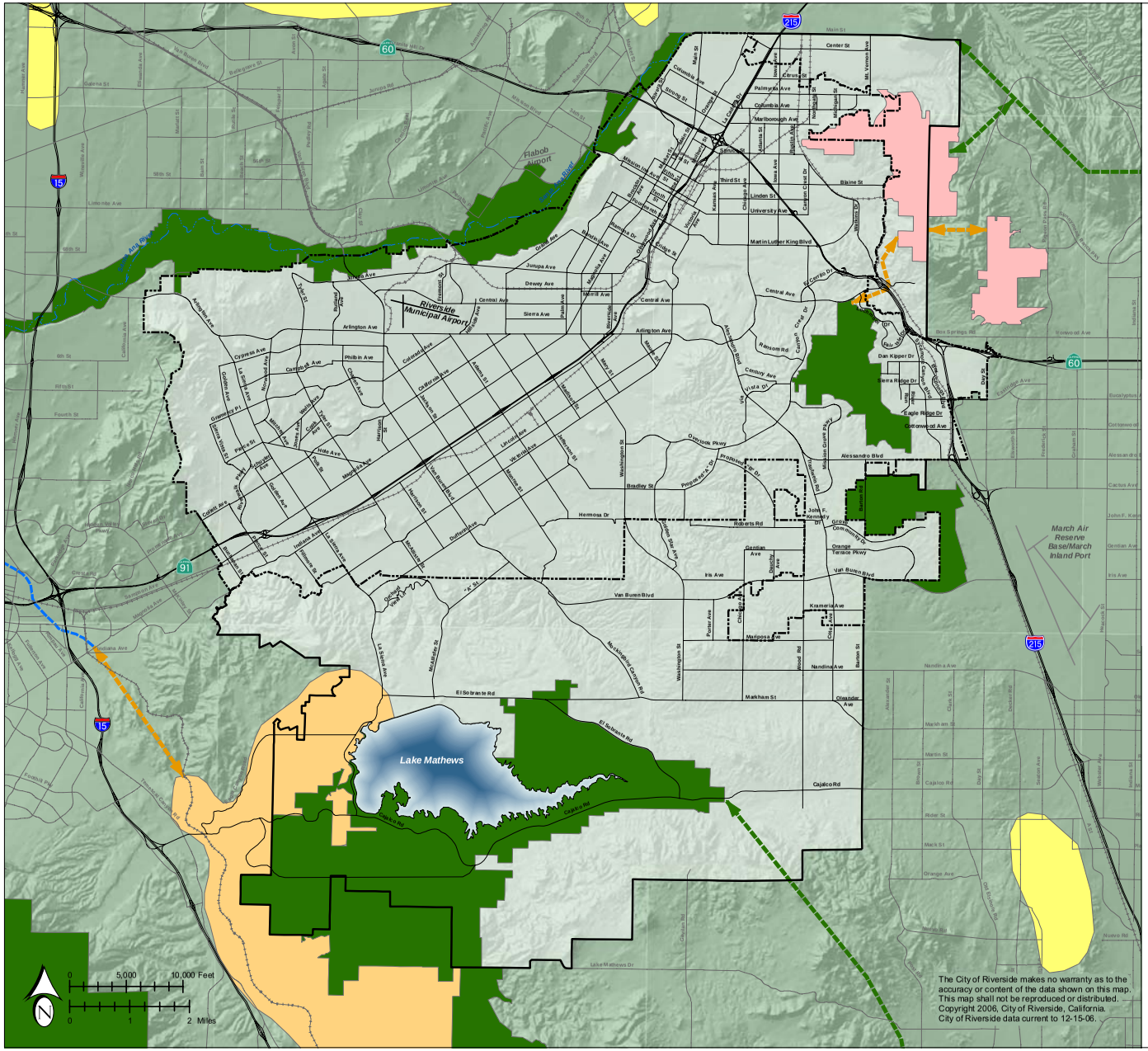
AREA PLAN

- CITIES OF RIVERSIDE & NORCO
  - SU1 = SANTA ANA RIVER SOUTH
  - SU2 = SYCAMORE CANYON WEST
- HIGHGROVE
  - SU1 = SYCAMORE CANYON/BOX SPRINGS CENTRAL
  - SU2 = SPRINGBROOK WASH NORTH
- JURUPA
  - SU1 = SANTA ANA RIVER NORTH
- LAKE MATHEWS WOODCREST
  - SU1 = LAKE MATHEWS EAST
  - SU2 = DAWSON CANYON
  - SU3 = GAVILAN HILLS WEST
- MEAD VALLEY
  - SU2 = GAVILAN HILLS EAST
- RECHE CANYON BADLANDS
  - SU1 = BOX SPRINGS EAST
  - SU2 = RECHE CANYON
- TEMESCAL CANYON
  - SU3 = TEMESCAL WASH WEST
  - SU4 = LA SIERRA HILLS/LAKE MATHEWS WEST
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY GIS DATA

Figure 5.4-4

MSHCP CRITERIA CELLS AND SUBUNIT AREAS



CITY OF RIVERSIDE
ENVIRONMENTAL IMPACT REPORT

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

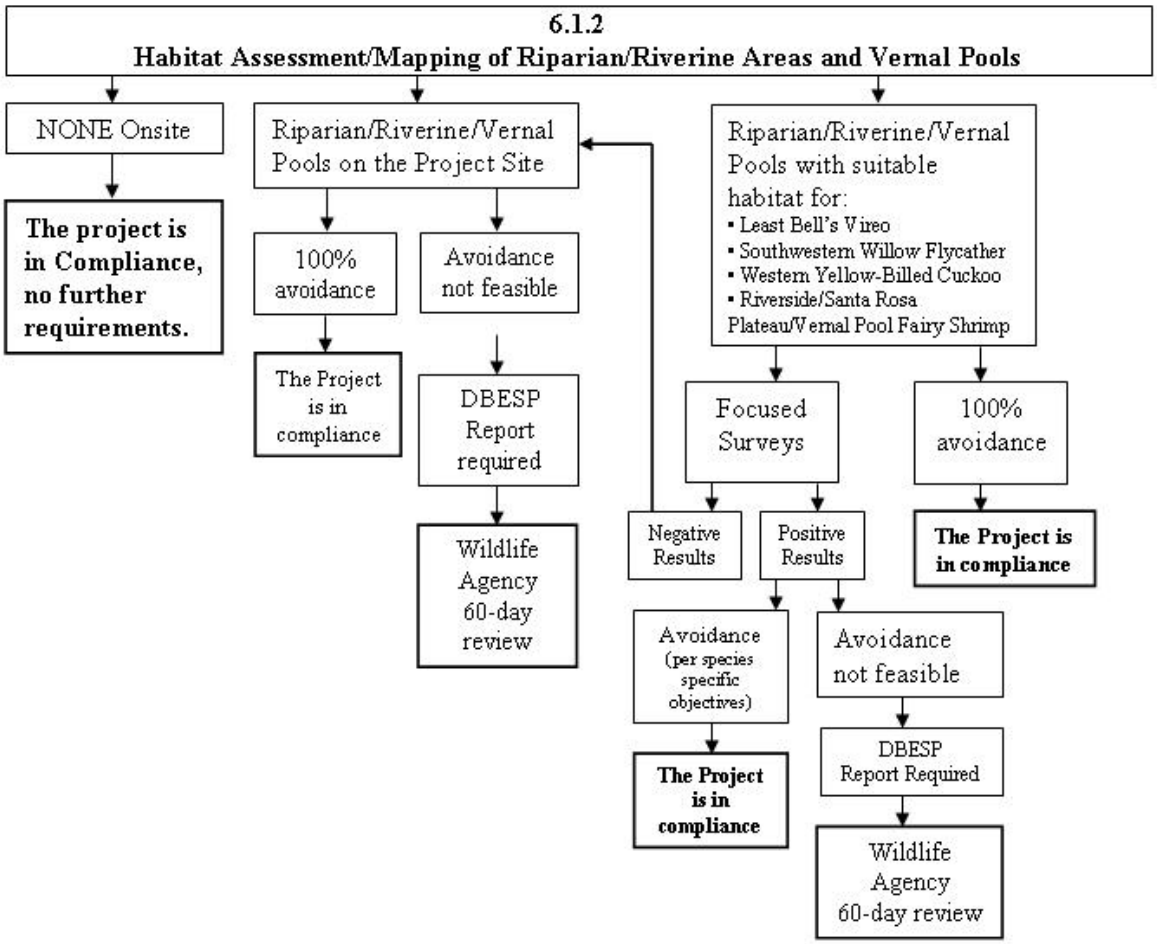
SOURCE: DUDEK & ASSOCIATES, INC. 2002

Figure 5.4-5

MSHCP CORES AND LINKAGES

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 as currently required pursuant to Section 6.1.2 of the MSHCP, *Protection of Species Associated with Riparian/Riverine 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 (DBESP) 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 shall be implemented in accordance with the species-specific objectives for the species occurring on site. The flow chart below defines the process:



In addition, the project may also be subject to the ACOE 404 Permit Program or the DFG's Streambed Alteration Agreement.

Riparian/Riverine areas as defined in the MSHCP 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 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.

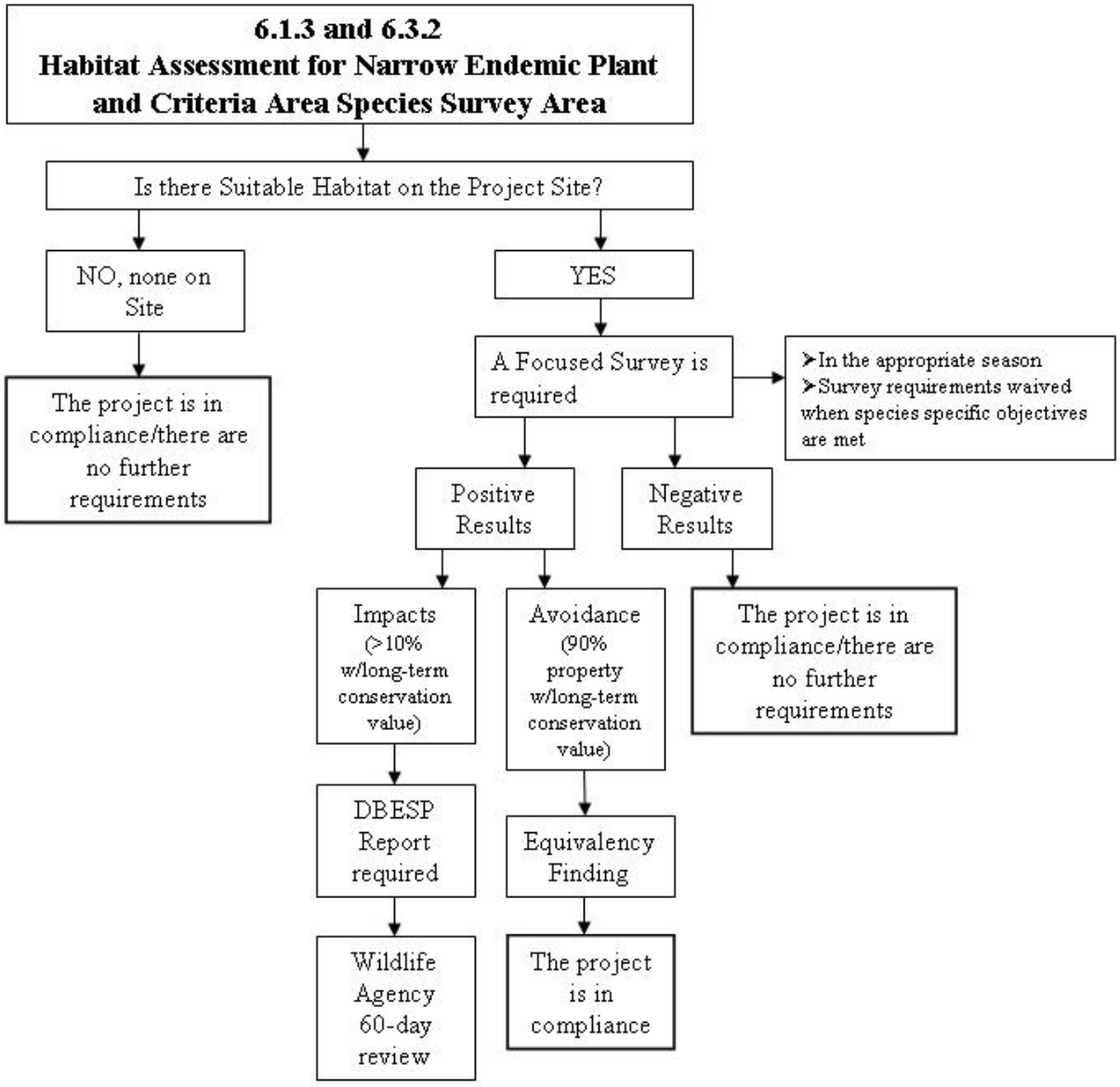
If any proposed project within the Planning Area, as a result of land uses within the General Plan, fall within survey areas as shown on **Figure 5.4-6, MSHCP Narrow Endemic Plant Species Survey Area**, **Figure 5.4-7, MSHCP Criteria Area Species Survey Area**, and **Figure 5.4-8, MSHCP Burrowing Owl Survey Area**, the project's applicant must follow the procedures as shown below on flow charts for Sections 6.1.3 and 6.3.2 or burrowing owl.

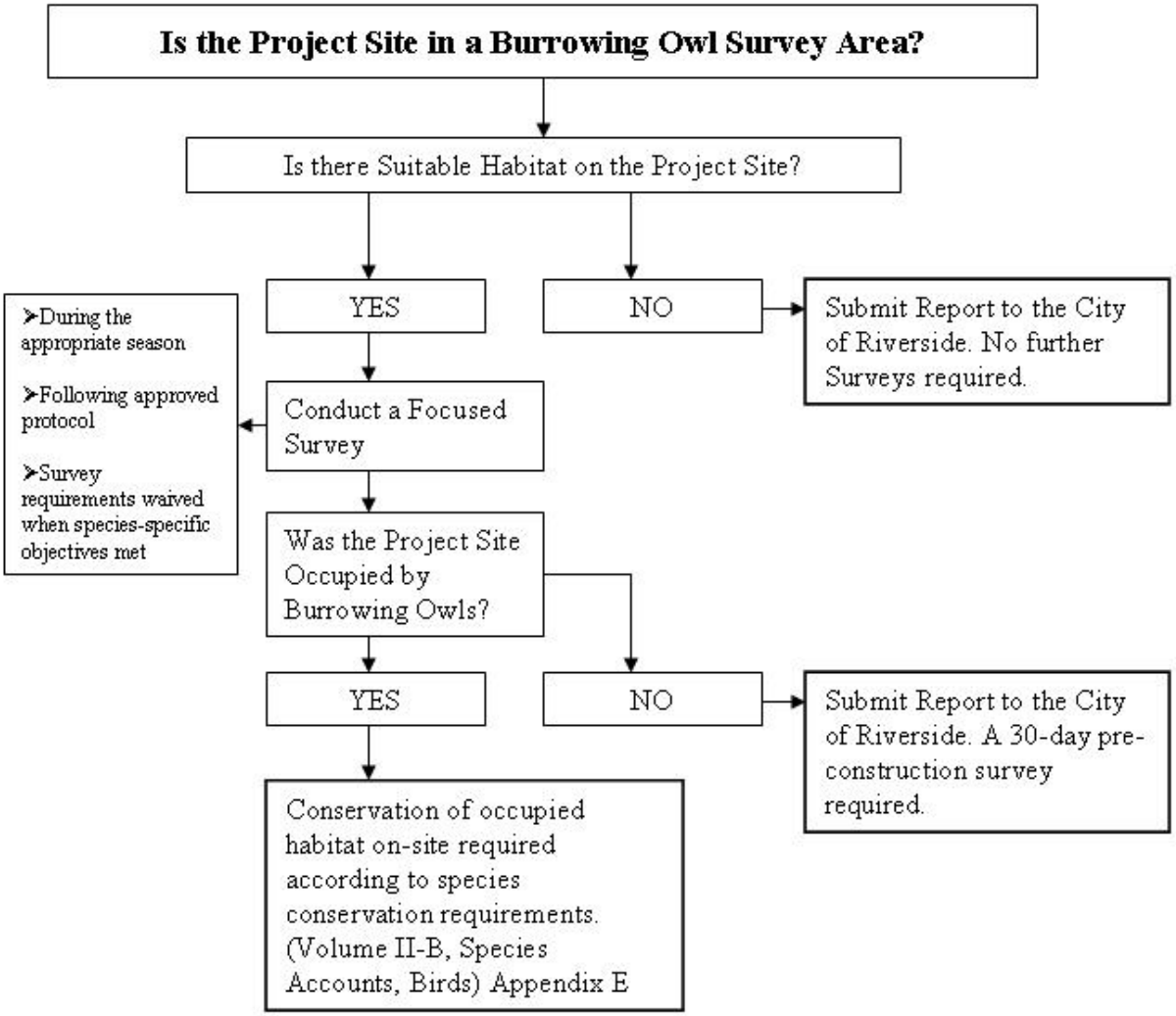
Section 6.1.4, *Guidelines Pertaining to the Urban/Wildlife Interface*, outlines the minimization of indirect effects associated with locating development in proximity to the MSHCP Conservation Area. To minimize these effects, guidelines in Section 6.1.4 of the MSHCP shall be implemented in conjunction 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.

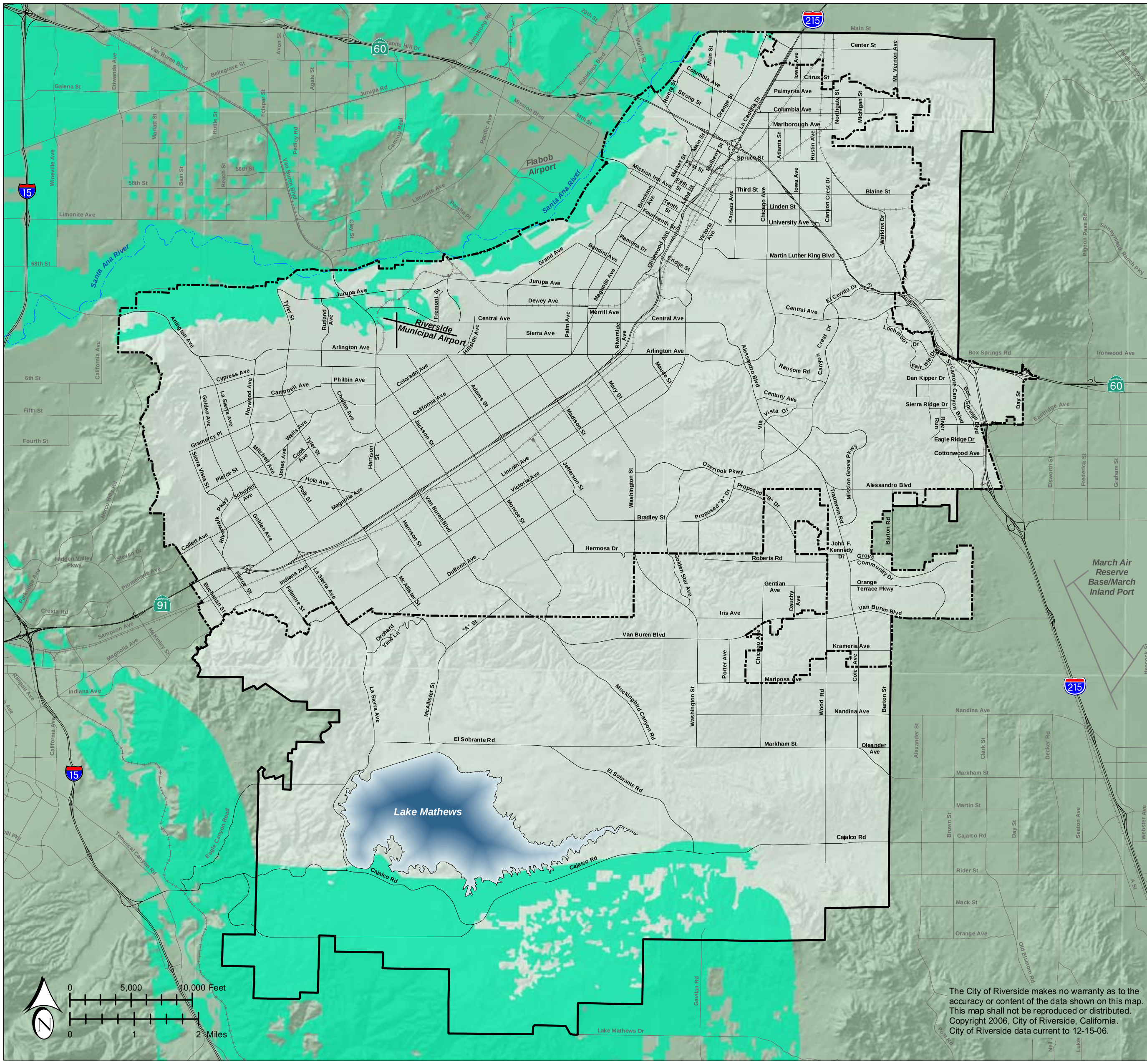
There are no project-specific impacts as a result of adoption of the General Plan; therefore, no impacts exist at a programmatic level. The City is a permittee of the MSHCP and must thereby comply with provisions set forth through the plan for projects proposed within the City. Any individual development projects constructed pursuant to the General Plan and public projects constructed to implement the General Plan will follow the measures of the MSHCP, as stated above, and will be in compliance with the plan. For example, the City of Riverside General Plan includes a conceptual plan to connect the two unfinished portions of Overlook Parkway. The

alignment of this connection has been set by recent subdivision approvals, but, as stated in General Plan Policies LU-5.6 and CCM-4.2, the crossing itself has not been designed. Vegetation in this area includes Riversidean sage scrub, southern willow scrub, non-native grassland, and urban/ exotic vegetation. The connection of Overlook Parkway would cross a portion of the Alessandro Arroyo which, according to the California Natural Diversity Database, contains southern sycamore alder riparian woodland and is located in an area that has the potential to house rayless ragwort and Parry's spineflower, California Native Plant Society listed species, and Stephens' kangaroo rat, a Federally endangered and State threatened species. The potential connection is located within the MSHCP. A general biological report including MSHCP compliance, and a burrowing owl survey would be required for this connection. Depending on the findings of the biological report and the actual design of the crossing, additional environmental reports, such as a jurisdictional delineation report, DBESP, and focused species surveys may be required. In addition to meeting MSHCP requirements, U.S. Army Corps of Engineers 404, Fish and Game pursuant to Code Section 1600, and California Regional Water Quality Control Board, Santa Ana Region 401 permits may be required.

Thus, the implementation of all above-listed policies and in particular, Policy LU-7.4, will ensure that the proposed project does not conflict with the MSHCP. Therefore, impacts associated with potential inconsistencies with the MSHCP for the City and Sphere Area is considered **less than significant.**


6.1.3 and 6.3.2
Habitat Assessment for Narrow Endemic Plant and Criteria Area Species Survey Area
Is there Suitable Habitat on the Project Site?
NO, none on Site
YES
The project is in compliance/there are no further requirements
A Focused Survey is required
➢In the appropriate season
➢Survey requirements waived when species specific objectives are met
Positive Results
Negative Results
Impacts (>10% w/long-term conservation value)
Avoidance (90% property w/long-term conservation value)
The project is in compliance/there are no further requirements
DBESP Report required
Equivalency Finding
Wildlife Agency 60-day review
The project is in compliance


Is the Project Site in a Burrowing Owl Survey Area?
Is there Suitable Habitat on the Project Site?
YES
NO
Submit Report to the City of Riverside. No further Surveys required.
➢During the appropriate season
➢Following approved protocol
➢Survey requirements waived when species-specific objectives met
Conduct a Focused Survey
Was the Project Site Occupied by Burrowing Owls?
YES
NO
Submit Report to the City of Riverside. A 30-day pre-construction survey required.
Conservation of occupied habitat on-site required according to species conservation requirements. (Volume II-B, Species Accounts, Birds) Appendix E



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CITY OF RIVERSIDE
ENVIRONMENTAL IMPACT REPORT

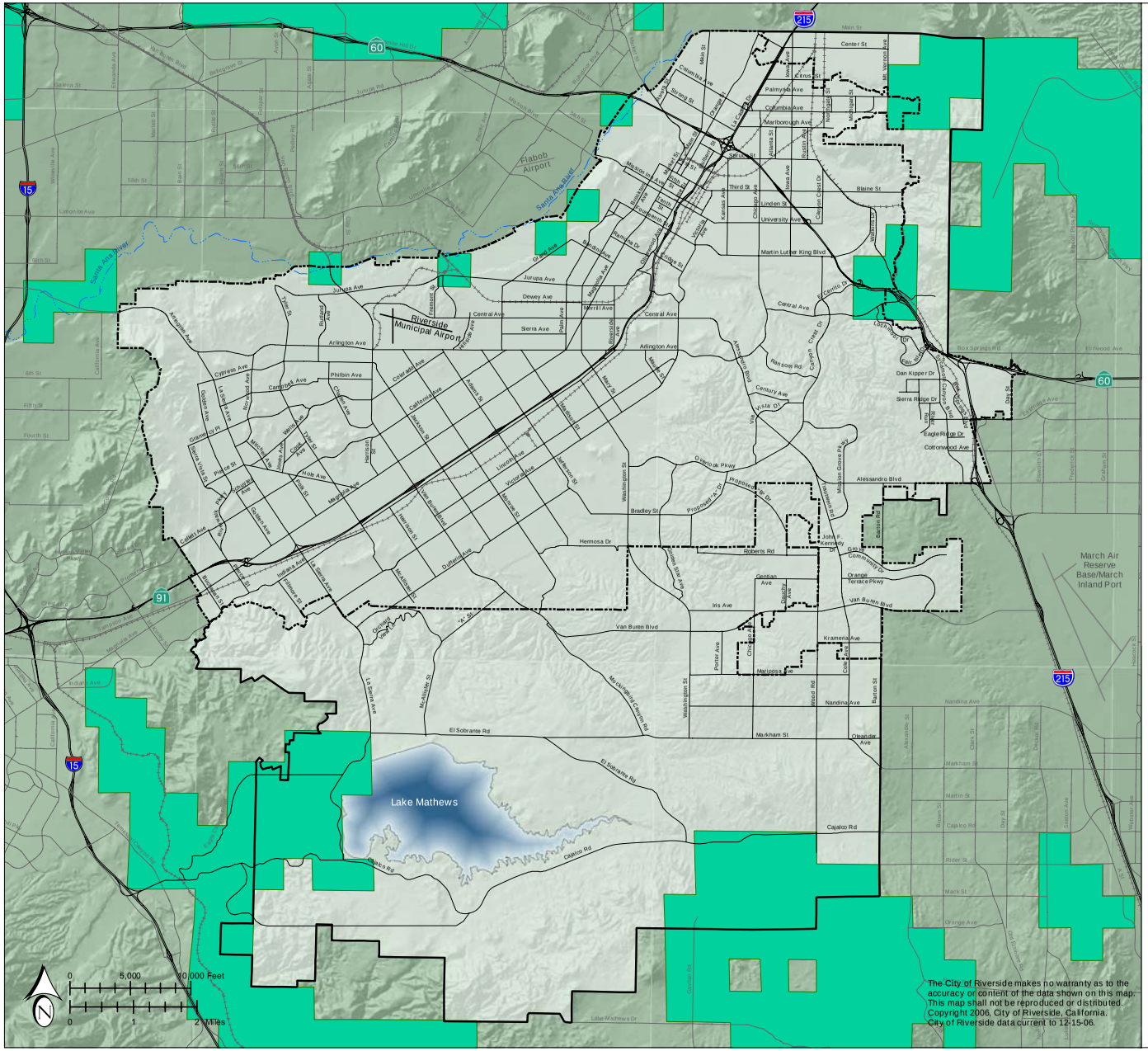
LEGEND

- NARROW ENDEMIC PLANT SPECIES SURVEY AREA
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY GIS DATA

Figure 5.4-6

MSHCP NARROW ENDEMIC PLANT SPECIES SURVEY AREA



CITY OF RIVERSIDE
ENVIRONMENTAL IMPACT REPORT

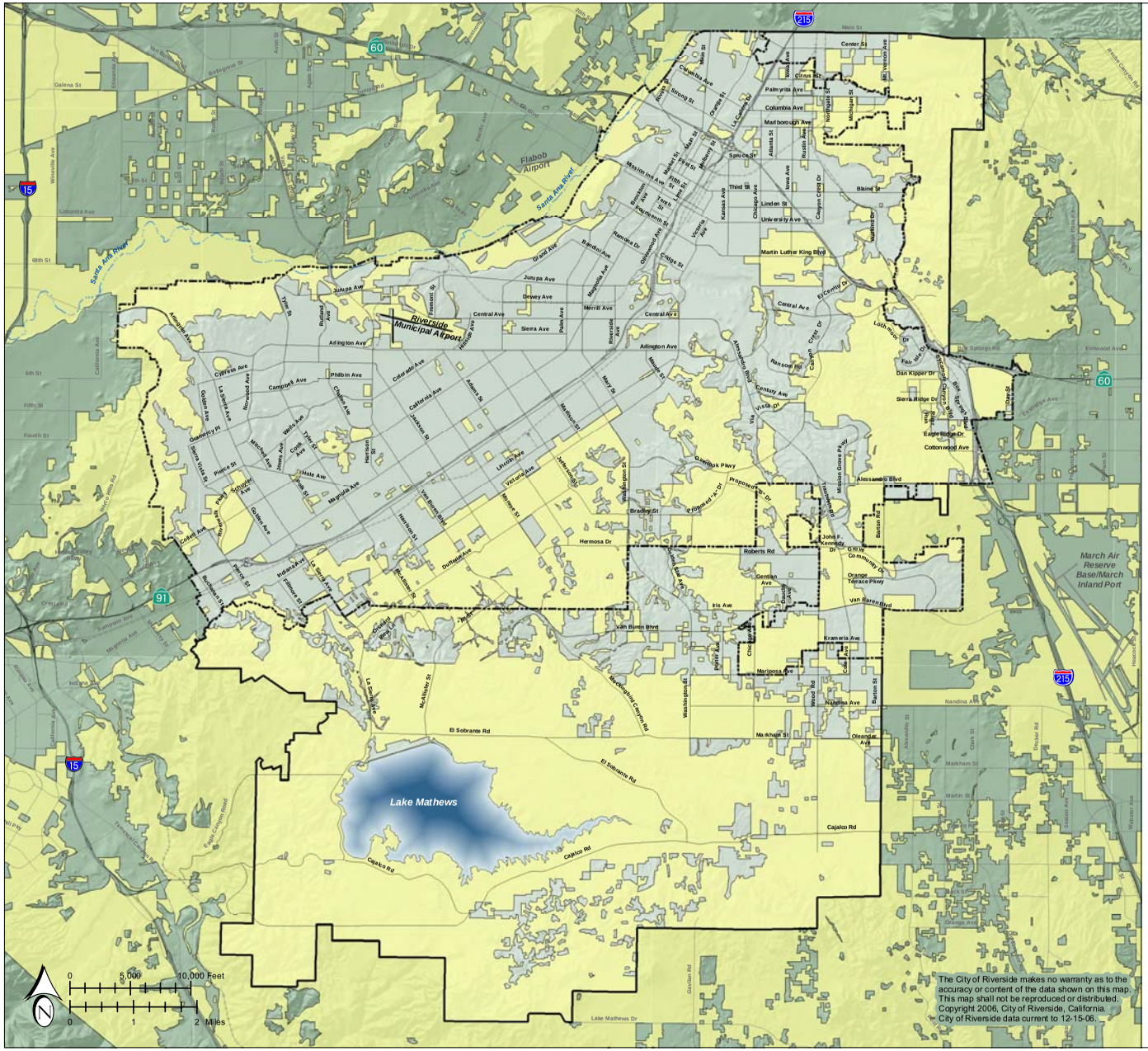
LEGEND

- CRITERIA AREA SPECIES SURVEY AREA
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY GIS DATA

Figure 5.4-7

MSHCP CRITERIA AREA SPECIES SURVEY AREA



CITY OF RIVERSIDE
ENVIRONMENTAL IMPACT REPORT

LEGEND

- MSHCP BURROWING OWL SURVEY AREA
- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: RIVERSIDE COUNTY GIS DATA

Figure 5.4-8

MSHCP BURROWING OWL SURVEY AREA

SKR HCP

The City and sphere area are also subject to the Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan (HCP). The HCP has established eight wildlife reserves in the HCP area, which all together encompasses over 48,000 acres. The Planning Area consists of three designated areas related to the SKR HCP. The Lake Mathews Multiple Species Reserve is the second largest reserve in the HCP area. It covers 11,000 acres. The majority of the Reserve is located in the Sphere Area. The State Ecological Reserve at Lake Mathews covers about 2,565 acres on Metropolitan Water District (MWD) properties around Lake Mathews. Sycamore Canyon Park covers about 1,500 acres and is owned and managed by the City of Riverside Parks, Recreation and Community Services Department. Much of the land in the HCP area covers unincorporated western Riverside County, and the cities of Norco, Corona, Riverside, Moreno Valley, Perris, Canyon Lake, Lake Elsinore, Murrieta, Temecula, San Jacinto, Hemet, Beaumont, Banning, and Calimesa, and is designated agriculture and/or low density residential development. Impact Fees under the SKR HCP are collected from new development located within the SKR HCP boundary and applied to a fund, which helps to secure and maintain conserved areas (land which has been purchased or otherwise secured for this purpose). Payment of fees per the SKR HCP mitigates for development impacts to the SKR for projects within the SKR HCP boundaries.

Policy OS-5.3 states that the City will continue to participate in the SKR HCP including collection of mitigation fees. The General Plan is in conformance with the SKR HCP. Therefore, impacts associated with potential inconsistencies with the applicable SKR HCP for the City and Sphere Area is considered **less than significant**.

Adjacent to the southern Sphere Area is the El Sobrante Landfill Habitat Conservation Plan, which applies to projects within the landfill area (**see Figure 5.4-3, Stephens' Kangaroo Rat (SKR) Core Reserves and Other Habitat Conservation Plans (HCP)**). Since the El Sobrante Landfill Habitat Conservation Plan (ESLHCP) is located outside the Planning Area, it applies to an individual agency, and adjacent land uses within the Planning Area are designated as Kangaroo Rat Habitat, the Project will not impact the ESLHCP.

A portion of the Southern Sphere Area is within the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Act (Lake Mathews Plan). The 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 owned by Metropolitan Water District (MWD). 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 MWD projects and conservation activities, as listed in the Related Regulations section, above.

General Plan land uses designated in and around the Lake Mathews Plan include: Open Space/Natural Resources, Kangaroo Rat Habitat, and Agriculture/Rural Residential.

Implementation Tools 10 and 33 require that any adjustments in land uses needed to reflect MWD facilities and/or the Lake Mathews Plan area will be facilitated upon annexation. Therefore, since the City will have no development within the Lake Mathews Plan, and all land use designations will be brought into consistency with existing uses upon annexation, the Project will have no impact on the Lake Mathews Plan.

Threshold*: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*

The following assumptions were used when analyzing impacts to species and their habitat:

- Any area with a proposed designation of Residential (except Hillside Residential, Rural Residential, and Residential Agriculture), Office, Mixed Use, Commercial, or Business Park were considered to be impacted throughout the land use area, with a potential for the future complete loss of all biological resources not protected under existing regulations. Areas proposed for Hillside Residential or Rural Residential designations are expected to leave a portion of the area in a natural state due to steep slope development restrictions, as described in the General Plan.
- Areas adjacent to any Residential, Office, Mixed Use, Commercial, or Business Park designation were assumed to experience potential development-associated impacts due to increased noise, lighting, traffic, increased percentage of non-permeable surface area, and, in the case of potential residential development, the introduction of domestic animals.

Adoption and implementation of the General Plan 2025 Program would not result in significant direct impacts to existing biological resources; however, the adoption of the General Plan could lead to potential impacts from future development. These potential impacts could be both direct and indirect. This section identifies potential impacts that could result from future development at a programmatic level. Specific potential direct and indirect impacts resulting from individual future development projects will be analyzed on a case-by-case basis as they are submitted to the City.

Impacts that may occur as a result of project implementation vary according to future proposed projects and include potential habitat loss and diminished habitat quality. Wherever future projects are implemented, the following impacts have the potential to occur:

- Direct loss of sensitive plants and/or communities from construction activities;
- Direct loss or disturbance of sensitive wildlife species from construction activities;
- Wildlife disturbance caused by the presence of humans, domestic animals, and vehicles adjacent to directly impacted areas;
- Artificial lighting that alters nocturnal wildlife activity;
- Alterations in the natural landscape with the placement of impermeable surfaces;

- Increased urban runoff, potentially containing herbicides, fungicides, pesticides, and fertilizer required to maintain turf and landscaping; and
- Increased habitat fragmentation with a potential corresponding decrease in species diversity and abundance.

Proposed planning actions could result in the permanent loss of habitat by allowing future development to occur. In addition, proposed planning actions have the potential to produce indirect impacts that could adversely modify the composition and value of wildlife habitat adjacent to development areas. These impacts from future projects will need to be analyzed on a case-by-case basis as such projects are submitted to the City.

As identified above, the implementation of the MSHCP at the project-specific level would minimize direct and indirect impacts from future projects proposed in accordance with the General Plan. Payment of the mitigation fee and compliance with all applicable requirements of the MSHCP provides full mitigation under CEQA, NEPA, FESA, and CESA for impacts to MSHCP covered species and habitats. The MSHCP also addresses indirect impacts through cores and linkages, criteria cells and plan fees. Furthermore, for MSHCP covered species the Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (State Clearinghouse No. 2001101108, CEQ Number 020463, ERP Number SFW-K99032-CA) prepared for the MSHCP was a project-specific EIR/EIS and found that with a combination of impact reduction features incorporated into the MSHCP, including reserve configuration, adaptive management and monitoring, and species survey and avoidance/minimization policies, development consistent with the MSHCP would have less than significant impacts to covered species.

Additionally, any future project will be required to comply with existing Federal, State, and local regulations. Impacts to certain species not covered by the MSHCP may require additional mitigation measures (MM Bio 1, below) to insure potential impacts remain less than significant.

Through compliance with the MSHCP which covers 146 species, and MM Bio 1 which addresses impacts to species that are not covered under the MSHCP, impacts from adoption and implementation of the City of Riverside General Plan are considered **less than significant**.

Threshold*: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*

Riparian habitats are shown on **Figure 5.4-1** and include: Arundo/Riparian Forest, Cismontane Alkali Marsh, Marsh, Riparian Forest, Riparian Scrub, Southern Cottonwood/Willow Riparian, Southern Willow Scrub, and land immediately adjacent to open water. Along the Santa Ana River, immediately adjacent to bodies of water, and within arroyos, which traverse the Planning Area, riparian areas may be found. As stated above, adoption and implementation of the General Plan 2025 Program would not result in significant direct impacts to existing biological resources including riparian and other sensitive natural community; however, the adoption of the General Plan could lead to potential impacts from future development. These potential impacts could be both direct and indirect. This section identifies potential impacts that could result from future

development at a programmatic level. Impacts that may occur as a result of development vary according to future proposed projects and include potential habitat loss and diminished habitat quality. Wherever future projects are implemented, the following impacts have the potential to occur:

- Direct loss of sensitive plants and/or communities from construction activities;
- Alterations in the natural landscape with the placement of impermeable surfaces;
- Increased urban runoff, potentially containing herbicides, fungicides, pesticides, and fertilizer required to maintain turf and landscaping; and
- Increased habitat fragmentation with a potential corresponding decrease in species diversity and abundance.

Under the MSHCP, any proposed project will require a habitat assessment for riparian habitat, therefore determining the presence/absence, quantity, and quality of such habitat and the measures necessary to mitigate potential direct and indirect impacts of the given proposal. Section 6.1.2 of the MSHCP outlines the requirements and protection of riparian/riverine areas and vernal pools within the plan area. Compliance with the MSHCP Section 6.1.2 and other applicable requirements will decrease impacts to a less than significant level.

Threshold*: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

Section 404 of the Clean Water Act requires that a permit be obtained from the Army Corps of Engineers (ACOE) prior to the discharge of dredged or fill materials into any "waters of the United States." Waters of the United States, as defined by regulations and refined by case law, include (1) the territorial seas; (2) coastal and inland waters, lakes, rivers, and streams that are navigable waters of the United States, including their adjacent wetlands; (3) tributaries to navigable water of the United States, including adjacent wetlands; (4) interstate waters and their tributaries, including adjacent wetlands; and (5) all other waters of the United States not identified above, such as some isolated wetlands and lakes, intermittent and ephemeral streams, and other waters that are not a part of a tributary system to interstate waters or navigable waters of the United States, the degradation or destruction of which could affect interstate commerce. In addition to any potential wetlands, the limits of ACOE jurisdiction extends to the ordinary high water mark (OHWM) of streams and lakes, which is defined at 33 CFR 328.3(e) as:

> …that line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Wetlands are defined as "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally do support, a

prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Section 404 Permits often require mitigation to offset losses of these habitat types. The ACOE is required to consult with the USFWS, Environmental Protection Agency (EPA), and State Regional Water Quality Control Board (RWQCB), when appropriate in carrying out its discretionary authority under Section 404.

Stream channels that do not meet the Federal definition of a wetland may still be regulated by the ACOE as "other waters of the United States" if they meet the definition provided above. In addition, they are generally regulated within California by Section 1600 of the California Fish and Game Code.

Potential development allowed under the General Plan which may impact protected wetlands includes future private development, roads, or public facilities projects located in and/or adjacent to the following identified habitats/resources: Arundo/Riparian Forest, Cismontane Alkali Marsh, Marsh, Riparian Forest, Riparian Scrub, Southern Cottonwood/Willow Riparian, Southern Willow Scrub, and land immediately adjacent to open water. Along the Santa Ana River, immediately adjacent to bodies of water, and within arroyos, which traverse the Planning Area, riparian areas may be found.

Should certain proposed development be located within wetland areas, State and Federal laws and regulations would be implemented to protect resources from development through the ACOE Section 404 permitting process, the California Wetlands Conservation Policy (CWCO), and compliance with applicable MSHCP policies. The CWCO is intended to ensure that no net loss of wetlands would occur within the State. This is a related policy to a Federal Executive Order that also mandates no net loss of wetlands. With respect to the State's policy, it also encourages a long-term net gain in the quantity, quality, and permanence of wetland acreage and values. Interpretation of this order indicates that any developer wishing to fill in wetlands for construction of new development must provide mitigation of in-kind habitat at ratios from 2:1 to 10:1. Section 6.1.2 of the MSHCP outlines the requirements and protection of riparian/riverine areas and vernal pools within the plan area. Accordingly, strict adherence to the identified State and Federal laws and regulations, MSHCP, and the "no net wetland loss" policy currently in place, would ensure that implementation of the proposed General Plan would have a **less than significant impact** on jurisdictional waters and wetlands within the Planning Area.

Threshold*: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*

As stated above, any proposed project as a result of implementation of the General Plan will be subject to the MSHCP, to address any potential impacts.

Additionally, whether or not the General Plan is adopted, the City will work with the Western Riverside County RCA to acquire the following wildlife corridors:

- Between Sycamore Canyon Park and Box Springs Mountain Reserve

- Between Box Springs Mountain Reserve and the Santa Ana River via Springbrook Wash
- Between the Santa Ana River and La Sierra/Norco Hills

The General Plan Policy OS-6.4 requires the City to continue efforts to establish a wildlife movement corridor between Sycamore Canyon Wilderness Park and the Box Springs Mountain Regional Park as identified in the MSHCP. New developments in this area will be conditioned to provide for the corridor with continued efforts to acquire additional wildlife corridors, and compliance with the MSHCP and Federal and State regulations, as stated above. Policies such as OS-6.1 address preserving wildlife migration areas in general while Policies OS-7.3 and LU-5.6 address wildlife movement through preservation and expansion of Santa Ana River open space and the crossing of Alessandro Arroyo, respectively. Therefore, through implementation of the General Plan policies discussed here as well as those policies, which preserve open space, in general will reduce impacts **less than significant.**

Threshold*: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

Implementation of the proposed General Plan would be subject to all applicable Federal, State, and local policies and regulations related to the protection of biological resources. In addition to the above threshold analyses, any new development proposed pursuant to General Plan land use designations within the City of Riverside or unincorporated areas within the Sphere of Influence will be required to comply with Ordinance 810.2 and Ordinance 633.10, both protecting biological resources. Ordinance 810.2 establishes the Western Riverside County MSHCP mitigation fee.

MSHCP fees as of July 1, 2007 are:

Residential, density less than 8.0 dwelling units per acre	$1,860 per dwelling unit
Residential, density between 8.1 and 14.0 dwelling units per acre	$1,191 per dwelling unit
Residential, density greater than 14.1 dwelling units per acre	$968 per dwelling unit
Commercial	$6,333 per acre
Industrial	$6,333 per acre

Any future applicant of any proposed development is required to pay the MSHCP mitigation fee and in doing so will not conflict with ordinance 810.2.

Ordinance 663.10 establishes the SKR HCP fee assessment area and mitigation fees. Any future applicant is required to pay the SKR mitigation fee and in doing so will not conflict with Ordinance 663.10.

HCP fees associated with the Stephens' kangaroo rat currently are:

Agricultural	$100 or one percent (1%) of the valuation of the buildings to be constructed (not greater than $500 per acre).
Residential (3 residences will be maintained)	$200 per unit

Any project within the City of Riverside's boundaries, which proposes planting a street tree within a City right-of-way, must follow the Tree Policy Manual. The Manual documents guidelines for the planting, pruning, preservation, and removal of all trees in City rights-of-way. The specifications in the Manual are based on national standards for tree care established by the International Society of Arboriculture, the National Arborists Association, and the American National Standards Institute. Any future project will be in compliance with the Tree Policy Manual when planting a tree within a City right-of-way, and therefore, impacts are considered less than significant.

In addition, the General Plan includes policies (as noted in this Section under Related General Plan Policies) to ensure that future development within the Planning Area would not conflict with any local policies or ordinances protecting biological resources. For these reasons, ~~and~~ impacts are considered **less than significant**.

Proposed Mitigation Measures

An Environmental Impact Report is required to describe feasible mitigation measures, which could minimize significant adverse impacts (CEQA Guidelines, Section 15126.4). Implementation of the six project components was found to have less than significant impacts with compliance of the below listed mitigation measure related to biological resources.

MM Bio 1: Potential direct and indirect impacts to Federal Species of Concern, California Species of Special Concern, California Species Animals or plants on lists one through four of the California Native Plant Society (CNPS) Inventory and not covered under the MSHCP are considered potentially significant without mitigation. To reduce potential significant impacts to these sensitive species, habitat assessment shall be prepared by a qualified biologist for projects located on undeveloped sites. The report shall be submitted to the City Planning Division prior to issuance of grading permits.

- If the findings of the habitat assessment show no sensitive species or suitable habitat occur on site, then no additional surveys or mitigation measures are required.
- If the potential for sensitive species exist or suitable habitat exists on site, focused surveys or mitigation, if identified in the habitat assessment, shall be completed. Focused surveys conducted in the appropriate season for each species, as identified in the habitat assessment report, shall be conducted to determine presence/absence status.
- If no sensitive species are identified through focused surveys, then no additional surveys or mitigation measures are required.

- If sensitive species are found on site and are not avoided by project design, then additional mitigation measures as recommended by a qualified biologist and approved by the City of Riverside shall be implemented.

Summary of Environmental Effects After Mitigation Measures Are Implemented

With adherence to and implementation of the above mitigation measure, General Plan policies, and compliance with existing regulations, the Project's potential biological impacts will be reduced to below a level of significance.

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