

## 2.18 BIOLOGICAL RESOURCES

### 2.18.1 *Introduction*

The following discussion of biological resources considers each of the eleven Planning Subregions of the City, starting in the north and proceeding generally south. This level of analysis is appropriate as the significant biological resources remaining in the City are found in larger geographical areas, as opposed to Community Planning Areas. Within each subregion, open spaces and habitats they contain are mapped and briefly discussed. The general and site-specific accounts of biological resources in each subregion were determined through review of aerial photographs, available literature, and the experience of the preparers with the biological resources of the region. Impact analysis was based upon comparison of the planned development under the General Plan Framework with the maps of existing natural open space in the City.

### 2.18.2. *Thresholds of Significance*

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on biological resources if it will:

- Conflict with the adopted environmental plans and goals of the community where it is located;
- Substantially affect a rare or endangered species of plant or animal or the habitat of such species;
- Interfere substantially with the movement of any migratory or resident fish or wildlife species; or
- Substantially diminish habitat for fish, wildlife, and plants.

Based upon these established thresholds, the Los Angeles General Plan Framework would generate a significant impact to biological resources if Targeted Growth Areas are placed where any of these effects would result, or if indirect effects from population growth could impact biological resources.

### 2.18.3 *Existing Conditions*

The abundance and diversity of natural biological resources within the City of Los Angeles have been greatly reduced from former richness as a result of urbanization. This is particularly true of the central portion of the City, where development is most dense. The loss of natural habitat has progressed to the outer reaches of the City, where habitat conversion from natural open-space and agriculture to urban land use continues. As development in the lowland areas has become increasingly dense, the pressure for new development has become redirected toward the surrounding mountains, where the largest areas of remaining natural vegetation within the City still remain.

The current situation is that much the remaining natural open space is limited to mountainous terrain bounding the perimeter of the San Fernando and San Gabriel Valleys (the Simi Hills, Santa Susana Mountains, San Gabriel Mountains, and Verdugo Mountains). The eastern end of the Santa Monica Mountains separating the San Fernando Valley from the coastal plain of metropolitan Los Angeles constitutes another large area containing natural open-space. The degree of fragmentation of habitats for plants and animals increases from the western end of the range to the eastern end, resulting in remnants of habitat such as Mount Washington and Rose Hills. Other, isolated mountainous remnants of natural habitat remain in the San Fernando Valley (Pierce College, Chalk Hills, Jessup Park), and on the coastal plain (Baldwin Hills).

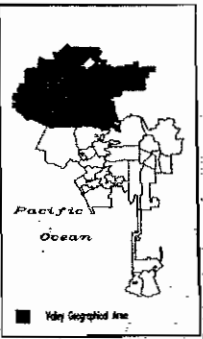
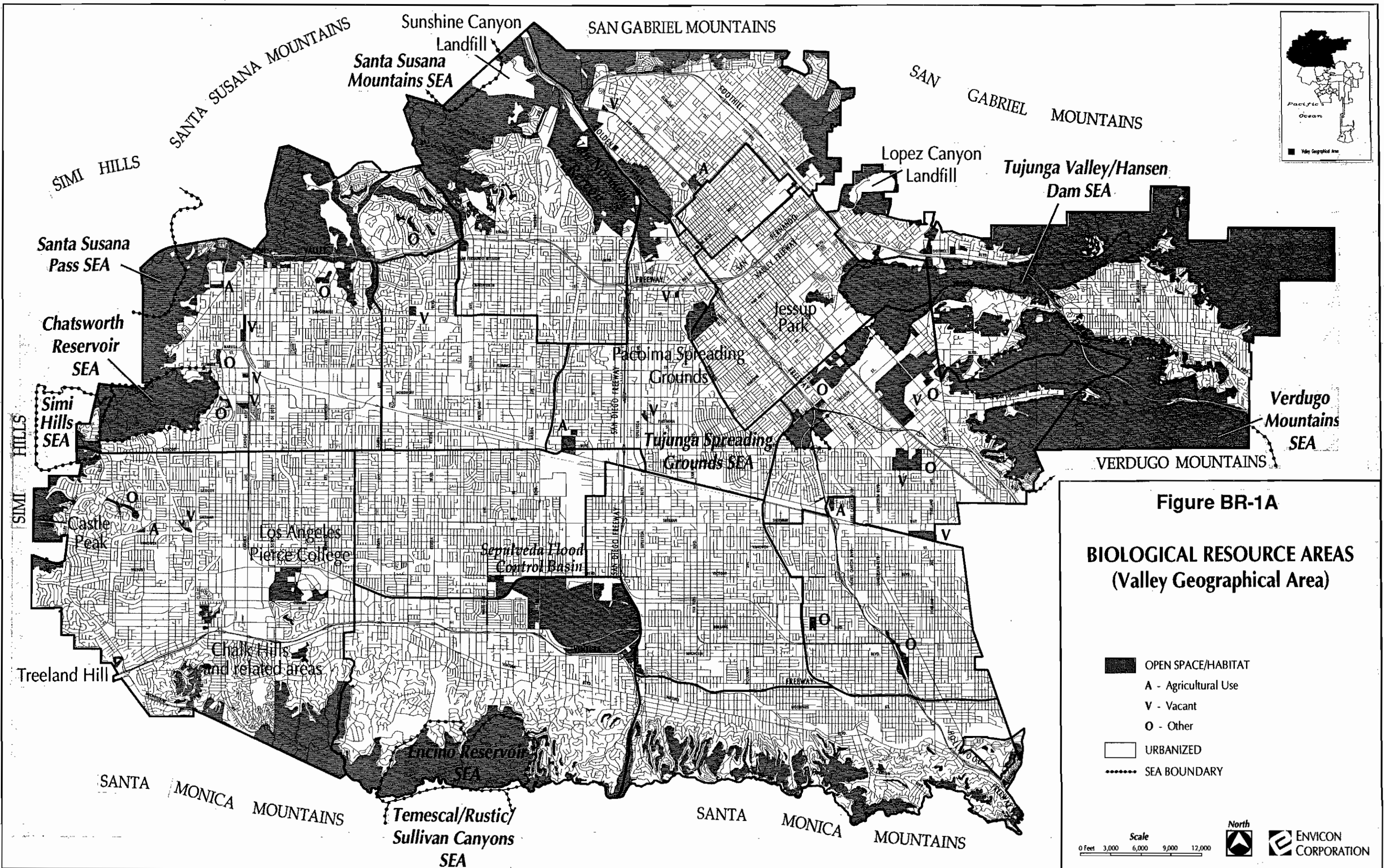
Lowland areas of the coastal plain and San Fernando Valley include Sepulveda flood control basin, Tujunga and Pacoima spreading grounds and Harbor Lake Park, although highly modified from their natural condition, are nonetheless important habitats for wildlife. Finally, the beaches and coastal canyons of the Pacific Palisades area; the dunes and estuarine wetlands of the southwest coastline; beaches, headlands and coastal promontories of the Palos Verdes peninsula, and Terminal Island in the Los Angeles Harbor are significant biological resource areas of the City.

Habitat areas for plants and animals are shown on **Figures BR1A-D**, based upon interpretation of aerial photography of the City<sup>1</sup> at a scale of 1:9,600 (1"=800') and dated November, 1992.<sup>2</sup> These data were transferred onto base maps at a scale of 1:36,000 (1"=3,000'). Included are those general and specific areas mentioned above, as well as a few other areas which appear to be devoted to agriculture and mineral extraction (quarries in the Northeast Valley). These latter areas are mapped because they are of substantial size and presently or potentially meet habitat needs for plants and animals. Specifically excluded from this mapping are urban parks, golf courses, and small reservoirs, unless these are physically continuous with other habitats such as at the Sepulveda and Hansen flood control basins. A few vacant lots within the City are also indicated on these maps by virtue of their size and present or future potential to harbor biological resources.

The habitat types that exist in the remaining natural open space areas of the City are diverse. Chaparral, a dense and impenetrable brushland, is a predominant vegetation and supports characteristic wildlife species. It is most prevalent on the north slopes and higher-elevation south slopes of the Santa Monica and Verdugo Mountains. In contrast, open-structured coastal scrub and grassland are prevalent on lower-elevation south slopes of these ranges, and also in the Simi Hills, Santa Susana and San Gabriel Mountains within the City. Each of these mountain ranges support streamside, or riparian woodlands of willow and oak, and occasionally sycamore, cottonwood, alder

<sup>1</sup> The area of the eastern Santa Monica Mountains, from Mandeville Canyon eastward to and including Griffith Park, was previously mapped by Envicom Corporation in a fashion similar to the present mapping, from photographs dated November 12, 1992. This mapping was incorporated herein and was performed under contract to the Santa Monica Mountains Conservancy as part of their "Los Angeles Urban Wild" program.

<sup>2</sup> Areas which have been developed since this date may be shown as open space habitat on these maps.

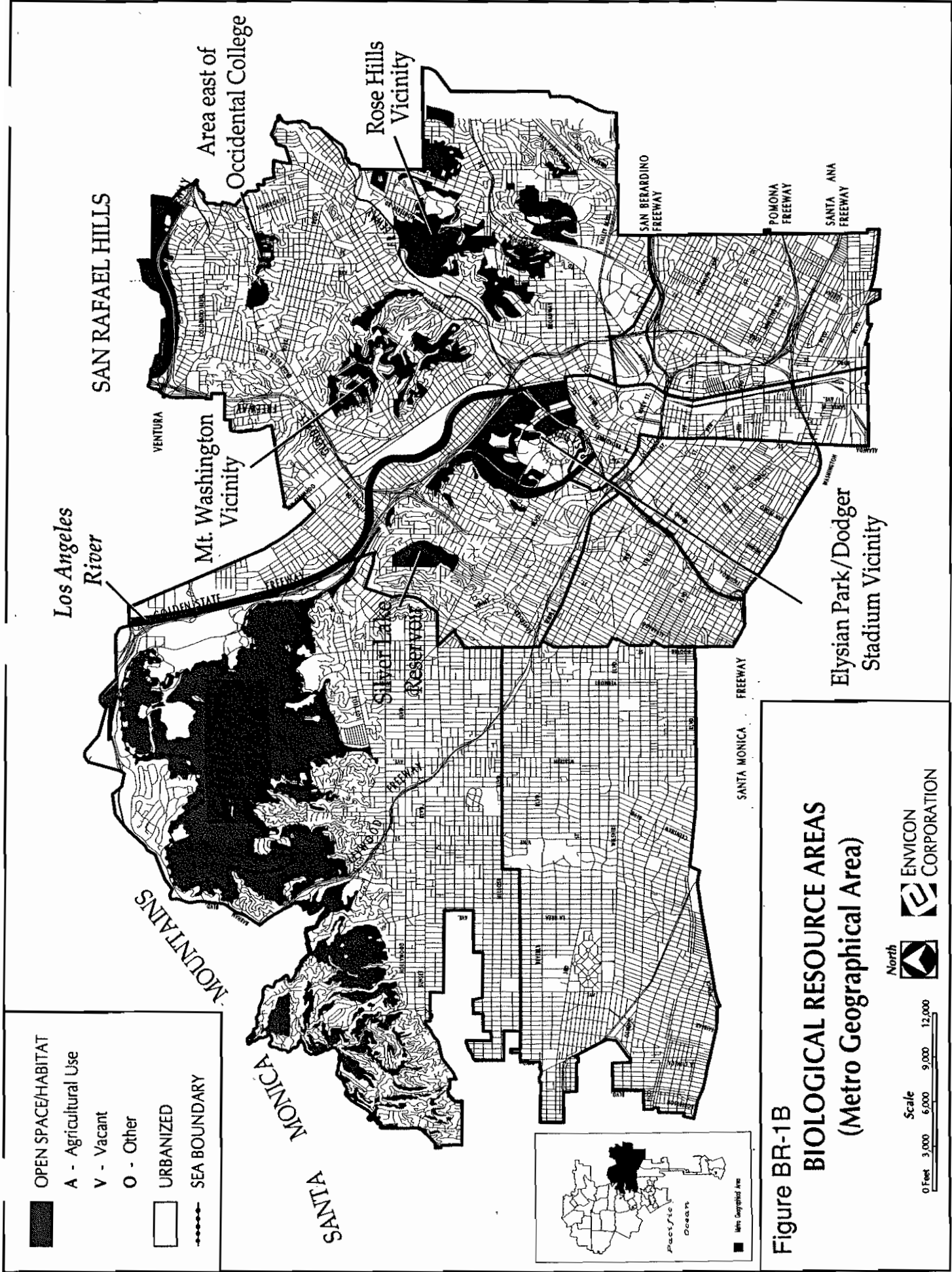


**Figure BR-1A**  
**BIOLOGICAL RESOURCE AREAS**  
**(Valley Geographical Area)**


- OPEN SPACE/HABITAT
- A - Agricultural Use
- V - Vacant
- O - Other
- URBANIZED
- SEA BOUNDARY

Scale  
0 Feet 3,000 6,000 9,000 12,000

North ENVICON CORPORATION



**Figure BR-1B**  
**BIOLOGICAL RESOURCE AREAS**  
**(Metro Geographical Area)**

North   
 Scale 0 Feet 3,000 6,000 9,000 12,000  
 ENVICON CORPORATION 

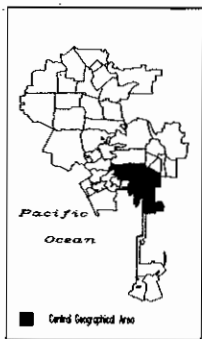
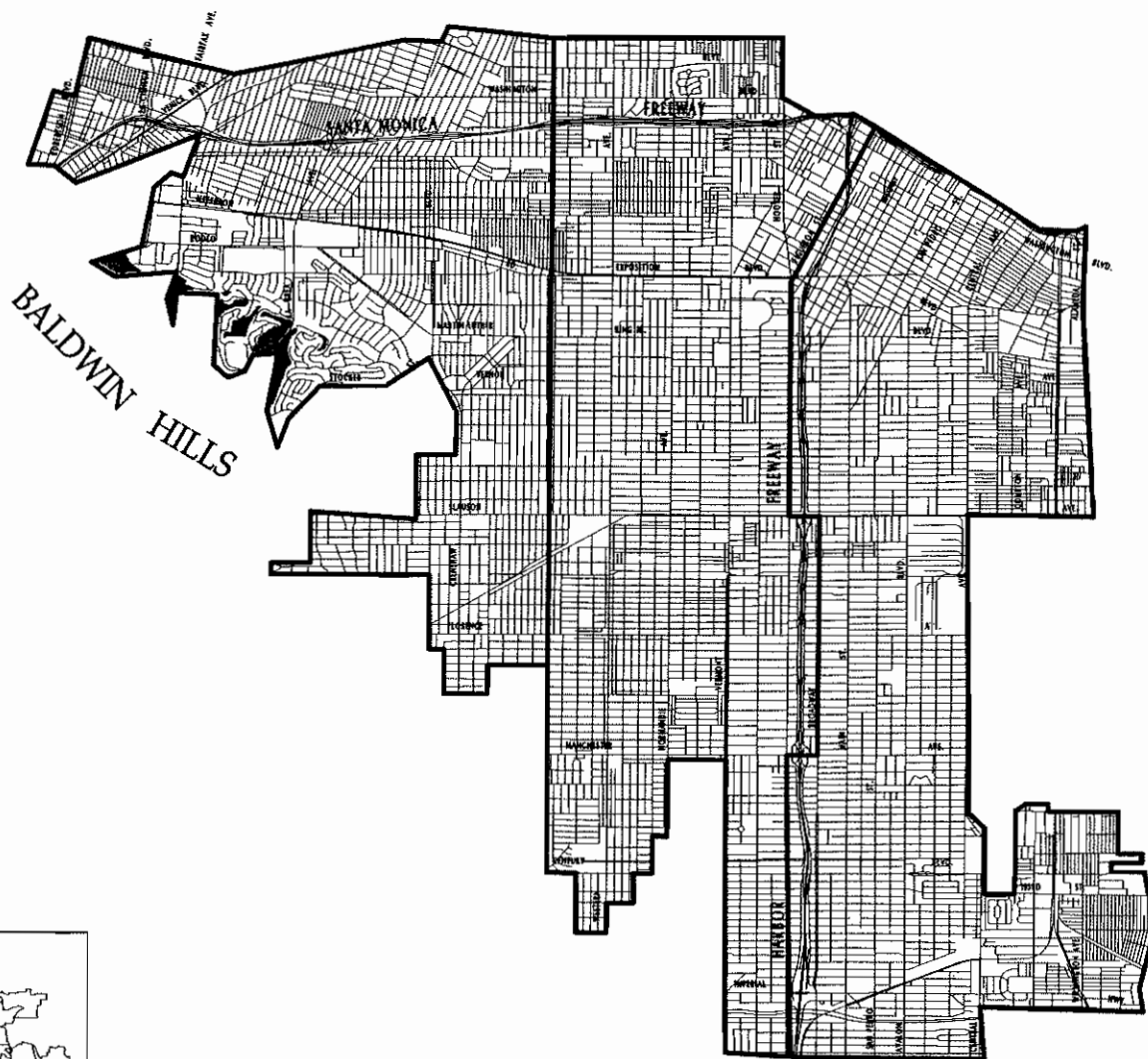





Figure BR-1C

## BIOLOGICAL RESOURCE AREAS (Central Geographical Area)

-  OPEN SPACE/HABITAT
- A - Agricultural Use
- V - Vacant
- O - Other
-  URBANIZED
-  SEA BOUNDARY

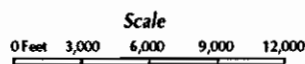


Figure BR-1D

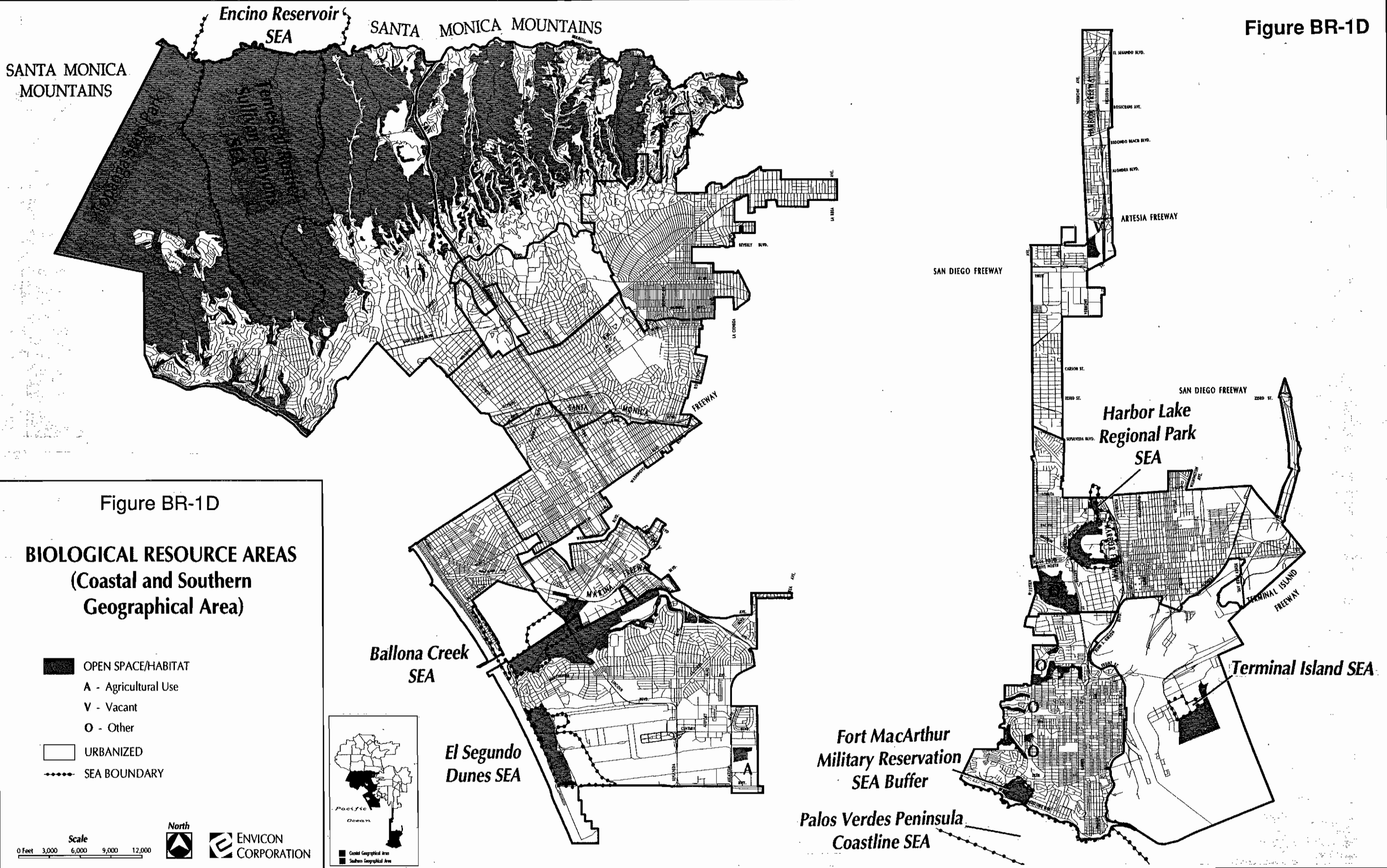



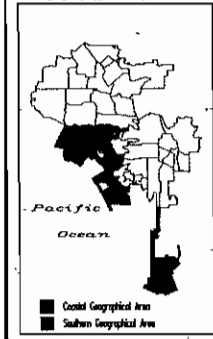


Figure BR-1D

**BIOLOGICAL RESOURCE AREAS  
(Coastal and Southern  
Geographical Area)**

-  OPEN SPACE/HABITAT
- A - Agricultural Use
- V - Vacant
- O - Other
-  URBANIZED
-  SEA BOUNDARY

Scale  
0 Feet 3,000 6,000 9,000 12,000



and maple. Within the Northwest Valley, a small area on the north slope of the Santa Susana Mountains supports a coniferous woodland of bigcone spruce (at unusually low elevation); a species not found elsewhere in the City. Along the coast, sandy beaches, rocky cliffs, headlands and promontories provide for the life requirements of marine intertidal invertebrates, fishes and mammals, shorebirds, birds-of-prey, migratory songbirds and waterfowl, as well as numerous unusual and restricted plant species and insects. Similarly, the coastal saltmarsh, saltflats, freshwater marsh, riparian scrub, bluffs and dunes of the southwestern coastal area support a greater number of unique, threatened and endangered plants and animals than expected in other habitat types in the City.

Large areas devoted to agriculture or supporting annual grassland, such as Chatsworth Reservoir and the Sepulveda and Hansen flood control basins, are the last remnants of once expansive habitat for migratory waterfowl, songbirds, and birds-of-prey. These areas are augmented by open water habitats, and riparian woodlands or scrub, and in the case of Chatsworth Reservoir, oak woodlands and savannah. Woodlands of willow and/or cottonwood are important adjuncts to large areas such as the Van Norman Reservoir, Hansen flood control basin, and Harbor Lake Park. Even the barren Terminal Island serves as a nesting site for endangered birds. In summary, the growth of the City has largely replaced natural habitats, and those which remain have consequently increased in importance for plants and animals, for the preservation of their present abundance and diversity.

The following discusses each of the eleven Planning Subregions of the City, starting in the north and proceeding generally south. Within each subregion, the mapped open spaces and habitats they contain are briefly discussed, and the reader is referred to those general and site specific accounts of biological resources as were found applicable to each subregion. Often, an open space area occurs in more than one subregion (e.g. Santa Monica Mountains). Such occurrences are discussed separately in each case, but in greatest detail when first encountered in the discussion. Therefore, the reader may find reference in the discussion to a prior description of an open space area in an earlier subregion.

### **Northwest Valley Planning Subregion**

- Chatsworth Reservoir Significant Ecological Area (SEA). The Chatsworth Reservoir owned by the Los Angeles Department of Water and Power, and abuts the foot of the Simi Hills in the Western San Fernando Valley. A variety of habitats are present here including grassland, oak woodland and savannah, freshwater marsh and open water which offer important wintering and breeding grounds for songbirds and waterfowl (England and Nelson, 1976). The Chatsworth reservoir is one of five areas in the San Fernando Valley that is used regularly by wintering Canada Geese (*Branta canadensis*). Many-stemmed dudleya (*Dudleya multicaulis*) is reported in rocky areas on the south side of the reservoir (NDDDB, 1994).

- Simi Hills and Simi Hills SEA, and Santa Susana Pass SEA. The Simi Hills are generally located north of the Ventura Freeway (US 101), south of the Simi Valley Freeway (SR 118), and west of the San Fernando Valley. As such, they lie largely outside of the City boundary, and are mostly within Ventura County. However, portions of its eastern flank bordering the western San Fernando Valley from the vicinity of Castle Peak to Santa Susana Pass lie within the City. Wieslander (1934) mapped the vegetation of this region between 1927 and 1933. Wiekel (1983) has prepared a biological inventory and mapping for this area, although additional specific biological resource inventories of the Simi Hills within the City and County of Los Angeles are generally lacking. A survey over the areas of Dayton and Woolsey Canyons (Envicom Corp., 1990) in the Simi Hills just east of the Chatsworth Reservoir is the best representative inventory available for the eastern Simi Hills. Habitats present include grassland, coastal scrub, chaparral, riparian and oak woodland, and limited areas of walnut woodland. The state-listed Rare Santa Susana tarplant (*Hemizonia minthornii*) is prevalent in the sandstone outcrops, and Humboldt lily (*Lilium humboldtii ocellatum*) occurs in the understory of riparian woodland in upper Dayton Canyon.

The Simi Hills SEA is almost entirely within the unincorporated area of Los Angeles County, with only a small fraction extending into the City. The remaining portions of this SEA<sup>3</sup> are located west of Chatsworth Reservoir and Valley Circle Boulevard, and north and south of Lakeside Park (a residential community). Santa Susana tarplant occurs adjacent to Valley Circle Boulevard in the northern area (Wishner, personal observation, 1990). The Simi Hills SEA contains representative examples of chaparral, coastal scrub, southern oak woodland and riparian woodland, and the area also serves as a wildlife corridor for movement between the Chatsworth Reservoir SEA and the large, undeveloped portions of the Simi Hills in Ventura County to the west (England and Nelson, 1976).

The southern portion of the Santa Susana Pass SEA that is located south of the Simi Valley Freeway (SR 118) is actually located in the Simi Hills, within the City of Los Angeles (the remainder of the SEA north of the freeway is in the Santa Susana Mountains, and outside the City boundary). The Santa Susana Pass SEA is an important wildlife movement zone between the Santa Susana Mountains and the Simi Hills (England and Nelson 1976), which is referred to as the "primary Simi Valley Freeway habitat linkage" by Edelman (1991). Intact crossings for large mammals include the Rocky Peak Road freeway overpass (just outside City/County line). Habitats encompassed by the Santa Susana Pass SEA (within the City) include chaparral, coastal scrub, grassland, oak woodland, and riparian woodland. The SEA also contains concentrations of Santa Susana tarplant, which is associated with sandstone outcrops in chaparral and coastal scrub habitats.

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<sup>3</sup> SEA boundaries shown are the original boundaries recommended (England and Nelson, 1976) and adopted by the County of Los Angeles. Discrepancies between these boundaries and the extent of open space habitat for plants and animals shown on Figures BR1A-D are the result of "deletions" of areas from the SEA, as they have become developed.

- Santa Susana Mountains and Santa Susana Mountains SEA. The Santa Susana Mountains form an open-space link between the San Gabriel Mountains (northeast) and the Simi Hills and Santa Monica Mountains (southwest). With the exception of a resource inventory and mapping prepared by Wiekel (1983) and bird lists for O'Melveny Park (Martin, 1992), specific biological resource accounts of the Santa Susana Mountains are generally lacking. The range does support grassland, chaparral, oak woodland and savanna, riparian woodland, and big-cone spruce woodland (latter on the north slope only).

A small, eastern extension of the Santa Susana Mountains SEA is located within the City boundary, although much of the former SEA here is occupied by the Sunshine Canyon Sanitary Landfill.<sup>4</sup> Habitats of the Santa Susana Mountains SEA include grassland, coastal sage scrub, chaparral, oak woodland and savannah, and riparian woodlands (England and Nelson, 1976). Porter Ranch is also included in this geographic region.

- Van Norman Reservoir and vicinity. This large open space area in the northern San Fernando Valley receives water via aqueduct over the San Fernando Pass; the divide between the Santa Susana and San Gabriel Mountains. The size of the reservoir containing open water was substantially reduced following the Sylmar earthquake in 1971, when the lower dam was drained. As a result, portions of that area have recovered to form willow forest habitat. Upland portions of the reservoir area support grassland and coastal scrub vegetation. The area is one of five which are regularly used by wintering Canada geese. To the south and adjacent to the reservoir are agricultural lands, a cemetery, a parcel containing remnant grassland, coastal scrub and oak woodland, and several vacant lots. These form a cohesive unit which offers resources for plants and animals as an adjunct to the reservoir site. Across the Golden State Freeway (I-5) from the Van Norman Reservoir (in the Northeast Valley subregion) is a substantial area of grassland, coastal scrub, and small open water habitat which adds to the effective size and resource value of the reservoir site.
- Pacoima Spreading Grounds. This area of storm water runoff collection located southwest of the junction of the Golden State Freeway (I-5) and the Simi Valley Freeway (SR 118) is divided approximately in half between the Northwest and Northeast Valley Planning Subregions. It supports "marsh-like habitat" when ponding occurs (City of Los Angeles, 1989), and offers opportunities for migrating waterfowl and shorebirds.

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<sup>4</sup> The footprint of the landfill shown here is as of November, 1992 and does not reflect the expansion which has occurred since that date.

### Northeast Valley Planning Subregion

- San Gabriel Mountains. This subregion contains portions of the foothills of the San Gabriel Mountains bordering the San Fernando Valley and extending from the western end of the range eastward to Pacoima Canyon, Lopez Canyon, Little Tujunga Canyon and Big Tujunga Canyon. From there, the City includes the foothills of the range bordering on the San Gabriel Valley eastward to approximately Haines Canyon, and extending upward into the mountains to the vicinity of Mount Lukens. Biological resources of the San Gabriel Mountains are discussed generally (Hanes, 1976; Schoenherr, 1976 and 1992; USDA:FS, 1987; Long, 1994), but specific biological accounts of areas within the City [with the exception of detailed vegetation maps prepared by Wieslander (1934)] are limited to project-related environmental impact reports and sensitive species records in the Natural Diversity Data Base. Habitats evident in the City boundary on aerial photographs include primarily coastal scrub and chaparral, and limited areas of oak and riparian woodlands, and grasslands.
- Verdugo Mountains and Verdugo Mountains SEA. The City includes the entire northwestern end of this mountain range bordering the San Fernando Valley and the San Gabriel Valley. This geographic location makes the Verdugo Mountains an important habitat linkage between the San Gabriel Mountains to the north, and the Santa Monica Mountains to the south (England and Nelson, 1976). Both general and specific accounts of biological resources therein are lacking or limited to project-related environmental impact reports or accounts of sensitive species, and the detailed vegetation maps of the area prepared by Wieslander in 1934. As shown on aerial photographs, habitats present in these mountains include grassland, coastal scrub, chaparral, riparian and oak woodlands.

A substantial portion of the Verdugo Mountains SEA lies within the City, while the remainder is within the corporate boundaries of Burbank and Glendale. Although England and Nelson (1976) indicate that "considerable information exists on the area [SEA]," this information was not available for preparation of this EIR.

- Tujunga Valley/Hansen Dam Park SEA. The Tujunga Valley occupies the floodplain of Big Tujunga Canyon. Hansen Dam is a flood control basin receiving stream discharge from Lopez, Kagel, and Little Tujunga, as well as Big Tujunga Canyons. The floodplain behind Hansen Dam supports one of the last examples of alluvial scrub vegetation in the freshwater marsh, willow forest and scrub. Alluvial scrub is habitat for the state-listed Endangered Nevin's barberry (*Berberis nevini*) and the state- and federally-listed Endangered slender-horned spineflower (*Dodecahema leptoceras*), which have been found here (England and Nelson, 1976; City of Los Angeles, 1989a). Long (1994) has prepared a list of plants and birds occurring at the Tujunga Ponds. The Park reportedly (City of Los Angeles 1989) supports a south coast minnow/sucker stream which sustains native populations of arroyo chub (*Gila orcutti*) and Santa Ana sucker (*Catostomus santaanae*). Swift *et al.* (1993) report that arroyo chub remains common in Big Tujunga, whereas Pacific speckled dace

(*Rhinichthys osculus*) and Santa Ana sucker have become scarce and perhaps extirpated. Areas to the southwest (below the dam) are used as a spreading ground for groundwater recharge, which has created several freshwater marsh areas used by marsh birds, migratory waterfowl, and shorebirds (England and Nelson, 1976).<sup>5</sup>

- Jessup Park. A small area of chaparral, coastal scrub and grassland habitats (as evident on aerial photographs) occurs just west of Hansen Dam Park. No specific details of biological resources present could be found in the available literature.
- Tujunga Spreading Grounds SEA. This SEA is located in the Tujunga Wash downstream from Hansen Dam, at the juncture of the Golden State Freeway (I-5) and the Hollywood Freeway (SR 170). Although it contains little natural vegetation, it is an area of ponded water serving as an important nesting, feeding and resting ground for many migrating, resident and wintering bird species (England and Nelson, 1976).
- Pacoima Spreading Grounds. This area of storm water runoff collection located southwest of the junction of the Golden State Freeway (I-5) and the Simi Valley Freeway (SR 118) is divided approximately in half between the Northwest and Northeast Valley Planning Subregions. It supports "marsh-like habitat" when ponding occurs (City of Los Angeles, 1989), and offers opportunities for migrating waterfowl and shorebirds.
- Van Norman Reservoir vicinity. Across the Golden State Freeway (I-5) from the Van Norman Reservoir (in the adjacent Northeast Valley subregion) is a substantial area of grassland, coastal scrub, and small open water habitat which adds to the effective size and resource value of the reservoir site.

#### Southwest Valley Planning Subregion

- Santa Monica Mountains and Encino Reservoir SEA. The biological resources of the Santa Monica Mountains are considered in general (Raven *et al.*, 1986; Othmer, 1980; USDI:NPS, 1982; De Lisle *et al.*, 1986). Wieslander (1934) mapped the vegetation in detail between 1927 and 1933. Aside from project-related environmental impact reports and accounts of sensitive species, specific details are generally lacking. The subregion includes portions of the north slope of the range from the vicinity of Topanga Canyon Boulevard (south of US 101) eastward to the Sepulveda Pass (San Diego Freeway; I-405). As evidenced on aerial photographs, habitats in the area include mostly chaparral, but also oak and riparian woodland, and small amounts of grassland, coastal scrub and walnut woodland. A small portion of Topanga State Park is included in upper Caballero (Reseda) Canyon, with the bulk occurring in the West Los Angeles subregion.

<sup>5</sup> The SEA boundary shown on Figure BR-1 is as originally proposed by England and Nelson (1976). A portion of the area was "redesignated to open space", therefore, not adopted as SEA under the Los Angeles County General Plan.

The Encino Reservoir SEA contains "the best stand of inland chaparral, coastal scrub and streamside vegetation remaining on the inland slope of the Santa Monica Mountains" (England and Nelson, 1976). In addition, the reservoir itself is an open, fresh water habitat. Along with Chatsworth Reservoir, the Sepulveda Basin, Van Norman Reservoir, Los Angeles Pierce College, the Encino Reservoir is an important wintering ground for Canada geese.

- Simi Hills and Simi Hills SEA. The Simi Hills are represented in this subregion by small areas at the western end of the San Fernando Valley, with the majority occurring in the Northwest Valley subregion. As discussed for that subregion, with the exception of an inventory and mapping by Weikel (1983), general and specific accounts of biological resources of the range are lacking. As evidenced by aerial photographs, the area within the City and subregion support grassland, chaparral, coastal scrub, oak and riparian woodland, and walnut woodland. Castle Peak<sup>6</sup> is a prominent rocky peak which is a major roosting site for great horned (*Bubo virginianus*) and barn owls (*Tyto alba*), and probably a hibernaculum for one or more species of bats (Wishner, personal observation, 1987). None of the Simi Hills SEA occurs in the Southwest Valley subregion.
- Los Angeles Pierce College. The campus of the former Clarence W. Pierce School of Agriculture retains a substantial amount of agricultural open space that is attractive to wintering Canada geese. As such, it is one of only five areas in the San Fernando Valley where Canada geese can forage. The recently-graded (fall 1993) Warner Ridge property adjacent to the west side of the Campus was also used by geese in the winter of 1994, since the area supported a dense growth of young grasses following the grading (Wishner, personal observation, 1994). In addition to the agricultural lands at Pierce College, the campus also contains an outdoor Nature Center with a pond and surrounding hillsides supporting grassland, and an arboretum. A number of sensitive or unusual bird species occur on the campus, especially in winter, and it is a popular location during the annual Christmas Bird Count conducted by the Audubon Society. The hilly portions of the campus represent an extension of the Chalk Hills discussed below.
- Chalk Hills and related areas. The Chalk Hills in Woodland Hills are a privately-owned, small island of grassland vegetation south of the Ventura Freeway (US 101) in the foothills of the Santa Monica Mountains. Close proximity to these mountains enables this area to support wildlife species including coyote (*Canis latrans*), bobcat (*Felis rufus*), western harvest mouse (*Reithrodontomys megalotis*), and California quail (*Callipepla californica*). Barn owls, great horned owls, red-tailed hawks (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*) are resident in the trees of the surrounding neighborhood and forage in the grassland. The site is the only location of square-stemmed buckwheat (*Eriogonum angulosum*) in the Santa Monica Mountains zone. Similar, geologically-related areas occur between the Chalk Hills and Pierce College, and to the west of Topanga Canyon Boulevard both to the north

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<sup>6</sup> Castle Peak is located west of Valley Circle Boulevard between Vanowen St. and Bell Canyon Rd.

and south of the Ventura Freeway (US 101), and again on the western edge of the subregion at Boething's Treeland Nursery.

- Sepulveda Flood Control Basin. The Los Angeles River and tributaries draining the western San Fernando Valley discharge into the Sepulveda Basin. A variety of open space land uses occur here including agriculture, wastewater treatment, outdoor recreation, and an outdoor nature center. The area is one of only five areas of the San Fernando Valley that is regularly used by wintering Canada geese. The area also includes grassland and open water habitats, as well as two lakes (one is concrete lined), and a segment of riparian woodland on the river. The basin is a popular location for the annual Christmas Bird Count conducted by the Audubon Society. A portion of the Sepulveda Basin has been restored to attract migratory waterfowl and other wildlife.

### **Southeast Valley Planning Subregion**

No substantial areas of natural habitat for plants and animals are evident on aerial photographs covering this subregion. Although the Los Angeles River passes through this area, it is a vertical-walled, concrete-lined segment of the stream.

### **Metro Center Planning Subregion**

- Santa Monica Mountains and Griffith Park SEA. Griffith Park, located at the east end of the Santa Monica Mountains supports coastal scrub, chaparral, riparian and oak woodland habitats. The area also includes the Hollywood Reservoir. England and Nelson (1976) consider Griffith Park an important "island" rest-stop for migrating birds, as well as a "reservoir for native species" and "corridor" for wildlife movement between the Santa Monica Mountains and San Gabriel mountains, via the Verdugo Mountains. The Department of Parks and Recreation manages a portion of the Park as a bird sanctuary.

### **Central Los Angeles Planning Subregion**

No substantial areas of natural habitat for plants and animals are evident on aerial photographs covering this subregion. Although the Los Angeles River passes through this area, it is a vertical-walled, concrete-lined segment of the stream.

### **Northeast Los Angeles Planning Subregion**

- Los Angeles River. The river in this subregion is a concrete-lined conveyance channel, although a five-mile stretch of the river from Griffith Park to the Golden State (I-5) and Pasadena (SR 11) Freeway interchange contains a natural bottom (City of Los Angeles 1991). The river is perennial below the Sepulveda Basin since 1985 as a result of discharge of tertiary-treated wastewater from the Tillman Reclamation Plant. Limited amounts of riparian scrub vegetation is present in the bed of the river, subject to scouring and re-appearance elsewhere in the shifting bottom sediments.

- Elysian Park/Dodger Stadium. Undeveloped portions of this area support chaparral and oak woodland vegetation, as evident on aerial photography. No specific details of biological resources present there could be found in the literature.
- Mount Washington and vicinity. In the area east of the Golden State Freeway (I-5) and between the Glendale (SR 2) and Pasadena (SR 11) Freeways, there occurs a number of small pockets of grassland and coastal scrub habitat in the mountainous area in the vicinity of Mount Washington. No specific details of biological resources present there could be found in the literature.
- Areas east of Occidental College. Small pockets of grassland and coastal scrub habitats remain in the mountainous area just to the east of Occidental College. No specific details of biological resources present there could be found in the literature.
- Rose Hill/Arroyo Seco Parks and Vicinity. Areas of remnant grassland habitat occur at Rose Hill Park and Arroyo Seco Park, and in the mountainous terrain to the south and east. Included here is also the open water habitat of Ascot Reservoir. No specific details of the biological resources present there could be found in the literature.
- Silverlake and Ivanhoe Reservoirs. These reservoirs located west of the Golden State (I-5) and Glendale (SR 2) freeway interchange are concrete-lined open water habitats with some waterfowl use.
- San Rafael Hills. The San Rafael Hills represent an south-eastward extension of the Verdugo Mountains. A small portion of the foothills on the southern flank of these mountains and on both sides of the Foothill Freeway (I-210) occurs within this subregion. As evident on aerial photographs, the primary habitat type present is chaparral.

#### **South Los Angeles Planning Subregion**

No substantial areas of natural habitat for plants and animals are evident on aerial photographs covering this subregion.

#### **Southwest Los Angeles Planning Subregion**

- El Segundo Dunes SEA. Located west of the runways of the Los Angeles International Airport, the El Segundo Dunes SEA is the last remnant of a coastal dune system that once stretched several miles in each direction from here (England and Nelson, 1976). A substantial portion of the original SEA has been deleted due to airport expansion. The present SEA borders a portion of Dockweiler Beach State Park. The vegetation found here, referred to as coastal dune scrub, occurs nowhere else in the County. The dunes support the entire world population of the El Segundo Blue butterfly (*Euphilotes battoides allyni*), a federally-Endangered species. Much of the area has been disturbed by a former residential development, but the

area is currently undergoing restoration. The specific biological resources of the El Segundo Dunes are discussed by Mattoni (1990).

- Ballona Wetlands and Ballona Creek SEA. The Ballona Wetlands located just north of the El Segundo Dunes are privately owned and subject to a future restoration (ca. 280 acres) of the area to tidally influenced coastal saltmarsh under the Playa Vista Plan (City of Los Angeles, 1992; Mattoni, 1990a). The specific biological resources of the Ballona region have been investigated in some detail (Dailey *et al.*, 1974; Envicom Corp., 1979; Schreiber, 1981; Jones and Stokes Associates, 1981; Corey, 1990; Corey and Massey, 1990; Allen, 1991; Carter, 1991; Henrickson, 1991; Mattoni, 1991; Soltz, 1991). Habitats present include coastal saltmarsh, willow woodlands, freshwater marsh, coastal dunes, and coastal scrub. The Ballona Creek SEA generally encompassing the Ballona Wetlands is one of two remaining remnants of coastal saltmarsh habitat in Los Angeles County (England and Nelson, 1976), and is used as a breeding ground for several state-listed Endangered species including Belding's savanna sparrow (*Passerculus sandwichensis beldingi*), California least tern (*Sterna antillarum browni*), saltmarsh skipper (*Panoquina errans*), and saltmarsh harvest mouse (*Sorex ornatus salicornicus*).
- Baldwin Hills. The Baldwin Hills support a coastal scrub and grassland communities, reportedly containing plant species now found only at the edge of the Los Angeles Metropolitan area and on the desert side of the San Gabriel Mountains (England and Nelson, 1976)<sup>7</sup>. According to these authors, they are "one of the last remaining open spaces in the western portion of the Los Angeles Basin."

#### West Los Angeles Planning Subregion

- Santa Monica Mountains including Topanga State Park. The largest portion of the Santa Monica Mountains that are contained within the City occur in this subregion. The biological resources of the Santa Monica Mountains are considered in general (Raven *et al.*, 1986; Othmer, 1980; USDI:NPS, 1982; De Lisle *et al.*, 1986). Wieslander (1934) mapped the vegetation in detail between 1927 and 1933. Muns (1983) has compiled a flora for Topanga State Park. Aside from project-related environmental impact reports and accounts of sensitive species, specific details are generally lacking. The subregion includes the south slopes of the range from Topanga State Park eastward to Laurel Canyon. As evidenced on aerial photographs, habitats in the area include mostly chaparral, but also coastal scrub, oak and riparian woodland, and small amounts of grassland.
- Will Rogers State Park Beach coastline. In the Pacific Palisades, sandy beach as well as rocky and sandy intertidal zones offer habitat for shorebirds.

<sup>7</sup> This area was originally considered as a potential SEA in 1976, however, most of the area was "redesignated to open space", and has subsequently been incorporated into the Kenneth Hahn State Recreation Area (Koutnik, pers. comm. Oct. 6, 1994).

- Stone Canyon Reservoir. There are actually two reservoirs here, the upper reservoir is concrete-lined, the lower one is larger, with natural banks. The area provides habitat for waterfowl, and also support a small area of walnut woodland.

### **Harbor Planning Subregion**

- Palos Verdes Peninsula Coastline SEA. The City includes the eastern portion of this SEA from near Cabrillo Beach Park/Point Fermin westward to the City boundary. The Fort MacArthur Military Reservation is included as a buffer for the SEA. The shoreline encompasses headlands, rocky shoreline, sandy beaches, intertidal areas, kelp beds, coastal strand, and coastal scrub vegetation (England and Nelson, 1976). The coastal cliffs and offshore rocks offer roosting and feeding sites for shorebirds, gulls and other seabirds including the state- and federally-Endangered brown pelican. The state- and federally-listed Endangered peregrine falcon (*Falco peregrinus anatum*), and (Species of Special Concern) prairie falcon (*Falco mexicanus*) are reported to winter along bluff tops in this area.
- Harbor Lake Regional Park SEA. Harbor Lake Regional Park located northwest of the junction of the Harbor Freeway (SR 110) and Anaheim Boulevard supports one of two remaining wetland areas that once covered the South Bay area (the other area is Madrona Marsh, outside the City) (England and Nelson, 1976). Habitats present include willow forest, freshwater marsh and open water habitats which support frogs, toads, and water-dependent birds, and migratory birds. The Harbor Lake area is noted for the number of songbirds found there during migration, including many which are outside their normal ranges (so-called "vagrants").
- Terminal Island SEA. An area formerly located on the margin of San Pedro Bay is described as a flat, sandy area lacking vegetation which is free from human disturbances and near an estuary with a supply of small fish (England and Nelson, 1976). California least terns reportedly nested at this locality, and at Ballona Creek. An examination of aerial photographs reveals that the entire area formerly designated as an SEA has been replaced by a parking lot and coal storage area. Garrett (personal communication, October 3, 1994) indicates that 190 acres of land was created in 1983-1984 in connection with the construction of Pier 300. This landfill area is located immediately to the south of the former least tern nesting site (SEA 33). Memorandum of Agreement (MOA) exists between the US Fish and Wildlife Service, Army Corps of Engineers, California Department of Fish and Game, and the Port of Los Angeles which requires that the latter agency must maintain nesting habitat for least terns between April and September of each year. Furthermore, the Port of Los Angeles is required to create additional shallow water foraging habitat for the terns to replace that lost by creation of the 190-acre landfill in the outer harbor. At present, a 23.4 acre strip of land to the west and south of the seaplane lagoon is the "designated least tern nesting site" (quotes indicate that the designation is the result of human activities, not habitat selection by least terns). Garrett (pers. comm., 1994) reports that 32 nesting pairs in 1994 produced six to

eight fledglings. In 1995, the designated nesting site is to be “relocated to the south”, and reduced to 15.5 acres in extent (Garrett, pers. comm., 1994).

- San Pedro Harbor.- This area is heavily used for shipping traffic and recreational activities such as jet skis and boating. Some biological value does remain in the harbor, particularly along the northern part of the jetty separating the harbor from the open ocean. Of special interest is the sandy beach on the ocean-side of the jetty adjacent to Cabrillo Park, where grunion (*Leuresthes tenuis*) spawn in spring on nights of high tides following a full moon. The harbor may provide habitat for fish and water birds. The heavy human activity in the area has reduced the value of the harbor to wildlife.

### *Citywide Sensitive Biological Resources*

Sensitive biological resources include natural communities, plant species, and animal species. There are numerous elements within each of these categories that occur in the City of Los Angeles, generally related to the large natural open space areas described above. Two tables are provided below that indicate which sensitive biological resources are recorded from, or which may occur in the planning subregions (Tables BR-1 and BR-2).

**Table BR-1** is a listing of sensitive biological resources that have been reported in any of several sources, including the Natural Diversity Data Base (NDDDB, 1994), the California Wildlife Habitat Relationships System (CWHRS, 1988), O'Brien (1994), the California Native Plant Society (Skinner and Pavlik, 1994), Garrett and Dunn (1981), Williams (1986), Remsen (1985), DeLisle *et al.* (1987), Hogue (1993), and various reports prepared for environmental review for sites throughout the City. The table *only* includes known records, and does not consider potential occurrences. In some cases, such as for the Central and South Los Angeles, and Southeast Valley Subregions, no sensitive resources are listed in the table, despite records which indicate such occurrences in the past. This is because a review of aerial photography of these areas, as well as documentation (City of Los Angeles, 1992a) has revealed that there is no suitable habitat remaining in those subregions which could support sensitive biological resources.

In addition, there are some species that are likely to have been extirpated (eliminated) from the subregions where they are reported, or that are probably extinct. These species are not included in the table. Some of these species are noted as potentially extirpated by O'Brien (1994). One example is San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), which the NDDDB (1994) lists for quadrangles within a few of the Planning Subregions. The CNPS Inventory (Skinner and Pavlik, 1994) indicates that this species has not been reported since 1940, and is likely to be extinct. There are several other such plant species excluded from the table, and so, it may appear that there is some discrepancy between the NDDDB (1994), O'Brien (1994) and **Table BR-1**.

**TABLE BR-1**

Sensitive Biological Resources  
Occurring within the City of Los Angeles

Refer to text on Sensitive Biological Resources for an explanation of this table.

Nomenclature is the most current available; for **plant communities**: Holland (1986); **plants**: CNPS (1994), Jepson Manual (1993) and Munz (1973); **amphibians and reptiles**: Stebbins (1985) and Jennings (1987); **birds**: American Ornithologists' Union (1983 and all supplements to the checklist through 1993); and **mammals**: Burt and Grossenheider (1976), Jameson and Peeters (1988), Hall and Kelson (1959), and Ingles (1965). Only scientific names are given; scientific and common names are provided in a separate table (Table BR-3).

Planning Subregion	Sensitive Plant Communities	Sensitive Plant Species	Sensitive Animal Species
Central Los Angeles	Note: Review of aerial photographs of this Subregion indicate that there is insufficient natural habitat to support sensitive biological resources. There are some records, but these elements have likely been extirpated by habitat loss.		
Harbor	southern coastal bluff scrub	<i>Aphanisma blitoides</i> <i>Astragalus tener</i> var. <i>titi</i> <i>Atriplex pacifica</i> <i>Atriplex serenana</i> var. <i>davidsonii</i> <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> <i>Dudleya virens</i> <i>Hemizonia parryi</i> ssp. <i>australis</i>	<b>Invertebrates</b> <i>Cicindela hirticollis</i> <i>gravidia</i>  <b>Birds</b> <i>Agelaius tricolor</i> <i>Falco peregrinus anatum</i> <i>Falco mexicanus</i>  <i>Sterna antillarum browni</i>

**TABLE 1 (con't)**

Sensitive Biological Resources  
Occurring within the City of Los Angeles

Planning Subregion	Sensitive Plant Communities	Sensitive Plant Species	Sensitive Animal Species
Harbor (con't)		<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> <i>Microseris douglasii</i> var. <i>platycarpa</i> <i>Nemacaulis denudata</i> var. <i>denudata</i> <i>Nemacladus gracilis</i> <i>Pentachaeta lyonii</i>	
Metro Center	southern coast live oak riparian forest southern willow scrub California walnut woodland	<i>Astragalus brauntonii</i> <i>Atriplex parishii</i> <i>Berberis nevadensis</i> <i>Camissonia lewisii</i> <i>Dudleya multicaulis</i> <i>Hemizonia parryi</i> ssp. <i>australis</i> <i>Malacothamnus davidsonii</i> <i>Nama stenocarpum</i> <i>Rorippa gambellii</i>	
Northeast Los Angeles		<i>Astragalus brauntonii</i> <i>Atriplex parishii</i> <i>Berberis nevadensis</i> <i>Calochortus plummerae</i> <i>Calystegia sepium</i> ssp. <i>binghamiae</i> <i>Dudleya multicaulis</i>	

**TABLE BR-1 (con't)**

Sensitive Biological Resources  
Occurring within the City of Los Angeles

Planning Subregion	Sensitive Plant Communities	Sensitive Plant Species	Sensitive Animal Species
Northeast Los Angeles (con't)		<i>Harpagonella palmeri</i>	
		<i>Hemizonia parryi</i> ssp. <i>australis</i> <i>Lasthenia glabrata</i> -ssp. <i>coulteri</i> <i>Malacothamnus davidsonii</i> <i>Microseris douglasii</i> var. <i>platycarpa</i> <i>Rorippa gambellii</i>	
Northeast Valley		<i>Astragalus brauntonii</i> <i>Atriplex parishii</i> <i>Berberis nevadensis</i> <i>Calochortus plummerae</i> <i>Camissonia lewisii</i> <i>Dodecahema leptoceras</i> <i>Dudleya multicaulis</i> <i>Hemizonia parryi</i> ssp. <i>australis</i> <i>Malacothamnus davidsonii</i>	<b>Fish</b> <i>Catostomus santaanae</i> <i>Gila orcutti</i> <i>Rhinichthys osculus</i>
		Riversidian alluvial fan sage scrub southern coast live oak riparian forest southern cottonwood willow riparian forest southern mixed riparian forest southern sycamore alder riparian woodland southern willow scrub	<b>Reptiles</b> <i>Clemmys marmorata pallida</i> <i>Phrynosoma coronatum</i> <i>blainvilliei</i> <b>Birds</b> <i>Poliophtila californica</i>

**TABLE 1 (con't)**

Sensitive Biological Resources  
Occurring within the City of Los Angeles

Planning Subregion	Sensitive Plant Communities	Sensitive Plant Species	Sensitive Animal Species
Northwest Valley	southern cottonwood willow riparian forest southern mixed riparian forest southern willow scrub valley oak woodland California walnut woodland	<i>Calochortus plummerae</i> <i>Dodecahema leptoceras</i> <i>Dudleya cymosa</i> ssp. <i>ovatifolia</i> <i>Dudleya multicaulis</i> <i>Hemizonia minthornii</i> <i>Hemizonia parryi</i> ssp. <i>australis</i> <i>Malacothammus davidsonii</i> <i>Lilium humboldtii ocellatum</i>	<i>blainvilliei</i>  <b>Birds</b> <i>Coccyzus americanus occidentalis</i> <i>Vireo bellii pusillus</i>  <b>Mammals</b> <i>Macrotus californicus</i>
South Los Angeles	Note: The Draft MEA for this subregion indicates that there are no natural habitat areas remaining. It is assumed that any sensitive plant or animal species recorded in the area have been extirpated.		

**TABLE BR-1 (con't)**

Sensitive Biological Resources  
Occurring within the City of Los Angeles

Planning Subregion	Sensitive Plant Communities	Sensitive Plant Species	Sensitive Animal Species
Southeast Valley	<p>Note: Review of aerial photographs of this Subregion indicate that there is insufficient natural habitat to support sensitive biological resources. There are some records, but these elements have likely been extirpated by habitat loss.</p>		
Southwest Los Angeles	<p>southern dune scrub southern coastal salt marsh southern willow scrub</p>	<p><i>Abronia maritima</i> <i>Astragalus tener</i> var. <i>titi</i> <i>Atriplex parisiifolia</i> <i>Calochortus plummerae</i> <i>Calystegia sepium</i> ssp. <i>binghamiae</i> <i>Camissonia lewisii</i> <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> <i>Dithyrea maritima</i> <i>Dudleya multicaulis</i> <i>Hemizonia parryi</i> ssp. <i>australis</i> <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> <i>Nemacladus gracilis</i> <i>Phacelia stellaris</i></p>	<p><b>Invertebrates</b> <i>Cicindela hirticollis gravida</i> <i>Cicindela senilis frosti</i> <i>Trigonoscuta dorothaea dorothaea</i> <i>Onychobaris langei</i> <i>Brennania belkini</i> <i>Eucosma hennei</i> <i>Panoquina errans</i> <i>Euphilotes battoides allyni</i> <i>Danaus plexippus</i> <i>Tryonia imitator</i></p> <p><b>Reptiles</b> <i>Cnemidophorus marmorata pallida</i></p>

**TABLE 1 (con't)**

Sensitive Biological Resources  
Occurring within the City of Los Angeles

Planning Subregion	Sensitive Plant Communities	Sensitive Plant Species	Sensitive Animal Species
Southwest Los Angeles (con't)		<i>Rorippa gambellii</i>	<p><b>Birds</b>  <i>Laterallus jamaicensis coturniculus</i>  <i>Charadrius alexandrinus nivosus</i>  <i>Sterna antillarum browni</i>  <i>Athene cucularia</i>  <i>Polioptila californica</i>  <i>Passerculus sandwichensis beldingi</i></p> <p><b>Mammals</b>  <i>Sorex ornatus salicornicus</i></p>
Southwest Valley	valley needlegrass grassland southern coast live oak riparian forest southern willow scrub valley oak woodland California walnut woodland	<p><i>Astragalus brauntonii</i>  <i>Rorippa gambellii</i>  <i>Dudleya cymosa</i> ssp.  <i>ovatifolia</i>  <i>Dudleya multicaulis</i>  <i>Hemizonia minthorrii</i>  <i>Hemizonia parryi</i> ssp.  <i>australis</i>  <i>Malacothamnus davidsonii</i></p>	<p><b>Reptiles</b>  <i>Phrynosoma coronatum blainvilliei</i></p>

**TABLE BR-1 (con't)**

Sensitive Biological Resources  
Occurring within the City of Los Angeles

Planning Subregion	Sensitive Plant Communities	Sensitive Plant Species	Sensitive Animal Species
West Los Angeles	southern coast live oak riparian forest southern sycamore alder riparian woodland southern willow scrub California walnut woodland	<i>Astragalus brauntonii</i> <i>Astragalus tener</i> var. <i>titi</i> <i>Atriplex parishii</i> <i>Camissonia lewisii</i> <i>Calochortus plummerae</i> <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> <i>Dithyrea maritima</i> <i>Malacothamnus davidsonii</i> <i>Nama stenocarpum</i> <i>Hemizonia parryi</i> ssp. <i>australis</i>	<b>Invertebrates</b> <i>Coelus globosus</i> <i>Danaus plexippus</i> <i>Neduba longipennis</i>  <b>Reptiles</b> <i>Phrynosoma coronatum</i> <i>blainvillei</i> <i>Lampropeltis zonata pulchra</i>

TABLE 2

Sensitive Animal Species Potentially Present  
in the City of Los Angeles

Sensitive Animal Species (Scientific name)	Planning Subregion Where Potentially Present
<i>Clemmys marmorata pallida</i>	West Los Angeles, Southwest Valley
<i>Phrynosoma coronatum frontale</i>	West Los Angeles, Southwest Valley, Northwest Valley
<i>Lampropeltis zonata pulchra</i>	Southwest Valley, Northwest Valley, Northeast Valley
<i>Cnemidophorus tigris multiscutatus</i>	West Los Angeles, Southwest Valley, Northwest Valley, Northeast Valley
<i>Diadophis punctatus modestus</i>	West Los Angeles, Southwest Valley, Northwest Valley, Northeast Valley
<i>Salvadora hexalepis virgulata</i>	West Los Angeles, Southwest Valley, Northwest Valley, Northeast Valley
<i>Agelaius tricolor</i>	Northeast Valley, Northwest Valley
<i>Athene cunicularia</i>	Northeast Valley, Northwest Valley
<i>Phalacrocorax auritus</i>	Northeast Valley, West Los Angeles, Southwest Los Angeles
<i>Ardea herodias</i>	Metro Center, West Los Angeles, Southwest Los Angeles, Northeast Valley
<i>Nycticorax nycticorax</i>	Metro Center, Southwest Los Angeles, West Los Angeles, Northeast Valley
<i>Accipiter cooperi</i>	West Los Angeles, Southwest Valley, Northwest Valley, Northeast Valley
<i>Falco peregrinus anatum</i>	Southwest Los Angeles, Harbor
<i>Falco mexicanus</i>	Southwest Los Angeles, West Los Angeles
<i>Elanus leucurus</i>	Southwest Valley, Northeast Valley, Northwest Valley, Southwest Los Angeles

**TABLE BR-2 (con't)**

Sensitive Animal Species Potentially Present  
in the City of Los Angeles

Sensitive Animal Species (Scientific name)	Planning Subregion Where Potentially Present
<i>Rallus longirostris levipes</i>	Southwest Los Angeles
<i>Asio flammeus</i>	Harbor, Northeast Valley
<i>Eremophila alpestris actia</i>	Southwest Los Angeles, West Los Angeles
<i>Campylorhynchus brunneicapillus sandiegoense</i>	Northwest Valley
<i>Lanius ludovicianus</i>	Northwest Valley, Southwest Valley, Northeast Valley, West Los Angeles, Southwest Los Angeles
<i>Aimophila ruficeps canescens</i>	Northwest Valley, Southwest Valley, West Los Angeles
<i>Amphispiza belli belli</i>	Northwest Valley, Southwest Valley, West Los Angeles, Northeast Valley
<i>Dendroica petechia brewsteri</i>	West Los Angeles, Southwest Valley, Northwest Valley, Northeast Valley, Harbor
<i>Icteria virens</i>	Northeast Valley, Northwest Valley, Southwest Valley, West Los Angeles
<i>Lepus californicus bennettii</i>	West Los Angeles, Southwest Valley, Northwest Valley, Northeast Valley, Southwest Los Angeles
<p>Bat Species – due to the lack of information concerning the ranges and distribution of several sensitive bats, it is assumed that any of these species could occur in natural open space areas: <i>Antrozous pallidus</i>, <i>Euderma maculatum</i>, <i>Plecotus townsendii pallescens</i>, <i>Eumops perotis californicus</i></p>	

**Table BR-2** provides projections of the sensitive animal species that could occur within any one or more of the 11 Planning Subregions. Projections of potential presence in the subregions is based upon published information about the distribution and habitat preferences for the species considered, combined with our aerial photography assessment that shows where suitable habitat may still exist within the City. The purpose of making these projections is because although the NDDDB may be the best system of its kind for tracking elements of biodiversity, there remains a number of sensitive animal species that could occur in the City, and for which there are no records. Also, other sources may be incomplete in their consideration of the potential for the occurrence of sensitive species, as they tend to only report NDDDB records or personal observations. Inclusion of these species here is intended to ensure that they are considered in future planning efforts within the subregions. Similar projections for plants are not made because seemingly suitable habitats do not always support sensitive plant species. The presence or absence of sensitive plant and animal species should be determined on a site-by-site basis in the appropriate season.

Finally, **Table BR-2** *does include* species listed in **Table BR-1** that are likely to occur in subregions for which there are no records in the literature. For example, San Diego mountain kingsnake (*Lampropeltis zonata pulchra*) is reported in the NDDDB (1994) for the West Los Angeles subregion, but this species is also likely to occur in the Southwest Valley subregion, as there appears to be suitable habitat there. For this reason, San Diego mountain kingsnake is included in the list of expected sensitive animal species in **Table BR-2**, as well as in the list of records in **Table BR-1**. Because of space limitations in the previous two tables, **Table BR-3** lists all of the sensitive species included in Tables BR-1 and BR-2, providing both their common and scientific names, and status regarding rarity, threat, or endangerment.

#### *Wildlife Movement*

The maintenance of wildlife species diversity is dependent upon the preservation of the integrity of large, contiguous habitat areas. Urbanization that spreads into natural open space has the effect of fragmenting and isolating small "islands" of habitat. These islands are often too small and too far from other similar habitat areas to support the natural assemblage of plants and animals found in larger areas of similar habitat. This is especially true of animals with large home ranges, such as mountain lions (*Felis concolor*), that cannot find sufficient prey or mates within isolated habitat patches. As a consequence of habitat fragmentation, many animal species are extirpated and non-native, invasive plants and animals become established.

It is theorized that the biological diversity of isolated habitat patches (or areas threatened with fragmentation) can be preserved through the establishment of habitat linkages. This idea is based upon theories of island biogeography which in essence state that the farther islands are from each other, and the smaller they are, the fewer species the more isolated and smaller islands can support (MacArthur and Wilson, 1967). The same may be said for continental islands; habitat patches that are isolated from each other, not by oceans, but by distance, topography, habitat changes, or

### Table BR-3

#### Table of Scientific Names, Common Names and Status for Sensitive Plant and Animal Species Listed in Tables BR-1 and BR-2

Refer to text on Sensitive Biological Resources for an explanation of this table.

Status Codes Definitions:

- CE = California Endangered
- CT = California Threatened
- CR = California Rare
- CSC = California Species of Special Concern
- CFP = California Fully Protected
- SA = Special Animal; as recognized by CDFG
- List 1B = California Native Plant Society (CNPS); plants rare, threatened, or endangered in California and elsewhere
- List 2 = CNPS; plants rare, threatened, or endangered in California, but more common elsewhere
- List 3 = CNPS; insufficient information to warrant higher status, perhaps due to taxonomic problems; may warrant protection
- List 4 = CNPS; plants of limited distribution; a watch list
- FE= Federally-listed Endangered
- FPE = Federally Proposed for listing as Endangered
- FPT = Federally Proposed for listing as Threatened
- F1 = Federal Candidate for listing as endangered or threatened (Category 1)
- F2 = Federal Candidate for listing as endangered or threatened (Category 2)

Scientific Name	Common Name	Status
<b>Plants</b>		
<i>Abronia maritima</i>	red sand-verbena	List 4
<i>Aphanisma blitoides</i>	aphanisma	F2, List 1B
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	FPE, List 1B
<i>Astragalus tener</i> var. <i>titi</i>	coastal dune milk-vetch	CE, F2, List 1B
<i>Atriplex pacifica</i>	south coast shadscale	F2, List 1B
<i>Atriplex parishii</i>	Parish's brittlescale	F2, List 1B
<i>Atriplex serenana</i> var. <i> davidsonii</i>	Davidson's saltscale	List 1B
<i>Berberis nevinii</i>	Nevin's barberry	CE, F1, List 1B
<i>Calochortus plummerae</i>	Plummer's mariposa lily	F2, List 1B
<i>Camissonia lewisii</i>	Lewis' evening primrose	List 3

**TABLE BR-3 (con't)**

Scientific Name	Common Name	Status
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	salt marsh bird's beak	CE, FE, List 1B
<i>Dithyrea maritima</i>	beach spectaclepod	CT, F1, List 1B
<i>Dodecahema leptoceras</i>	slender-horned spineflower	CE, FE, List 1B
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	Santa Monica Mountains dudleya	FPT, List 1B
<i>Dudleya multicaulis</i>	many-stemmed dudleya	F2, List 1B
<i>Dudleya virens</i>	bright green dudleya	F2, List 1B
<i>Harpagonella palmeri</i>	Palmer's grappling hook	F2, List 2
<i>Hemizonia minthornii</i>	Santa Susana tarplant	CR, F2, List 1B
<i>Hemizonia parryi</i> ssp. <i>australis</i>	southern tarplant	F2, List 1B
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	F1, List 1B
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	ocellated Humboldt lily	F2, List 4
<i>Malacothamnus davidsonii</i>	Davidson's bush mallow	F2, List 1B
<i>Microseris douglasii</i> var. <i>platycarpha</i>	small-flowered microseris	List 4
<i>Nama stenocarpum</i>	mud nama	List 2
<i>Nemacaulis denudata</i> var. <i>denudata</i>	coast woolly-heads	List 2
<i>Nemacladus gracilis</i>	slender nemacladus	List 4
<i>Pentachaeta lyonii</i>	Lyon's pentachaeta	CE, FPE, List 1B
<i>Phacelia stellaris</i>	Brand's phacelia	List 1B
<i>Rorippa gambellii</i>	Gambel's water cress	List 2

**TABLE BR-3 (con't)**

Scientific Name	Common Name	Status
<b>Invertebrates</b>		
<i>Erennania belkini</i>	Belkin's dune tabanid fly	SA
<i>Cicindela hirticollis gravida</i>	sandy beach tiger beetle	F2
<i>Cicindela senilis frosti</i>	"tiger beetle"	SA
<i>Coelus globosus</i>	globose dune beetle	F2
<i>Danaus plexippus</i>	monarch	SA (wintering sites)
<i>Eucosma hennei</i>	Henne's eucosman moth	F2
<i>Euphilotes battoides allyni</i>	El Segundo blue	FE
<i>Neduba longipennis</i>	Santa Monica Mountains shieldback katydid	F2
<i>Onychobaris langei</i>	Lange's El Segundo dune weevil	F2
<i>Panoquina errans</i>	saltmarsh skipper	F2
<i>Trigonoscuta dorothea dorothea</i>	Dorothy's El Segundo dune beetle	F2
<i>Tryonia imitator</i>	mimic tryonia; California brackishwater snail	F2
<b>Fish</b>		
<i>Catostomus santaanae</i>	Santa Ana sucker	CSC, F2
<i>Gila orcutti</i>	arroyo chub	CSC
<i>Rhinichthys osculus</i>	speckled dace	CSC, F2
<b>Reptiles</b>		
<i>Clemmys marmorata pallida</i>	southwestern pond turtle	CSC, F1

**TABLE BR-3 (con't)**

Scientific Name	Common Name	Status
<i>Cnemidophorus tigris multiscutatus</i>	coastal western whiptail	F2
<i>Diadophis punctatus modestus</i>	San Bernardino ringneck snake	F2
<i>Lampropeltis zonata pulchra</i>	San Diego mountain kingsnake	CSC, F2
<i>Phrynosoma coronatum blainvillei</i>	San Diego horned lizard	CSC, F2
<i>Phrynosoma coronatum frontale</i>	California horned lizard	CSC
<i>Salvadora hexalepis virgulata</i>	coast patch-nosed snake	F2
<b>Birds</b>		
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	F2
<i>Accipiter cooperi</i>	Cooper's hawk	CSC (nesting)
<i>Agelaius tricolor</i>	tricolored blackbird	CSC, F2
<i>Amphispiza belli belli</i>	Bell's sage sparrow	F2
<i>Ardea herodias</i>	great blue heron	CSC (rookeries)
<i>Asio flammeus</i>	short-eared owl	CSC
<i>Athene cunicularia</i>	burrowing owl	CSC
<i>Campylorhynchus brunneicapillus sandiegoense</i>	San Diego cactus wren	CSC, F2
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	CE
<i>Dendroica petechia brewsteri</i>	yellow warbler	CSC

**TABLE BR-3 (con't)**

Scientific Name	Common Name	Status
<i>Elanus leucurus</i>	white-tailed kite	CFP, SA (nesting)
<i>Eremophila alpestris actia</i>	California horned lark	F2
<i>Falco mexicanus</i>	prairie falcon	CSC
<i>Falco peregrinus anatum</i>	American peregrine falcon	CE, FE
<i>Icteria virens</i>	yellow-breasted chat	CSC
<i>Lanius ludovicianus</i>	loggerhead shrike	F2
<i>Laterallis jamaicensis coturniculus</i>	California black rail	CT, F2
<i>Nycticorax nycticorax</i>	black-crowned night heron	SA (rookeries)
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	CE, F2
<i>Phalacrocorax auritus</i>	double-crested cormorant	CSC (rookeries)
<i>Polioptila californica</i>	California gnatcatcher	CSC, FT
<i>Rallus longirostris levipes</i>	light-footed clapper rail	CE, FE
<i>Sterna antillarum browni</i>	California least tern	CE, FE
<i>Vireo bellii pusillus</i>	least Bell's vireo	CE, FE
<b>Mammals</b>		
<i>Antrozous pallidus</i>	pallid bat	CSC
<i>Euderma maculatum</i>	spotted bat	CSC, F2
<i>Eumops perotis californicus</i>	California mastiff bat	CSC, F2
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	F2
<i>Macrotus californicus</i>	California leaf-nosed bat	F2

TABLE BR-3 (con't)

Scientific Name	Common Name	Status
<i>Plecotus townsendii</i> <i>pallescens</i>	pale big-eared bat	CSC
<i>Sorex ornatus salicornicus</i>	Southern California saltmarsh shrew	CSC, F2

urbanization (Diamond, 1975). The maintenance of habitat linkages, therefore, serves to shorten the distance between islands, and effectively enlarges the size of habitat areas.

In the City of Los Angeles, several large open spaces that support diverse biological resources are at risk of becoming isolated by urbanization, freeways, and other habitat removal projects. The areas of primary concern are:

- Santa Monica Mountains
- Simi Hills
- Santa Susana Mountains
- San Gabriel Mountains
- Verdugo Hills

These five biological regions were formerly connected, and they supported similarly diverse but unique plant and animal assemblages. The development of the Los Angeles Basin and outlying communities has nearly severed these mountain ranges from each other, especially the freeways: the 405 has nearly divided the eastern and western portions of the Santa Monica Mountains; the 101 has contributed to the separation of the Santa Monica Mountains from the Simi Hills to the north; the 118 has created a substantial barrier between the Simi Hills and the Santa Susana Mountains; the 5 freeway and adjacent development has nearly severed the Santa Susana Mountains from the San Gabriel range; and the 210 has created a barrier between the San Gabriel Mountains and Verdugo Hills. Edelman (1991) provides an overview of regional wildlife movement and identifies likely locations for wildlife movement throughout the region.

In each of these cases, there is still some opportunity for wildlife to move between the large habitat areas. Such opportunities exist in the form of underpasses, or over the roadways themselves (as indicated by increasing animal mortality on the freeways and reported in the media). These tenuous connections are likely to be reduced in value to wildlife movement as residential development encroaches further into the mountains. Development is often concentrated near freeway interchanges, where infrastructure exists, and where conflicts with wildlife movement would be highest as animals are forced to concentrate their movements there to avoid vehicle collisions.

The pressure to develop in the mountains surrounding the Los Angeles Basin is very high as people try to escape the urban environment, and where most remaining opportunity for development (open space) remains. Projects such as Ahmanson Ranch and Porter Ranch are examples of the types of developments that could further restrict wildlife movement in the larger geographical area around the City of Los Angeles. The preservation of such linkages as pertain to the City should be a priority of review of projects in the remaining open space in the Santa Monica Mountains, Simi Hills, Santa Susana Mountains, San Gabriel Mountains, and Verdugo Hills.

#### 2.18.4 Existing Policies Pertaining to the Protection of Biological Resources

In addition to policies presented in the Framework Plan, several regulations exist that pertain to the protection of biological resources. Any of these may be applicable to actions within areas in the City that still support native plants and animals.

##### Federal

Endangered Species Act of 1973 – The federal ESA provides for the designation of threatened and endangered species, and encourages the States and other interested parties to develop and maintain conservation programs to safeguard the nation’s wildlife heritage. The ESA prohibits any person subject to the jurisdiction of the United States from import, export, sale, take, or possession of any listed threatened or endangered species of fish or wildlife. The ESA does not provide similar prohibitions on plant species, except when located on federal lands. All federal agencies must seek to conserve listed species, and must use their authority in furtherance of this purpose. Candidate species are not protected under the ESA, although some federal agencies do grant a level of security or management consideration to federal candidate species.

The National Environmental Policy Act (NEPA) – NEPA requires all federal agencies to assess the impacts of proposed actions on the environment, examine alternatives, and propose mitigation measures for significant adverse impacts. An Environmental Impact Statement (EIS) is commonly prepared to comply with NEPA requirements. NEPA does not specifically require measures to preserve habitat diversity.

##### State

California Endangered Species Act – The California ESA and revisions provides for the definition of rare, threatened, or endangered species of plants and animals. The California ESA prohibits the import, export, take, possession, or sale of any such species determined by the Fish and Game Commission to meet the definitions of rare, threatened, or endangered. The California ESA requires that state agencies formally consult with the California Department of Fish and Game on every project that they propose that is subject to the provisions of the California Environmental Quality Act. Private projects do not require consultation under the California ESA, unless state funding or other input is required.

Native Plant Protection Act (NPPA) – The NPPA prohibits the taking, import, or sale of rare, threatened, or endangered plant species subject to several broad exceptions. Exceptions include the possession or sale of real property on which the plant is growing, loss to agricultural practices, including the clearing of land, and loss during authorized timber harvest. These exceptions are limited; if the California Department of Fish and Game has notified a landowner of the presence of a listed plant species, the landowner must give the Department tens days notice before destroying protected plants to allow salvaging. The only lands with full protection under the NPPA are public lands with uses other than resource development.

Natural Communities Conservation Planning Act (NCCPA) – The NCCPA authorizes the California Department of Fish and Game to enter into agreements with any person to prepare and implement a Natural Community Conservation Plan, and permits community conservation planning to be undertaken by local, state, and federal agencies independently, or in cooperation with other persons.

#### Local

Los Angeles County Significant Ecological Areas (SEAs) – As part of the preparation of a revised General Plan, Los Angeles County prepared a report on SEAs (England and Nelson, 1976). These areas were selected as examples of the diversity of plant and animal communities in the County, as well as locations of sensitive species. Sixty-two SEAs were identified in the County, several of which lie within the City of Los Angeles. These are primarily privately-owned lands with little or no legal protection. As a result, many of the original SEAs have been partially or completely developed and those remaining have become more crucial. Proposed projects that encroach upon an SEA are subject to the review of the SEA Technical Advisory Committee, in those areas that have not been annexed into recently incorporated cities and are still under County review. SEATAC does not have authority to approve or disapprove projects, but instead acts in an advisory capacity to the planning department.

Oak Tree Preservation Ordinance – Article 6 of the City of Los Angeles Municipal codes states that no oak tree may be removed from lots larger than one-acre in size, except under permit with the Public Works Department. Permits are issued when it can be shown that the trees to be removed will be relocated and/or replaced at some predetermined ratio. Oak trees may be removed without permit if they pose a threat to human safety, interfere with reasonable development of a property, or interfere with utility transmission.

There are other federal, state, and local statutes that may have the effect of protecting biological resources, such as Section 404 of the Clean Water Act. In general, these latter statutes protect biological resources through the protection of other resources, such as water quality, or because they trigger the involvement of state or federal agencies assigned to the protection of plants and animals. The involvement of these agencies may lead to scrutiny of the effects of a given project on biological resources, even though an agency's involvement was related to a non-biological resources issue, such as federal highway funds.

#### **2.18.5 Project Impacts**

##### Direct Impacts to Biological Resources Defined

As shown on the biological resources maps (Figures BR1A-D) and discussed in Section 3.18.3, remaining areas of natural open space occur primarily on the periphery of the City of Los Angeles; most notably west, north and east of the San Fernando Valley, at El Segundo, the Ballona Wetlands, the west side of Los Angeles, and the Griffith Park area. Any part of the Framework Plan that would result in the loss of habitat within natural open space areas would be a direct impact. Because they could trigger any of the

thresholds defined above, direct impacts to biological resources could constitute a significant impact.

#### *Direct Impacts Under The Project Buildout*

Under the Framework Plan, it is forecast that population increases are to be accommodated through the reuse and intensification of development of existing developed and lower density properties. Existing natural open space that supports native plant and animal communities is not targeted for development in the Framework Plan. Projects approved prior to the development of the Framework Plan cannot be altered by the Framework still pose a risk of direct habitat loss.

To determine if the targeted growth areas do or do not overlap with natural open space areas, overlays of the City with targeted growth areas colored according to development intensity (scale of 1"=3,000') were compared with maps of the same scale showing natural open space as prepared from aerial photographs taken in 1992 (refer to **Figures BR1A-D** for the open space maps).

The review of the overlays indicates that two natural open space areas would be directly affected: the Porter Ranch area in the Santa Susana Mountains (Northwest Valley Planning Subregion), and a portion of the Ballona wetlands as part of the Playa Vista Master Plan (Southwest Los Angeles Planning Subregion). Both of these developments have been previously approved by the City under separate documentation that described in detail the impacts of the respective projects on biological resources. Consequently, the loss of natural habitat in these two areas is *not* considered an impact of the Framework Plan. Instead, the targeted growth areas identified at Porter Ranch and Playa Vista are a reflection of development that would occur regardless of whether or not the Framework Plan is adopted. No direct impacts from the Framework are evident in the other nine Planning Subregions.

In addition, San Pedro Harbor (which does not appear as natural open space on Figure BR-1D) is covered by a TGA. The harbor is so heavily used for shipping and recreation, and the shoreline has been modified to the extent that it is unlikely that the TGA development could create additional direct impacts to the biological resources that remain in the harbor. No significant impacts to the biological resources in San Pedro Harbor are expected from the TGA development.

Because no natural open space areas would be lost as a result of placement of other targeted growth areas, no significant direct impacts to biological resources are expected under the Framework Plan. However, because the Framework Plan does not include policies to protect natural open space areas, current zoning that is adopted within the Framework could cause significant direct impacts to biological resources. Such impacts are best addressed during update of individual Community Plans.

### Indirect Impacts to Biological Resources Defined

Natural open space that is in proximity to highly urbanized areas is subject to indirect effects that result from human activity. These indirect effects may include:

- killing, harassment, or collection of wildlife;
- collection of wildflowers and plants;
- unrestrained dogs and cats that prey upon native animals;
- introduction of weedy, non-native plants that displace native plants;
- increased fire frequency that changes the composition of the vegetation;
- increased erosion from loss of vegetation along trails;
- increased noise, air, and water pollution;
- introduction of toxic materials;
- intolerance of wildlife excursions into urban areas (such as mountain lions), which often leads to the death of the animal.

No single indirect effect can be predicted; however, the evidence for indirect effects can be found when comparing the quality of undisturbed habitat with areas where urbanization interfaces with natural open space. Such a comparison reveals that the diversity of native plants and animals is lower in areas where human activity is greater. Because indirect impacts decrease habitat for fish and wildlife, they can be significant.

#### *Indirect Impacts Under the Project Buildout*

Under the Framework Plan, indirect impacts are most likely to increase in areas where targeted growth is in close proximity to natural open space. While indirect effects have been occurring since the Los Angeles area was first established, further increase of the City's population would have the effect of increasing indirect impacts. This is because of the likelihood of increased human access into natural open space surrounding the City and the effects of night-lighting, noise, and pollution which would increase with a larger population. These indirect effects constitute a significant impact to biological resources.

### **2.18.6 Mitigation Measures**

#### **2.18.6.1 Mitigation Through Framework Policy**

Although there are no objectives or policies directed primarily at the preservation of biological resources, several would have that outcome especially regarding indirect impacts. The effects of increasing population on biological resources may be ameliorated by policies that address Objectives 7.1 and 7.2. These policies stress the protection of natural open space from the encroachment of urban development through the enhancement and opening of an Open Space Network that utilizes railroad rights-of-way, utility corridors, the Los Angeles River, and other undeveloped space within the City. The goal is to provide an outdoor experience to residents that does not require them to encroach upon large open space reserves on the City's periphery. Where development does occur near natural open space, Policy 6.1.1 states that these areas will maintain low density and modest height, and will act as a buffer zone between the City and areas where biological diversity could be preserved.

Other policies in the Open Space and Conservation chapter of the Framework Plan are intended to provide more open space accessible to the public (particularly, **Policies 6.4.7–6.4.10**). Areas identified as potential neighborhood open spaces include portions of privately held property, public property where open space is present (e.g schools), and places such as libraries, child care centers, and decentralized schools. The opening of such areas to public use is, in part, intended to further ease recreational pressures on open space surrounding the City necessary to preserve biological resources.

The overall effect of these policies as they address the stated objectives in the Open Space and Conservation chapter, would be to reduce the possible indirect impacts from population increases expected under the Framework Plan. Also, as discussed further in the Alternatives Analysis Section, the Framework Plan, by limiting future growth to certain areas, will slow the City's rate of population growth compared to that possible under existing planning and zoning. Therefore, the indirect impacts to biological resources from the Framework would be mitigated to less than significant through the adoption of the policies.

Because the Plan does not control growth in the remaining open space areas that are subject to individual Area Plans, significant impacts to these areas could still occur. Lastly, the Framework Plan may cause significant cumulative impacts within the City and in outlying areas.

#### **2.18.7 Level of Impact Significance**

The policies within the Framework Plan would reduce potential impacts to biological resources to less than significant (Class III).