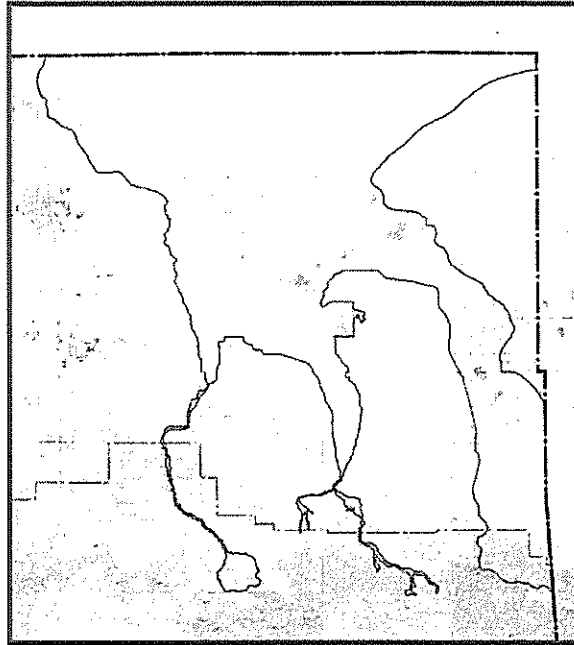


BIOLOGICAL RESOURCES ASSESSMENT  
OF THE PROPOSED  
ANTELOPE VALLEY  
SIGNIFICANT ECOLOGICAL AREA

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**ANTELOPE VALLEY**

(Including Existing SEA Nos. 47, 48, 49, 50, 51, 52,  
53, 54, and 55)

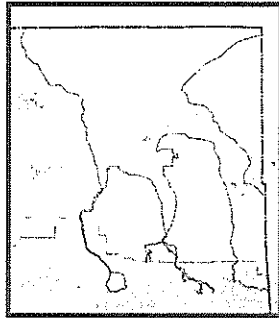
Los Angeles County, California

November 2000

PCR

**BIOLOGICAL RESOURCES ASSESSMENT  
OF THE PROPOSED  
ANTELOPE VALLEY  
SIGNIFICANT ECOLOGICAL AREA**

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**ANTELOPE VALLEY**

(Including Existing SEA Nos. 47, 48, 49, 50, 51, 52, 53, 54, and 55)

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November 2000

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## EXECUTIVE SUMMARY

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**Location:** The proposed Antelope Valley Significant Ecological Area (SEA) lies across the south-central portion of the Antelope Valley. The boundaries extend from tributary creeks to Little Rock and Big Rock Creeks (partially within U.S. Forest Service land) downstream to the valley floor and northward across the historic floodplain to Rosamond, Buckhorn, and Rogers dry lakes, on the Los Angeles/Kern County boundary.

**Description:** The proposed Antelope Valley SEA covers 222,325 total acres and encompasses a wide variety of topographic features. The orientation and extent of the proposed SEA recognizes the importance of the Little Rock and Big Rock Creek watershed contributions to the surface and subsurface hydrology of the Antelope Valley, and the desert dry lakes. It also encompasses the remaining undeveloped portions of Lovejoy Butte and all of Alpine, Piute, Black, and Saddleback Buttes. Outside of Los Angeles County jurisdiction, the functional area of the SEA extends into the Angeles National Forest along the southern margin and into Kern County to encompass the remainder of the dry lake playas and their watershed areas. At its southern edge the SEA includes the headwaters and important lower tributary drainages for Little Rock and Big Rock Creeks. This area supports healthy desert montane riparian habitats, typically with willow, cottonwood, and alder (along the creek channels) and open formations of western sycamore (on the alluvial plains). Where the washes approach the dry lakes (particularly Rosamond Dry Lake) sufficient subsurface water once existed supporting dense mesquite bosque formations and formed playa lakes, seasonal pools and sheet flows. While most of these unique features have been lost to land conversion or changes in groundwater levels, some of these formations persist around the margins of the lakes. Piute Ponds, on the southwestern margin of Rosamond Dry Lake, support freshwater marsh and alkali grassland habitat, providing essential wintering areas and resident habitat for waterfowl, wading birds, marshland birds, and a variety of other vertebrate species. The majority of the 222,325 acres proposed for the Antelope Valley SEA are within unincorporated Los Angeles County accounting for approximately 197,634 acres. Other jurisdictions within the SEA include: 9,887 acres within Angeles National Forest; 11,074 acres within the City of Palmdale; and 3,730 acres within the City of Lancaster.

**Existing Land Use:** The proposed SEA currently supports a limited diversity of land uses, mostly agriculture, military-industrial complexes, and dispersed rural residential developments. The southern portions of the tributary drainages are on undisturbed open space either within the Angeles National Forest or unincorporated portions of Los Angeles County. A large area in the central portion of the SEA lies within properties currently proposed for Palmdale Airport facilities. Most of the large,

northern portion of the SEA is undisturbed open space or agriculture containing a few scattered rural residential developments; a portion is also located within Edwards Air Force Base.

**Ownership:** Land ownership within the proposed SEA consists of both public and private holdings. Public lands include a portion of the SEA along the northern flank of the San Gabriel Mountain range within the Angeles National Forest, as well as numerous County wildlife and wildflower sanctuaries, Saddleback Butte State Park, and Edwards AFB. Portions of the SEA are also located within incorporated boundaries of the cities of Palmdale and Lancaster. The remaining lands within the SEA are mostly private holdings. Individual private land ownerships within the SEA are estimated to range from less than one acre to parcels in excess of one square mile.

**Vegetation:** Plant communities within the proposed SEA include: mixed conifer-canyon/live oak woodland and forest, chaparral, desert scrub, creosote bush scrub, joshua tree woodland, native and non-native desert grassland, southern willow scrub, southern cottonwood-willow riparian forest, sycamore-alder woodland, Mojave riparian woodland, pinyon-juniper woodland, juniper woodland, alkali marsh, fresh water marsh, desert alluvial fan scrub, desert wash, mesquite bosque, fallow agricultural land, and disturbed.

**Wildlife:** Wildlife within the proposed SEA is diverse and relatively abundant due to the transition from lower montane riparian systems to desert wash and dry lake playa habitats; this is commensurate with the relatively large acreage of natural open space within the proposed SEA boundaries. The mosaic of vegetation communities within the proposed SEA constitutes broad, ecotonal and desert ecosystems for a diverse array of native wildlife. These vegetation communities are also a part of the larger regional ecological systems.

**Wildlife Movement:** This proposed SEA provides a direct habitat linkage zone for wildlife movement between the higher elevations of the San Gabriel Mountains and the entire Antelope Valley-Owens Valley-southern Sierran interchange. The desert riparian corridor extends from the watershed basins of the two largest drainages exiting the north slope of the San Gabriel Mountain range downslope through the foothills, terminating across the valley floor. The desert-montane transect segment of the SEA extends from the National Forest above Piñon Hills northward across relatively undeveloped desert scrub and joshua tree formations to Black Butte, and then across approximately seven miles of open scrub and degraded former desert seep formations to the southeastern slopes of Saddleback Butte. Most of the terrain within the proposed SEA boundaries is comprised of historic floodplains, open washes, desert scrub and joshua tree woodlands. These areas offer relatively free movement pathways and habitat linkages, accessible surface water or shallow groundwater, and/or riparian habitat cover. Due to the fact that these washes are mostly unchannelized, they provide easy entry and exit through the different habitat zones.

**Sensitive Biological Resources:** Sensitive plant communities within the proposed SEA include: mesquite bosque, joshua tree woodland, desert grassland, southern willow scrub, cottonwood-willow woodland, fresh-water marsh, alkali marsh, Mojave riparian forest, desert alluvial fan scrub, and desert alluvial wash. The SEA, as proposed, includes a number of sensitive plant and animal species both known to exist or potentially occurring within the SEA. These include southwestern arroyo toad, southwestern pond turtle, California desert tortoise, Mohave ground squirrel, western snowy plover, and many others.

**Regional Biological Value:** The proposed SEA meets several designation criteria and supports many regional biological values (see Criteria Table at the end of this summary). These values include: the watershed and upper tributary streams contain riparian woodlands, marshes and playa lakes; the upper portions of the two creeks have year-round water, providing breeding sites for amphibians, and permanent water resources for wildlife species along the north face of the San Gabriel range; open ponds and seasonal playa lakes provide essential foraging and wintering sites for migrating birds otherwise not found in the Mojave Desert; nesting sites exist for numerous sensitive bird species, including the federally threatened western snowy plover; the buttes and their sand sheet habitats represent unique habitats in the otherwise level desert floodplain, providing nesting, roosting, denning, and refuge sites, and perches for birds of prey; the desert riparian corridor provides shelter and open passage for mobile species moving within and between habitats along the gradient; desert riparian woodlands offer roosting and nesting opportunities for raptors and migratory songbirds; the ponds, seasonal playa lakes and dry lakes attract huge numbers of migrating birds and support breeding populations of wading birds, shorebirds, and waterfowl; the portion of Little Rock Creek above Little Rock Reservoir is the only known Antelope Valley breeding locality for the endangered southwestern arroyo toad; and, the drainages provide the primary subterranean hydrological recharge for this portion of the Antelope Valley aquifer.

**Recommended Management Practices:** Proposed new development within the Antelope Valley SEA should be designed to be highly compatible with the hydrology of the Little Rock and Big Rock Creek washes/floodplains and the continued ecological function of the component biological resources described above; retention of existing natural biotic resources should be ensured. In order to preserve the integrity of the SEA, the proposed comprehensive management practices described in the *Los Angeles County SEA Update Study Background Report* are recommended. These practices address:

- Core habitat
- Habitat linkages and wildlife corridors
- Fire management



- Public access and recreation
- Infrastructure
- Wetlands, riparian habitats, and streambeds
- Non-riparian/upland woodlands

In addition to the comprehensive management practices the following proposed management practices are recommended specifically for the proposed Antelope Valley SEA:

- Limit development densities to one residential unit per ten acre parcel, and constrain development design, where feasible, to cluster dwelling configuration along existing roadways in order to minimize clearing associated with fuel management, and to reduce the need for grading, fencing, and other habitat disturbances.
- Retain habitat linkages within Little Rock and Big Rock Washes as well as the desert-montane transect in keeping with proposed General Management Practices.
- Maintain the habitat of core populations of listed species including the federally endangered southwestern arroyo toad, the federally threatened California desert tortoise, and the state threatened Mohave ground squirrel as well as adequate buffers to eliminate or minimize adverse impacts.
- Retain rare communities with adequate buffers so as to allow for the long term viability and integrity of plant communities as a whole. Rare communities include: mesquite bosque, joshua tree woodland, desert grassland, southern willow scrub, cottonwood-willow woodland, fresh-water marsh, alkali marsh, Mojave riparian forest, desert alluvial fan scrub, and desert alluvial wash.
- Carefully review proposals for new or increased groundwater extraction to prevent overdrafting of the shallow aquifer supporting the dry lakes and riparian habitat areas. The biological functionality of these areas is directly related to the supporting hydrology which originates from the surrounding basin slopes and from the groundwater flows of Little Rock and Big Rock Creeks.
- Require agricultural activities to employ the best management practices (BMPs) recognized in the industry; avoid unnecessary direct impacts to habitat, and conform to legal standards for all pesticide, herbicide and fertilizer applications.
- Prohibit bridges over the Little Rock or Big Rock Creeks except for “flying” type bridges with wide, open spans beneath, that neither impinge nor alter the channel characteristics below.

**CRITERIA ANALYSIS  
OF THE PROPOSED ANTELOPE VALLEY SEA**

<u>Criterion</u>	<u>Status</u>	<u>Justification</u>
A) The habitat of core populations of endangered or threatened plant or animal species.	Met	The SEA encompasses: the only known Antelope Valley population of the federally endangered southwestern arroyo toad; much of the Los Angeles County ranges of the federally threatened California desert tortoise and the state threatened Mohave ground squirrel.
B) On a regional basis, biotic communities, vegetative associations, and habitat of plant or animal species that are either unique or are restricted in distribution.	Met	The mesquite bosque, sand sheet, rocky butte, desert riparian woodland, and alluvial fan sage scrub habitats all are unique and regionally restricted biotic communities encompassed by the proposed SEA. Desert species not, or rarely, found elsewhere in the County, such as verdin, black-throated sparrow, Mojave rattlesnake, desert banded gecko, Leech's prionid borer, and mesquite borer, occur within these habitats. Additionally, the ponds and other riparian and wetland systems in the northern portion of the SEA support numerous water birds and raptors not resident elsewhere in the County.
C) Within Los Angeles County, biotic communities, vegetative associations, and habitat of plant or animal species that are either unique or are restricted in distribution.	Met	The desert alluvial fan sage scrub, joshua tree woodland, desert riparian woodland, mesquite bosque, alkali meadow/marsh, desert freshwater marsh, playa lake and seasonal pool habitats are located within, are unique to, or best represented within, the SEA.
D) Habitat that at some point in the life cycle of a species or group of species, serves as concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or in Los Angeles County.	Met	The freshwater habitats within and around Rosamond, Buckhorn and Rogers dry lake basins have large concentrations of migratory and resident waterfowl and birds of prey, providing them with essential seasonal and permanent resources. The rocky desert buttes are unique roosting, sheltering, perching and nesting sites for birds of prey.
E) Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent unusual variation in a population or community.	Not Met	Although the SEA does not contain biotic resource that are clearly an extreme in physical/geographical limitations, or represent unusual variation in a population or community, it is of scientific interest due to the large undeveloped desert communities and the transition zones between them.
F) Areas that would provide for the preservation of relatively undisturbed examples of the original natural biotic communities in Los Angeles County.	Met	The proposed Antelope Valley SEA encompasses some of the most biotically intact acreage of joshua tree woodland, desert riparian woodland, and desert alluvial fan sage scrub remaining in the County.

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## SIGNIFICANT ECOLOGICAL AREA UPDATE STUDY

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### 1. LOCATION

#### 1.1 GENERAL

The proposed Antelope Valley Significant Ecological Area (SEA) is located within the central portion of the Antelope Valley, primarily east of the cities of Palmdale and Lancaster, within a predominantly unincorporated area of Los Angeles County, as shown in Figure 1, *Regional Map*, on page 2. The study area covers a total of 222,325 acres and includes the tributary creeks to Little Rock and Big Rock Creeks (partially within U.S. Forest Service land) downstream to the valley floor and northward across the historic floodplain zones to Rosamond, Buckhorn, and Rogers dry lakes on the Los Angeles/Kern County boundary. Delineation of the proposed SEA boundary considered the importance of the Little Rock and Big Rock Creek watershed to the surface and subsurface hydrology of the Antelope Valley and interrelated dry lakes and wetland systems.

The desert-montane transect segment of the Antelope Valley SEA (formerly SEA No. 55) extends from the National Forest boundary above Piñon Hills northward across the valley floor to the aqueduct, and on the north side of the aqueduct to Black Butte, and then across approximately seven miles of open scrub formations to the southeastern slopes of Saddleback Butte. Most of the land within this segment is open and undeveloped, primarily vegetated with desert scrub and Joshua tree woodland formations; it provides a terrestrial linkage, rather significantly obstructed by the aqueduct, toward the northeastern portion of the main segment of the proposed SEA.

The SEA is located, at least partially, in each of the following United States Geological Survey (USGS) 7.5' California Quadrangles: Rosamond, Rosamond Lake, Redman, Rogers Lake S, Jackrabbit Hill, Lancaster E, Alpine Butte, Hi Vista, Adobe Mountain, Palmdale, Littlerock, Lovejoy Butte, El Mirage, Pacifico Mountain, Juniper Hills, Valyermo, and Mescal Creek, as shown in Figure 2, *Existing and Proposed Boundaries* on page 3. It incorporates existing SEA numbers 47, 48, 49, 50, 51, 52, 53, 54, and 55.

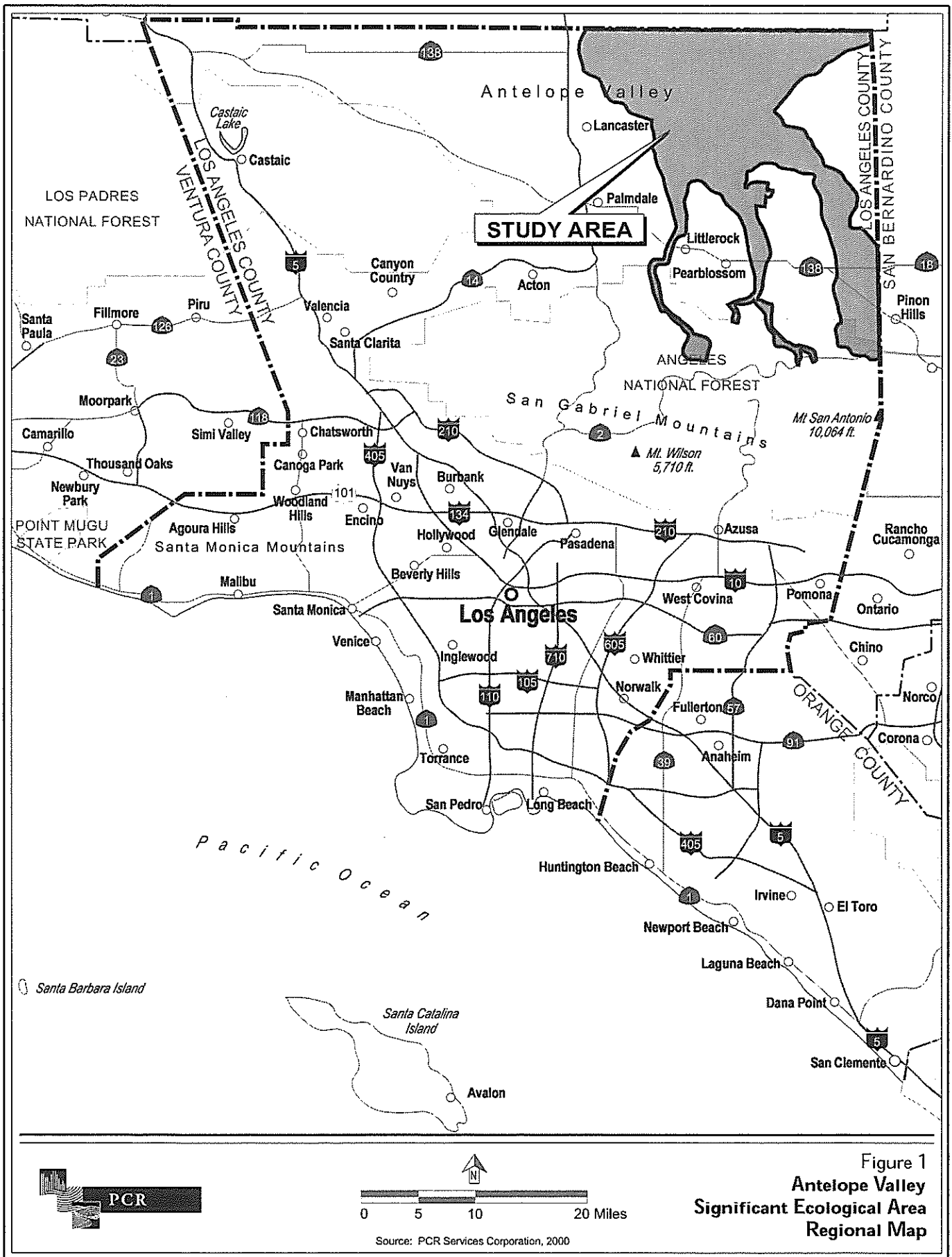
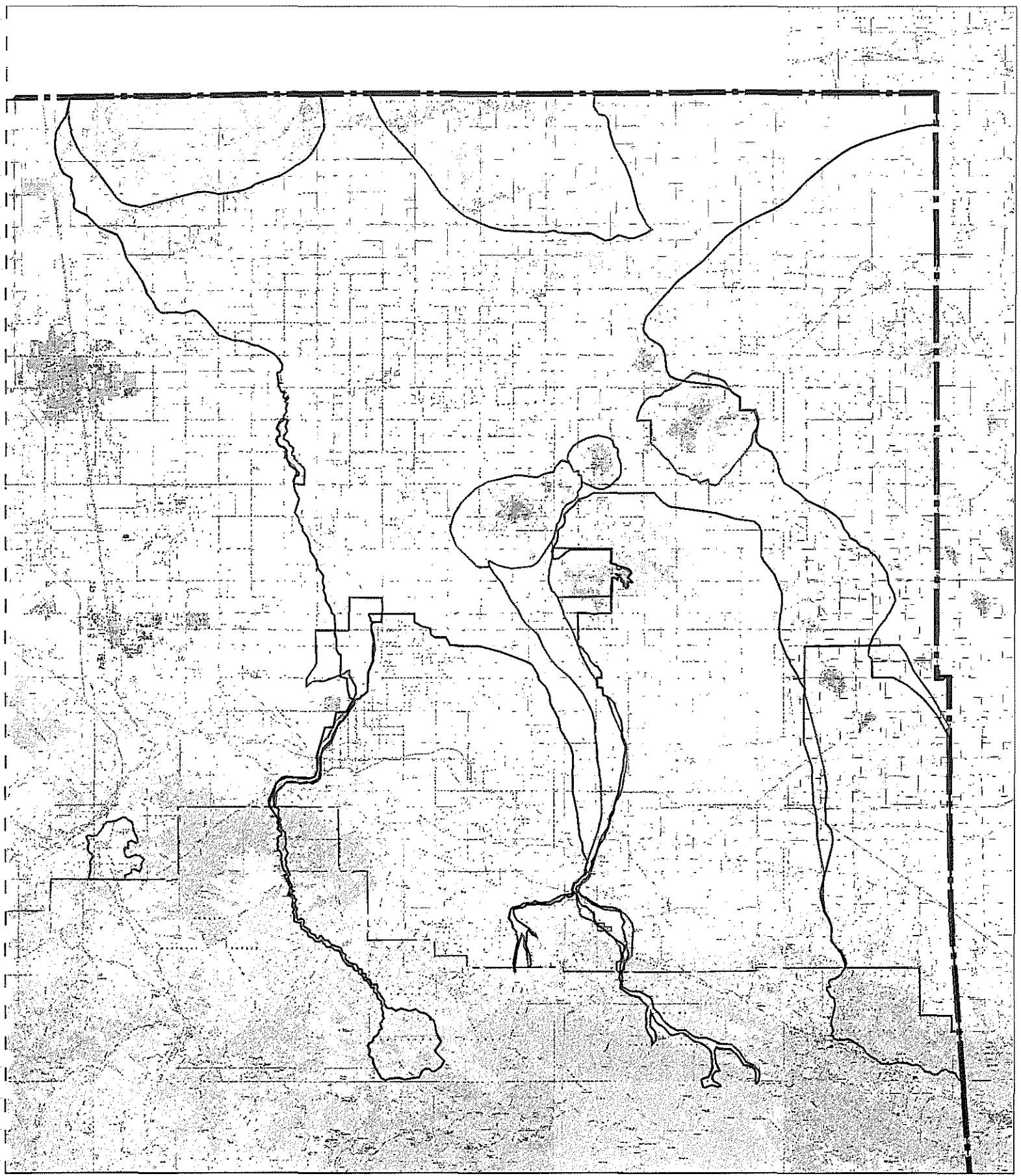





Figure 1  
Antelope Valley  
Significant Ecological Area  
Regional Map



-  Proposed SEA Boundary
-  Existing SEA Boundary
-  Angeles National Forest

*Figure 2*  
**Antelope Valley  
Significant Ecological Area  
Existing and Proposed Boundaries**

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FORMA Systems  
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## 1.2 BOUNDARY DESCRIPTION

The southernmost extensions of the SEA originate within the headwater basins of Little Rock and Big Rock Creeks, in the Angeles National Forest, following the relatively narrow drainage bottoms to the points at which each creek crosses the San Andreas fault. Both drainages expand gradually as they enter the Antelope Valley floodplain, with Little Rock Creek passing through large sections of the cities of Palmdale and Lancaster as it flows to the north and northwest toward Rosamond, Buckhorn, and Rogers dry lakes. Big Rock Creek passes further to the east than does Little Rock, but its alignment curves to the northwest past Lovejoy and Alpine buttes, and eventually forms a common hydrological system with its sister drainage. The eastern margin of the proposed SEA boundary passes around the southern margin of Lovejoy Butte, turns northward around the butte at the boundary of the Lake Los Angeles community perimeter, then passes west along the southern perimeter of the community to the base of Alpine Butte. Here the boundary turns north again, follows the lower contour around the eastern base of Alpine and Piute Buttes, then passes eastward across Eller Slough and Moody Springs to Black Butte. This four mile wide swath continues along the San Bernardino County juncture to the National Forest boundary and to the nearest ridgeline watershed break below Table Mountain. The northern margin of the zone connecting Saddleback Butte and Black Butte follows the eastern periphery of Saddleback Butte and its small, un-named satellite butte, then turns to the northeast and passes along the upper contour of the general basin periphery of Rogers Dry Lake, exiting Los Angeles County about one mile south of the intersection of the Kern/San Bernardino County boundaries. It also encompasses the remaining undeveloped portions of Lovejoy Butte, and all of Alpine, Piute, Black, and Saddleback Buttes. The northwestern terminus of the SEA boundary crosses the Kern County line west of Rosamond Dry Lake [on Edwards Air Force Base (AFB)], and the eastern terminus intercepts the San Bernardino County line approximately one mile south of the Kern County line. The western margin of the proposed SEA passes directly northward through Palmdale and Lancaster, following the natural contours of the existing channel and floodplain, then turns slightly northwest along the slope contour of the Rosamond Dry Lake playa system and arcs around the Piute Ponds basin, exiting the county approximately one mile east of Sierra Highway. Outside of Los Angeles County, the functional area of the SEA would encompass the remainder of the dry lake playas and their watershed areas in Kern County.

## 2. DESCRIPTION

The proposed Antelope Valley SEA covers a total of 222,325 acres and as such encompasses a wide variety of topographic features. The SEA was delineated to emphasize the importance of the Little Rock and Big Rock Creek watershed to the surface and subsurface hydrology of the Antelope Valley and to the dry lakes. The western portion of the proposed SEA extends along the margin of

Little Rock Creek wash and floodplain zone, while the eastern margin follows Big Rock Creek wash, includes the lower slope limits of several major buttes and the direct watershed basin for Rogers Dry Lake. The central portion of the proposed SEA is largely agricultural (some of which lies fallow) and dispersed rural residential, but the underlying hydrology of the washes remain intact through the entire SEA area as proposed.

The southernmost portions of the three “legs” of the SEA lie within the Angeles National Forest, and include the upper tributary watersheds or streams for both Little Rock and Big Rock Creeks. These areas support the mixed conifer, multi-species oak formations common to the middle-elevation zones on the north face of the San Gabriel Mountain range. The creeks themselves are higher energy systems at those elevations, as they collect water from the surrounding terrain, and typically are lined with woodland formations of alder, willow, sycamore and cottonwood, at varying density and species composition. As the creeks drop down behind (south) the pressure ridges of the San Andreas fault zone they lose gradient and widen, with the vegetation becoming more sparse and less evenly distributed along the channel margins. Where the alluvial plains are wide and shallow, cottonwood-willow woodland and sycamore woodland formations often occur within the overall floodplain, on stable terraces or around oxbow flow zones.

North of the fault zone the creeks gradually widen and most of the flow is beneath the surface, except during high energy storms or in Spring (depending upon rainfall totals in the watersheds). Little Rock Creek is impounded by Little Rock Dam, then flows into a rocky stretch of desert scrub habitat, with sycamore and willow forming thin formations in the higher energy reaches, and dense stands of cottonwood on terraces where the alluvial plain widens. Where washes from both creeks cross the lowlands of the Antelope Valley, their channels support a variety of desert scrub formations within the alluvial plains; overstory formations of cottonwood occur sporadically along the alignments, in places where the groundwater table is replaced or augmented by agricultural runoff. The surrounding upland formations are primarily desert scrubs, including creosote and chenopod scrubs, sand sheets (mostly around the buttes), and joshua tree woodland. Intact joshua tree woodland, with native substrates present, supports a relatively high diversity of annual wildflowers, reptiles and mammals. The joshua trees also provide nest sites for many desert and migratory bird species.

Lovejoy, Alpine, Piute, Black and Saddleback Buttes, along with other, smaller un-named buttes, form most of the topographical relief within the proposed SEA. These areas offer different ecological conditions associated with rock shelter, perching sites, nesting sites, denning areas, wind protection and sand sheet accumulation areas. Local and migratory bat species roost and reproduce in the caves and crevices of the butte formations. Distances between most of the buttes are one mile or less, and protection of the habitat connections between them provides terrestrial corridors for

genetic exchange of lower mobility species living in the buttes. Where the buttes are more widely separated, development proposals should preserve natural open space connectivity of any unique natural wildlife support features (copses of riparian woodland, springs, seeps). The higher buttes provide the only local nesting sites for owls and other birds of prey.

The open agricultural lands, active or fallow, support a diversity of wildlife species which essentially regard the fields and ditches as irrigated desert. Birds of prey frequently hunt over the open agricultural areas, including fallow fields; wide-ranging predators also find excellent hunting conditions in and around agricultural areas. A spectrum of local and migratory bat species feed aerially over the irrigated fields in Spring and Summer, when insect numbers are highest, and at least one sensitive bat species, the pallid bat, forages terrestrially in open scrub or ruderal desert habitats.

The northern portion of the proposed SEA contains several unique habitat types, including mesquite bosque (endangered locally by lowering water tables), clay pan pools, vernal pools, alkali grasslands, alkali and freshwater marshes, and permanent ponds. Hundreds of bird species have been recorded from the pond and marsh habitats around the dry lakes, and numerous species nest on the playa margins or in the associated riparian habitats. The open creosote scrub and other xeric formations on the slopes surrounding the lake playas serve as important wintering areas for many raptor species, as well as large numbers of songbirds.

The majority of the 222,325 acres proposed for the Antelope Valley SEA are within unincorporated Los Angeles County accounting for approximately 197,634 acres. Other jurisdictions within the SEA include: 9,887 acres within Angeles National Forest; 11,074 acres within the City of Palmdale; and 3,730 acres within the City of Lancaster.

### **3. EXISTING LAND USE**

The proposed SEA currently supports a relatively limited diversity of land uses, mostly agriculture, military-industrial complexes, and dispersed rural residential development. The southern portions of the tributary drainages are on undisturbed open space either within the Angeles National Forest or unincorporated portions of Los Angeles County. Most of this land is undeveloped except for roads and other infrastructure, powerline corridors, and light recreational facilities.

A large area of land in the central portion of the SEA lies within properties currently proposed for Palmdale Airport facilities. This land contains ruderal fields, some military-industrial development, and extensive areas of intact, mature Joshua tree woodland.



Most of the large, northern portion of the SEA consists of undisturbed open space, agricultural use, and a few scattered rural residential developments; a portion of the area is located within Edwards AFB. A number of communities within the area have undergone a decline in population in recent years, and many of the agricultural lands have been abandoned or inactive; this results in considerable acreages of fallow fields and some natural reclamation of habitat values. Undeveloped portions of the agricultural areas exhibit surface contouring from historic floodplain activity, particularly along the margins of the active channels. Other existing human activity in this area includes rural residential development, mobile homes, light recreational use, target shooting, hunting, and off-road vehicle use (some of which is not legal).

While Edwards AFB utilizes portions of the dry lake playas for training and facility siting, the base recognizes the need for responsible stewardship of the sensitive natural resources; Edwards AFB has a proactive resource monitoring and management program. Development on the Base is largely confined to use corridors, clustered facilities, roadways, and training exercise areas. Few of the roads in the northern portion of the SEA are paved, and development is light and very widely dispersed.

The desert-montane transect portion of the proposed SEA is almost entirely intact. It consists of desert scrub and woodland habitat (with only light and dispersed residential and commercial development), Route 138, minor secondary roadway alignments, and the California Aqueduct.

#### **4. LAND OWNERSHIP**

Land ownership within the proposed SEA consists of both public and private holdings. Public lands include portions of the SEA along the northern flank of the San Gabriel Mountain range, within the Angeles National Forest, as well as numerous County wildlife and wildflower sanctuaries, Saddleback Butte State Park, and Edwards AFB (which is open to public use only by special permit). Portions of the SEA also lie within incorporated boundaries of the cities of Palmdale and Lancaster. The remaining lands within the SEA are unincorporated, and mostly private holdings. Individual private land ownerships within the SEA are estimated to range from less than one acre to parcels in excess of one square mile.

#### **5. VEGETATION**

The proposed SEA traverses the Antelope Valley from the San Gabriel Mountain foothills to the low elevations of the dry lake basins, and its expanse and considerable topographical relief is reflected in its relatively high floral and faunal diversity. The SEA includes playa lake, alkali marsh,

alluvial fan scrub, a mosaic of xeric desert scrubs, joshua tree woodland, desert riparian woodlands, juniper scrub, pinyon pine, chaparral and higher elevation mixed conifer, oak, and riparian communities. Transitional zones (ecotones) between these communities often contain unusual species compositions such as pinyon pine, juniper and joshua trees together, or joshua trees adjacent to cottonwood forest. Plant species observed or recorded in previous documentation within the study area are indicated in the *Comprehensive Floral & Faunal Compendium* of the *Los Angeles County SEA Update Study 2000 Background Report*. Sensitive plant species occurring or potentially occurring within the proposed SEA are discussed in the Sensitive Biological Resources section of this document.

Plant communities within the proposed SEA were classified using standard methodology and terminology. Most of the communities discussed in this study correspond directly with those listed in Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986 and 1992 update); some communities are named based upon the dominant species within their boundaries and/or other commonly used terminology. Descriptions and general locations of the each plant community present within the SEA are given below.

**Desert scrub** a comprehensive term for a number of relatively low-stature, widely-spaced formations of shrubs and subshrubs, commonly occurring on open, sandy soils where groundwater is inaccessible to all but a few deep-rooted species. Dominants include Great Basin sagebrush, antelope bush, creosote bush, several species of *Atriplex* (saltbush), rabbitbrush, cheesebush, sages, winterfat, and burrobrush, often with one or more perennial grasses (needlegrasses, sand drop-seed) interspersed. Formations dominated by saltbushes and other related taxa, which may be particularly common on alkaline soils, are sometimes called chenopod scrubs, in reference to the family Chenopodiaceae, which include most of the dominant species. Within the proposed SEA, variations on this community often inter-grade with, or form understory within, juniper woodland and Joshua tree woodland. Variations are also found on lower slopes, around the buttes and on the adjacent valley floor. These formations also occur extensively within the desert-montane transect segment of the SEA.

**Chaparral** consists of broad-leafed or needle-leafed, sclerophyllous (hard-leafed), medium height to tall shrubs that form a dense cover on steep slopes, usually below 5,000 feet in Southern California. Dominant species found within this community include scrub oaks (several species), chamise, manzanita, wild lilac, toyon, and western mountain-mahogany. This plant community occupies internal slopes, particularly on north-facing exposures, within the higher elevations of the proposed SEA; shrubs are frequently interspersed as understory formations within oak and conifer woodlands.

**Grassland** communities consist of low, herbaceous vegetation that are dominated by grasses. This community also harbors native forbs and bulbs as well as naturalized annual forbs. Only fragmentary representatives of native grasslands exist within the proposed SEA, mostly sand drop-seed colonies on relatively less-disturbed sandy substrates around the buttes. Non-native grassland consists of dominant invasive annual grasses that are primarily of Mediterranean origin. Dominant species within this “community,” which is a ruderal formation and not a true habitat or community, include oats, bromes, foxtail chess and other grasses, wild mustards and other disturbance-favored “weedy” taxa. Non-native grasslands and other ruderal formations occur in small patches throughout the SEA and over much of the land left fallow from agriculture.

**Southern willow scrub** is a riparian community consisting of dense, broad-leafed, winter-deciduous riparian thickets occurring within and adjacent to seasonal or permanent water courses. The “scrub” formation generally is sub-mature—a state which often is maintained by frequent heavy over-flooding—and may attain woodland or forest stature if undisturbed for several decades. Dominant species of this community within the SEA are mulefat, sandbar and arroyo willow. Within the SEA this community primarily occurs along portions of the tributary drainages to Little Rock and Big Rock Creeks, but elements of it also may occur around the periphery of ponds and marshes.

**Joshua tree woodland** is an open formation dominated by joshua tree, which usually is the only arborescent species, and with numerous smaller shrub species interspersed. Shrub species commonly associated with joshua tree woodland habitat include creosote bush, Great Basin sagebrush, California buckwheat, saltbush, horsebrush, desert almond, and antelope bush. Joshua tree woodland is present in varying densities and age formations over much of the less-disturbed uplands around the two primary washes, and throughout the desert- montane transect.

**Juniper woodland** is an open formation dominated by California juniper, often with an understory of desert scrub species, sometimes mixed with chaparral at middle elevations. This community is found on lower slopes in the San Andreas fault zone portion of the proposed SEA, in places mixed with joshua tree woodland and chaparral.

**Mixed conifer-oak woodland** formations typically have an overstory of oaks (canyon, interior live) intermixed with bigcone spruce, incense cedar, and yellow pine, of varying densities and compositions depending upon slope orientation, substrates, and fire history. Understory vegetation usually is dominated by chaparral species such as scrub oak, manzanita, and wild lilac. This community occurs only in canyons in the higher elevations of the proposed SEA.

**Southern cottonwood-willow riparian forest** is a broad-leafed winter-deciduous habitat dominated by Fremont cottonwood, in places mixed with willow or western sycamore. Southern

cottonwood-willow riparian forest (or woodland) occurs within the proposed SEA along segments of Little Rock and Big Rock Creeks, and lines of trees around the periphery of irrigated sites, lakes and ponds.

**Mesquite bosque** consists of dense thickets of mesquite trees, usually found where groundwater resources are sufficient in quantity and depth to support the trees. There are remnant patches of this habitat throughout the northern portion of the proposed SEA, but most of the trees have declined or died as water tables have been drawn down. Several large, healthy stands of this habitat persist around the southern perimeter of the dry lakes.

**Freshwater marsh** develops in areas of still or slow-moving permanent freshwater. This community is dominated by the perennial, emergent cattail, which may reach heights of seven feet and grow in such densities as to form a closed canopy. Bulrush may also occur or be dominant within freshwater marsh. This formation occurs only in scattered ponds and irrigation ditches through most of the SEA, but does form large, natural habitat areas at Piute Ponds and other pond sites around the dry lakes.

**Alkali marsh** is similar to the freshwater marsh described above but with more salt-tolerant plant species present. Species associated with this community include cattail, saltgrass, and common reed. Alkali marsh occurs in small segments along Amargosa Creek and other wetland areas scattered along the San Andreas Rift Zone.

**Alluvial wash and alluvial fan sage scrub**, sometimes also known as floodplain sage scrub, generally consist of a mixture of shrubs which colonize and persist within infrequently scoured and flooded terrain such as floodplains, alluvial plains, or along seasonal streams. The dominant shrub in most washes is scalebroom, but Great Basin sage brush, rabbitbrush, sweetbush, and chaparral yucca also may occur in the habitat type. This vegetation type is common throughout the alluvial plains and washes in the proposed SEA.

**Disturbed** or barren areas either completely lack vegetation or are dominated by ruderal species. Ruderal vegetation typically found within the proposed SEA includes non-native grasses and "weedy" herbaceous species, native and non-native, including doveweed, mustards, telegraph weed, Russian thistle, dock, yellow star thistle, Australian saltbush, and cocklebur. Disturbed areas occur throughout the proposed SEA on fallow agricultural sites, around active agriculture and residential developments, along paved roads, fire breaks, dirt access roads, trails, and other similarly disturbed areas.

## 6. WILDLIFE

Wildlife within the proposed SEA is moderately diverse and abundant, commensurate with the extensive acreage of natural open space and the relative diversity of habitat types. While a few wildlife species are entirely dependent upon a single vegetative community, the entire mosaic vegetation communities within the study area and adjoining areas constitutes a continuum of functional ecosystems supporting a wider variety of wildlife species, both within the SEA boundaries and as a part of the regional ecosystem.

Analysis of invertebrates on any given site generally is limited by a lack of specific data; however, the size of the SEA and diversity of habitats present is considered sufficient to encompass healthy populations of a large number of invertebrate species, in excess of 1,000 terrestrial species. The wetlands and aquatic habitats within the SEA support diverse faunas of freshwater and alkaline pool arthropods, including native fairy shrimp, brine flies, and tiger beetles. Insect orders are particularly well-represented taxonomically, with moderate levels of species endemism including, Coleoptera, Diptera, Hymenoptera and nocturnal Lepidoptera.

Amphibians generally are not present within desert habitats except where surface hydrology persists throughout the year or breeding season; a limited number of species may be abundant in desert riparian areas. The moister woodland areas and canyon bottoms of the montane portions of the proposed SEA support abundant populations of more common amphibians, and in Little Rock Creek, the southwestern arroyo toad. Several species of salamander also may be present within the mesic upper reaches of the creek drainages. Open desert scrub habitats generally support diverse reptile populations, and the overall herpetofauna of the proposed SEA would include numerous lizard and snake species, along with southwestern pond turtle and California desert tortoise.

Bird diversity within the proposed SEA is related to habitat opportunities for year-round residents, seasonal residents, and migrating raptors and song birds. Open xeric scrub hosts a suite of birds typical of such sites over a wide range of deserts, while the transition zones in the southern portion of the SEA would attract species with desert and montane habitat preferences. The most productive sites for birds are the riparian corridors and freshwater systems, which attract large numbers of migrants during Spring and Fall, and provide abundant cover and food resources for songbird breeding use. The desert riparian woodlands and rocky buttes provide nest sites for raptors, many of which forage widely over desert scrub and agricultural lands. The playa lakes and seasonal pools, along with the ponds near the dry lakes, attract large numbers of migrating shorebirds, waders and waterfowl, and provide important winter foraging and sheltering areas for waterfowl and birds of prey.

Wildlife species previously recorded, as well as those expected to occur, within the study area are indicated in the *Comprehensive Floral & Faunal Compendium* of the *SEA Update Study 2000 Background Report*. Sensitive wildlife species occurring or potentially occurring within the SEA are discussed in the Sensitive Biological Resources section of this document.

## 7. WILDLIFE MOVEMENT

The proposed SEA extends from the National Forest to the playa lakes within Edwards AFB, encompassing the whole of the two largest drainages exiting the northern slope of the San Gabriel Mountain range; its geographical features serve as a major habitat linkage and movement corridor for all wildlife species within its vicinity. Ecologically generalist species (mountain lion, black bear, bobcat, coyote, mule deer, gray fox, raccoon, etc.) have the ability to move across such vast areas and through changing habitat types. For such species, the SEA may serve as an important system for long-term inter-population genetic exchange. For smaller or less-mobile species, or taxa which are more narrowly restricted in their habitat needs, the SEA can serve as a broad linkage zone, in which individual movement can take place during seasonal or population dispersal. This provides essential genetic exchange within and between metapopulations. The two drainages, combined with the upland terrestrial desert-montane transect portion of the proposed SEA, insure linkage values and direct movement zones for all of the wildlife species present within the Los Angeles County portion of the Antelope Valley.

## 8. SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources are habitats or individual species that are designated by federal, state, or local conservation agencies and organizations as endangered, threatened, or rare. This is due to the species' declining or limited population sizes, usually resulting from habitat loss. Watch lists of such resources are maintained by the California Department of Fish and Game (CDFG), the United States Fish and Wildlife Service (USFWS), and special groups such as the California Native Plant Society (CNPS). The following sections indicate the habitats as well as plant and animal known to exist, or potentially present within the proposed SEA, that have been afforded special recognition.

### 8.1 SENSITIVE PLANT COMMUNITIES/HABITATS

The proposed Antelope Valley SEA supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Data Base (CNDDB), 2000], because of their scarcity and support of a number of state and federally listed endangered, threatened, and rare vascular plants, as well as sensitive bird and reptile species. These communities include **joshua tree woodland, southern cottonwood-willow riparian forest, fresh-water marsh, alkali marsh, alluvial fan sage scrub, mesquite bosque, and southern willow scrub**. These communities

or closely related designations are considered highest-inventory priority communities by the CDFG, indicating that they are declining in acreage throughout their range due to land use changes. The array and composition of these communities has been discussed earlier in this report (see Section 5, Vegetation, above).

## **8.2 SENSITIVE SPECIES**

Sensitive species include those listed, or candidates for listing by the USFWS, CDFG, and CNPS (particularly List 1A, 1B, and 2 as defined in the Sensitive Species Table). The Sensitive Species Table on page 14 lists those species which have been recorded within the proposed SEA as well as those reasonably expected to occur. The table includes locations of sensitive species observed, recorded in the CNDDDB, or reported in previous documentation as observed within or in the immediate vicinity of the proposed SEA. Additional species, such as native oak, sycamore, or joshua trees, may be protected under local ordinances but are not included in this table.

**SENSITIVE SPECIES  
OCCURRING OR POTENTIALLY OCCURRING  
WITHIN THE PROPOSED ANTELOPE VALLEY SEA**

**VASCULAR PLANTS**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Agency Listing Status</u>	<u>CNPS Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
<b>ANGIOSPERMS (Dicotyledons)</b>					
<b>Apiaceae</b>		<b>Carrot Family</b>			
<i>Cymopterus deserticola</i>	desert cymopterus	FSC	1B	Joshua tree woodland, Mojavean desert scrub; loose, sandy soil in old dune areas.	Near Kramer junction (1991); Edwards AFB (1977, 1988); Rogers Lake S (1988)
<b>Asteraceae</b>		<b>Sunflower Family</b>			
<i>Eriophyllum mohavense</i>	Barstow woolly sunflower	FSC	1B	Rises between sinks in xerophytic saltbush scrub.	Potential where habitat occurs
<i>Stylocline masonii</i>	Mason's neststraw	FSC	1B	Chenopod scrub, pinyon-juniper woodland, sandy washes.	Potential where habitat occurs
<i>Syntrichopappus lemmonii</i>	Lemmon's syntrichopappus	FSC	4	Chaparral, joshua tree woodland with sandy or gravelly soil.	Potential where habitat occurs
<b>Boraginaceae</b>		<b>Borage Family</b>			
<i>Harpagonella palmeri</i>	Palmer's grappling hook	FSC	2	Sage scrub; clay soils; below 2,500 feet.	Potential where habitat occurs

**Legend**

**Agency Lists**

FE	Federally Listed as Endangered	SE	State Listed as Endangered
FT	Federally Listed as Threatened	ST	State Listed as Threatened
FSC	Federal Special Concern Species	SCE	State Candidate for Endangered
FPE	Federally Proposed as Endangered	SCT	State Candidate for Threatened
FPT	Federally Proposed as Threatened	SP	State Protected
FPD	Federally Proposed for Delisting	SFP	State Fully Protected
		SR	State Rare
		CSC	California Special Concern Species

**California Native Plant Society (CNPS) Lists**

1A	Presumed extinct in California.
1B	Rare, threatened, or endangered throughout their range.
2	Rare, threatened, or endangered in California, but more common in other states.
3	Plant species for which additional information is needed before rarity can be determined.
4	Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.



**SENSITIVE SPECIES  
OCCURRING OR POTENTIALLY OCCURRING  
WITHIN THE PROPOSED ANTELOPE VALLEY SEA  
(CONTINUED)**

<u>VASCULAR PLANTS</u>		<u>Agency Listing Status</u>	<u>CNPS Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
<u>Scientific Name</u>	<u>Common Name</u>				
<b>Brassicaceae</b>	<b>Mustard Family</b>				
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper grass		1B	Chaparral, coastal scrub.	Eastern Lovejoy Buttes (1948)
<b>Cactaceae</b>	<b>Cactus Family</b>				
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	FSC	1B	Chaparral, joshua tree woodland, Mojavean desert scrub, pinyon-juniper woodland, riparian woodland, sandy soil or coarse granitic loam.	Palmdale, SE of Pearblossom Hwy, S of the CA. Aqueduct (1989); Juniper Hills, NE of Little Rock Creek (1994); Mescal Creek, E slope of Table Mt. (1990); multiple additional records
<b>Caryophyllaceae</b>	<b>Pink Family</b>				
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	sagebrush loeflingia		1B	Great basin scrub, Sonoran desert scrub, desert dunes, sandy flats, sandy areas around clay slicks.	Potential where habitat occurs
<b>Ericaceae</b>	<b>Heath Family</b>				
<i>Arctostaphylos gabrielensis</i>	San Gabriel manzanita	FSC	1B	Chaparral.	Potential where habitat occurs in San Gabriel Mts.

**Legend**

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**SENSITIVE SPECIES  
OCCURRING OR POTENTIALLY OCCURRING  
WITHIN THE PROPOSED ANTELOPE VALLEY SEA  
(CONTINUED)**

<b>VASCULAR PLANTS</b>		<b>Agency Listing Status</b>	<b>CNPS Listing Status</b>	<b>Preferred Habitat</b>	<b>Location</b>
<b>Scientific Name</b>	<b>Common Name</b>				
<b>Fabaceae</b>					
<b>Legume Family</b>					
<i>Astragalus lentiginos</i> var. <i>antoniui</i>	San Antonio milk-vetch	FSC	1B	Lower montane coniferous forest, upper montane coniferous forest, dry slopes in yellow pine forest.	Swarthout Valley (1924); Pinon Ridge (1927)
<i>Astragalus leucolobus</i>	Big Bear valley woollypod	FSC	1B	Lower and upper montane coniferous forest, pebble plain, pinyon juniper woodland.	Table Mt. (1992); E end of Table Mt. (1987); confluence of Mescal Creek and Cedar Cyn. (1987)
<i>Astragalus preussi</i> var. <i>laxiflorus</i>	Lancaster milk-vetch		1B	Chenopod scrub, alkaline clay flats or gravelly or sandy washes and along draws in gullied badlands.	Lancaster (1902)
<i>Lupinus peirsonii</i>	Peirson's lupine		4	Joshua tree woodland, pinyon-juniper woodland, upper montane coniferous forest.	Potential where habitat occurs
<b>Orobanchaceae</b>					
<b>Broom-Rape Family</b>					
<i>Orobanche valida</i> ssp. <i>valida</i>	Rock Creek broomrape	FSC	1B	Chaparral, pinyon-juniper woodland; slopes of loose, decomposed granite; parasitic on chaparral shrubs.	Near S Fork Campground and Islip Saddle (1992)

**Legend****Agency Lists**

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**SENSITIVE SPECIES  
OCCURRING OR POTENTIALLY OCCURRING  
WITHIN THE PROPOSED ANTELOPE VALLEY SEA  
(CONTINUED)**

<b>VASCULAR PLANTS</b>		<b>Agency Listing Status</b>	<b>CNPS Listing Status</b>	<b>Preferred Habitat</b>	<b>Location</b>
<b>Scientific Name</b>	<b>Common Name</b>				
<b>Papaveraceae</b>		<b>Poppy Family</b>			
<i>Canbya candida</i>	pigmy poppy		IB	Joshua tree woodland, Mojave desert scrub, sandy places.	Pinon Hills (1986); Lancaster; Edwards AFB (1965)
<i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i>	red rock poppy	FSC	IB	Mojave desert scrub.	Edwards AFB (1977)
<b>Polemoniaceae</b>		<b>Phlox Family</b>			
<i>Eriastrum pluriflorum</i> spp. <i>Sherman-Hoytae</i>	many flowered sapphire flower		4	Uncommon plant of chaparral, other scrub, woodlands and forests.	Potential where habitat occurs
<i>Linanthus concinnus</i>	San Gabriel linanthus	FSC	IB	Lower and upper montane coniferous forest, jeffrey pine/cyn. oak forest.	Vincent Gulch (1923); Punchbowl Cyn. (1992)
<b>Polygonaceae</b>		<b>Buckwheat Family</b>			
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	FSC		Openings/clearings in coastal or desert sage scrub, chaparral or interface; dry slopes or flat ground; sandy soils.	Historical record in Lancaster (1896)

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OCCURRING OR POTENTIALLY OCCURRING  
WITHIN THE PROPOSED ANTELOPE VALLEY SEA  
(CONTINUED)**

<b>VASCULAR PLANTS</b>		<b>Agency Listing Status</b>	<b>CNPS Listing Status</b>	<b>Preferred Habitat</b>	<b>Location</b>
<b>Scientific Name</b>	<b>Common Name</b>				
<i>Chorizanthe procumbens</i>	prostrate spineflower		4	Clearings in sage scrub, chaparral, and pinyon-juniper woodland; gabbro, clay, and granitic soils.	Potential where habitat occurs
<i>Chorizanthe spinosa</i>	Mojave spineflower		4	Chenopod scrub, Mojavean desert scrub	Edwards AFB
<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	Johnston's buckwheat	FSC	1B	Subalpine coniferous forest, upper montane coniferous forest.	Upper end of Mescal Creek, along NW slope
<i>Goodmania luteola</i>	yellow spiny cape		4	Salt crusted sand dunes in halophytic saltbrush scrub.	Edwards AFB; western Mojave Desert
<b>Primulaceae</b>	<b>Primrose Family</b>				
<i>Adrosace elongata</i> ssp. <i>acuta</i>	California androsace		4	Chaparral, cismontane woodland, coastal scrub.	Potential where habitat occurs
<b>Ranunculaceae</b>	<b>Buttercup Family</b>				
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mousetail	FSC		Vernal pools (alkaline).	Potential where habitat occurs
<b>Saxifragaceae</b>	<b>Saxifrage Family</b>				
<i>Boykinia rotundifolia</i>	round-leaved boykinia		4	Chaparral, riparian woodland, streambanks.	Potential where habitat occurs

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**SENSITIVE SPECIES  
OCCURRING OR POTENTIALLY OCCURRING  
WITHIN THE PROPOSED ANTELOPE VALLEY SEA  
(CONTINUED)**

<u>VASCULAR PLANTS</u>		<u>Agency Listing Status</u>	<u>CNPS Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
<u>Scientific Name</u>	<u>Common Name</u>				
<b>Scrophulariaceae</b>		<b>Figwort Family</b>			
<i>Castilleja gleasonii</i>	Mount Gleason Indian paintbrush	FSC, SR	1B	Lower montane coniferous forest, open flats or slopes with granitic soil, restricted to San Gabriel Mts.	Potential where habitat occurs
<i>Castilleja montigena</i>	Heckard's Indian paintbrush		4	Lower and upper montane coniferous forest, pinyon-juniper woodland.	Potential where habitat occurs
<i>Castilleja plagiotoma</i>	Mojave Indian paintbrush		4	Great Basin scrub (alluvial), pinyon-juniper woodland.	Potential where habitat occurs
<b>ANGIOSPERMS (Monocotyledons)</b>					
<b>Juncaceae</b>		<b>Rush Family</b>			
<i>Juncus acutus</i> var. <i>sphaerocarpus</i>	spiny rush		4	Alkaline meadows and seeps, and coastal salt marsh below 3,000 feet.	Potential where habitat occurs
<b>Liliaceae</b>		<b>Lily Family</b>			
<i>Calochortus striatus</i>	alkali mariposa lily	FSC	1B	Chaparral, chenopod scrub, Mojavean desert scrub, meadows, alkaline meadows, and ephemeral washes.	Edwards AFB (1980, 88); Rogers Lake S (1978); near Antelope Valley College (1988)

**Legend**

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**SENSITIVE SPECIES  
OCCURRING OR POTENTIALLY OCCURRING  
WITHIN THE PROPOSED ANTELOPE VALLEY SEA  
(CONTINUED)**

**VASCULAR PLANTS**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Agency Listing Status</u>	<u>CNPS Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	ocellated Humboldt lily	FSC	4	Openings in chaparral, cismontane woodland, lower montane coniferous forest, below 5,500 feet.	Potential where habitat occurs
<i>Muilla coronata</i>	crowned muilla		4	Joshua tree woodland, Mojavean desert scrub, pinyon-juniper woodland.	Potential where habitat occurs
<b>Poaceae</b>	<b>Grass Family</b>				
<i>Muhlenbergia californica</i>	California muhly		1B	Coastal sage, chaparral, lower montane coniferous forest, meadows near streams or seeps.	Big Rock Creek, N of Mt. Baden-Powell (1951); S fork Big Rock Creek (1933)
<i>Puccinellia parishii</i>	Parish's alkali grass	FSC	1B	Meadows and seeps; alkali springs and seeps in deserts.	E of Rosamond dry lakebed (1992)

**Legend**

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**SENSITIVE SPECIES  
OCCURRING OR POTENTIALLY OCCURRING  
WITHIN THE PROPOSED ANTELOPE VALLEY SEA  
(CONTINUED)**

<b>VERTEBRATES</b>		<b>Agency Listing Status</b>	<b>Preferred Habitat</b>	<b>Location</b>
<b>Scientific Name</b>	<b>Common Name</b>			
<b>Iguanidae</b>				
<b>Iguanid Lizard Family</b>				
<i>Phrynosoma coronatum blainvillei</i>	San Diego coast horned lizard	FSC, CSC, SP	Valley-foothill hardwood, conifer, and riparian habitats, pine-cypress, juniper and annual grassland habitats below 6,000 feet, open country, especially sandy areas, washes, floodplains, and windblown deposits.	2 mi. SE of Valyermo Ranger Station; Fenner Cyn., near Big Rock Camp; Big Pines Recreation Area; S Fork Big Rock Creek
<i>Phrynosoma coronatum frontale</i>	California horned lizard	CSC, SP	Scrubland, grassland, coniferous forest, broad-leaf woodlands.	Horse ranch, NNE of Jackson Lake (1990)
<i>Sauromalus obesus</i>	chuckwalla	CSC	Rock outcrops; likely limited to ridges.	Leuhman Ridge
<i>Uma scoparia</i>	Mojave fringed-toed lizard	CSC	Sand deposits, dunes, dry lake bed and wash margins, creosote scrub.	Edwards AFB
<b>Colubridae</b>				
<b>Colubrid Snake Family</b>				
<i>Thamnophis hammondi</i>	two-striped garter snake	FSC, CSC, SP	Riparian and freshwater marshes with perennial water.	2 adults and 2 juveniles observed foraging near Little Rock Creek upstream of Basin Campground (1995); Santiago Cyn. (1996)
<b>Emydidae</b>				
<b>Turtle Family</b>				
<i>Clemmys marmorata pallida</i>	southwestern pond turtle	CSC, SP	Ponds, slow moving streams.	Piute Pond and Branch Pond, Edwards AFB
<b>BIRDS</b>				
<b>Pelecanidae</b>				
<b>Pelican Family</b>				
<i>Pelecanus erythrorhynchos</i>	American white pelican	CSC	Large lakes.	Edwards AFB

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**SENSITIVE SPECIES  
OCCURRING OR POTENTIALLY OCCURRING  
WITHIN THE PROPOSED ANTELOPE VALLEY SEA  
(CONTINUED)**

<b>VERTEBRATES</b>				
<u>Scientific Name</u>	<u>Common Name</u>	<u>Agency Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
<b>Phalacrocoracidae</b>	<b>Cormorant Family</b>			
<i>Phalacrocorax auritus</i>	double-crested cormorant	CSC	Coasts, bays, lakes, and rivers.	Edwards AFB
<b>Accipitridae</b>	<b>Hawks, Kites, Harriers and Eagle Family</b>			
<i>Accipiter cooperi</i>	Cooper's hawk	CSC	Open woodlands especially riparian woodland.	Palmdale (1921); Edwards AFB (Piute Ponds and near Haystack Butte)
<i>Accipiter striatus</i>	sharp-shinned hawk	CSC	Woodlands; forages over chaparral and other scrublands; prefers riparian habitats and N-facing slopes, with plucking perch sites.	Edwards AFB
<i>Aquila chrysaetos</i>	golden eagle	CSC, SFP	Mts., deserts, and open country; prefer to forage over grasslands, deserts, savannahs and early successional stages of forest and shrub habitats.	Edwards AFB (roosting on Piute Ponds)
<i>Buteo regalis</i>	ferruginous hawk	CSC	Rivers, lakes, and coasts; open tracts of sparse shrubs and grasslands, and agricultural areas during winter.	Edwards AFB
<i>Buteo swainsoni</i>	Swainson's hawk	ST	Plains, ranges, open hills, sparse trees.	E of Lancaster, junction of Ave. K and E 130th St. (1979)
<i>Circus cyaneus</i>	northern harrier	CSC	Coastal salt marshes, freshwater marshes, grasslands, and agricultural fields; occasionally forages over open desert and brushlands.	Edwards AFB (Piute Ponds)

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(CONTINUED)**

<b>VERTEBRATES</b>				
<u>Scientific Name</u>	<u>Common Name</u>	<u>Agency Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
<i>Haliaeetus leucocephalus</i>	bald eagle	FT, FPD, CSC, SE	Lakes, reservoirs, rivers, offshore islands, and some rangelands and coastal wetlands in Southern California.	Edwards AFB (Piute Ponds)
<i>Pandion haliaetus</i>	osprey	CSC	Rivers, lakes, and coasts, mixed conifer.	Edwards AFB
<b>Falconidae</b>	<b>Falcon Family</b>			
<i>Falco columbarius</i>	merlin	CSC	Coastlines, wetlands, woodlands, agricultural fields, and grasslands.	Edwards AFB
<i>Falco mexicanus</i>	prairie falcon	CSC	Grasslands, savannahs, rangeland, agricultural fields, and desert scrub; often uses sheltered cliff ledges for cover.	Observed in Hi Vista and Lovejoy Buttes quadrangles (1978) and Valyermo quadrangle (1977, 80, 83), specific location info suppressed by CNDDDB.
<i>Falco peregrinus anatum</i>	American peregrine falcon	SE, SFP, formerly FE	Coastal estuaries, open country, cliffs to coasts.	Edwards AFB (Piute Ponds) Federally delisted Aug. 1999
<b>Charadriidae</b>	<b>Plover Family</b>			
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	FT, CSC	Beaches and sandy flats.	Rosamond Lake, Edwards AFB (1978)
<i>Charadrius montanus</i>	mountain plover	FPT, CSC	Short grasslands to plowed fields, foothill valleys and sagebrush areas; open plains with low, herbaceous or scattered shrub vegetation.	Edwards AFB

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OCCURRING OR POTENTIALLY OCCURRING  
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<b>VERTEBRATES</b>		<b>Agency Listing Status</b>	<b>Preferred Habitat</b>	<b>Location</b>
<b>Scientific Name</b>	<b>Common Name</b>			
<b>Hirundinidae</b>	<b>Swallow Family</b>			
<i>Riparia riparia</i>	bank swallow	ST	Marshes, ponds, and agricultural fields; frequently over open water.	Piute Ponds, Edwards AFB
<b>Laridae</b>	<b>Gulls and Tern Family</b>			
<i>Chidonias niger</i>	black tern	FSC, CSC	Fresh emergent wetlands, lakes, ponds, moist grasslands,, and agricultural fields.	Edwards AFB
<i>Larus californicus</i>	California gull	CSC	Seacoasts, lakes, farms, and urban centers.	Edwards AFB
<b>Strigidae</b>	<b>True Owl Family</b>			
<i>Asio flammeus</i>	short-eared owl	CSC	Prairies, marshes (fresh and salt) dunes, tundra.	Edwards AFB
<i>Asio otus</i>	long-eared owl	CSC	Riparian and live oak woodlands.	Edwards AFB (Haystack Butte, Mesquite woodlands)
<i>Athene cunicularia hypugea</i>	burrowing owl	FSC, CSC	Dry grasslands, desert habitats, open pinyon-juniper, and ponderosa pine woodlands below 5,300 feet; berms, ditches, and grasslands adjacent to rivers, agricultural, and scrub areas.	Edwards AFB
<i>Strix occidentalis occidentalis</i>	California spotted owl	CSC	Oak and oak-conifer habitats.	Potential where habitat occurs
<b>Apodidae</b>	<b>Swift Family</b>			
<i>Chaetura vauxi</i>	Vaux's swift	CSC	Redwood and douglas fir habitats.	Edwards AFB

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(CONTINUED)**

<b>VERTEBRATES</b>				
<b>Scientific Name</b>	<b>Common Name</b>	<b>Agency Listing Status</b>	<b>Preferred Habitat</b>	<b>Location</b>
<b>Threskiornithidae Ibises and Spoonbill Family</b>				
<i>Plegadis chihi</i>	white-faced ibis	ST	Fresh emergent wetland, shallow lacustrine waters, wet meadows, irrigated or flooded pastures and cropland.	Edwards AFB
<b>Tyrannidae Tyrant Flycatcher Family</b>				
<i>Empidonax traillii</i>	willow flycatcher	SE	Wet meadow and montane riparian habitats, river valleys and large mt. meadows.	Edwards AFB
<b>Alaudidae Lark Family</b>				
<i>Eremophila alpestris actia</i>	California horned lark	CSC	Open habitats, grasslands along the coast, deserts near sea level to alpine dwarf shrub habitat, uncommon in coniferous and chaparral habitats.	Edwards AFB
<b>Mimidae Thrashers</b>				
<i>Toxostoma crissale</i>	Crissal thrasher	CSC	Dense thickets in desert riparian and desert wash habitats.	Potential where habitat occurs
<i>Toxostoma lecontei</i>	Le Conte's thrasher	CSC	Open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub, nests in dense, spiny shrub or cactus in desert wash habitat.	Edwards AFB
<b>Laniidae Shrike Family</b>				
<i>Lanius ludovicianus</i>	loggerhead shrike	FSC, CSC	Open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	Edwards AFB

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<b>Vireonidae</b>				
<b>Vireo Family</b>				
<i>Vireo vicinior</i>	gray vireo	CSC	Pinyon-juniper, juniper, chamise-redshank chaparral.	Little Rock Creek
<b>Emberizidae</b>				
<b>Wood Warblers, Tanagers, Buntings, and Blackbird Family</b>				
<i>Agelaius tricolor</i>	tri-colored blackbird	FSC, CSC	Freshwater marshes and riparian scrub.	Rosamond Lake quad (1992), specific location info suppressed by CNDDDB; Edwards AFB
<i>Dendroica petechia brewsteri</i>	yellow warbler	CSC	Sparse to dense woodland and forest habitats with or without heavy brush understory.	Potential where habitat occurs
<b>MAMMALS</b>				
<b>Vespertilionidae</b>				
<b>Evening Bat Family</b>				
<i>Antrozous pallidus</i>	pallid bat	CSC	Roosts in cliffs, crevices, mine tunnels, caves, house attics and other man-made structures.	Potential where habitat occurs
<i>Corynorhinus (Plecotus) t. townsendii</i>	Townsend's big-eared bat	FSC, CSC	Caves, mine tunnels, and buildings.	Potential where habitat occurs
<i>Euderma maculatum</i>	spotted bat	FSC, CSC	Occurs rarely and unpredictably in a number of habitats; feeds on insects, prefers moths.	Potential where habitat occurs
<i>Myotis thysanodes</i>	fringed myotis	FSC	Grassland/oak savannah, cottonwood-willow woodland, riparian scrub, oak woodland, open riverbed and bank, pinyon-juniper, valley foothill hardwood and hardwood-conifer.	Potential where habitat occurs

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**VERTEBRATES**

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<i>Myotis volans</i>	long-legged myotis	FSC	Woodland and forest habitats above 4,000 feet; also forages less frequently in chaparral, coastal scrub, shrub habitats to 11,400 feet.	Potential where habitat occurs
<b>Molossidae</b>		<b>Free-tailed Bats</b>		
<i>Eumops perotis californicus</i>	California mastiff bat	CSC	In arid and semi-arid lowlands; roosts in cliffs and rock crevices.	Potential where habitat occurs
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	CSC	On rocky desert cliffs and slopes; emerges at night to feed on insects.	Potential where habitat occurs
<i>Nyctinomops macrotis</i>	big free-tailed bat	CSC	Roosts in cliffs or crevices; emerges late at night to feed on insects.	Potential where habitat occurs
<b>Sciuridae</b>		<b>Squirrel Family</b>		
<i>Spermophilus mohavensis</i>	Mohave ground squirrel	FSC, ST	Low desert with scattered brush, sandy, or gravelly soil.	Numerous CNDDB reports throughout; Edwards AFB (Rogers Dry Lake)
<b>Heteromyidae</b>		<b>Pocket Mice and Kangaroo Rat Family</b>		
<i>Perognathus inornatus inornatus</i>	San Joaquin pocket mouse	FSC	Grasslands and blue oak savannas, needs friable soils.	Historic record Palmdale (1931)

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## 9. REGIONAL BIOLOGICAL VALUE

The proposed Antelope Valley SEA meets several SEA designation criteria that consider regional biological values. Each criterion and how it is met or why not is described below.

*Criterion A: The Habitat of Core Populations of Endangered or Threatened Plant or Animal Species.*

The only known Antelope Valley population of the federally endangered arroyo southwestern toad is located within the proposed SEA, on Little Rock Creek above Little Rock Reservoir. Additionally, the SEA would encompass much of the Los Angeles County ranges of the federally threatened California desert tortoise and the state threatened Mohave ground squirrel.

*Criterion B: On a Regional Basis, Biotic Communities, Vegetative Associations, and Habitat of Plant or Animal Species that are either Unique or are Restricted in Distribution.*

The mesquite bosque, sand sheet, rocky butte, desert riparian woodland, and alluvial fan sage scrub habitats all are unique and regionally restricted biotic communities encompassed by the proposed SEA. Desert species not, or rarely, found elsewhere in the County, such as verdin, black-throated sparrow, Mojave rattlesnake, desert banded gecko, Leech's prionid borer, and mesquite borer, occur within these habitats of the proposed SEA. Additionally, the ponds and other riparian and wetland systems in the northern portion of the SEA support numerous water birds and raptors not resident elsewhere in the County.

*Criterion C: Within Los Angeles County, Biotic Communities, Vegetative Associations, and Habitat of Plant or Animal Species that are either Unique or are Restricted in Distribution.*

The desert alluvial fan sage scrub, joshua tree woodland, desert riparian woodland, mesquite bosque, alkali meadow/marsh, desert freshwater marsh, playa lake and seasonal pool habitats are located within, are unique to, or best represented within, the SEA.

*Criterion D: Habitat that at some point in the Life Cycle of a Species or Group of Species, Serves as Concentrated Breeding, Feeding, Resting, or Migrating Grounds and is Limited in Availability either Regionally or in Los Angeles County.*

The freshwater habitats within and around Rosamond, Buckhorn, and Rogers dry lake basins have large concentrations of migratory and resident waterfowl and birds of prey, providing them with essential seasonal and permanent resources. The rocky desert buttes are unique roosting, sheltering, perching and nesting sites for birds of prey.

*Criterion E: Biotic Resources that are of Scientific Interest because they are either an Extreme in Physical/Geographical Limitations, or Represent Unusual Variation in a Population or Community.*

Although the SEA does not contain biotic resource that are clearly an extreme in physical/geographical limitations, or represent unusual variation in a population or community and therefore does not meet the criterion, it is of scientific interest due to the large undeveloped desert communities and the transition zones between them.

*Criterion F: Areas that would Provide for the Preservation of Relatively Undisturbed Examples of the Original Natural Biotic Communities in Los Angeles County.*

The proposed Antelope Valley SEA encompasses some of the most biotically intact acreage of Joshua tree woodland, desert riparian woodland, and desert alluvial fan sage scrub remaining in the County.

In conclusion, the area described in this report is proposed to be an SEA because it contains: 1) the habitat of core populations of endangered and threatened plant and animal species; 2) biotic communities, vegetative associations, and habitat of plant and animal species that are either unique or are restricted in distribution in Los Angeles County, or regionally; 3) concentrated breeding, feeding, resting, or migrating grounds which are limited in availability in Los Angeles County; and 4) areas that provide for the preservation of relatively undisturbed examples of original natural biotic communities in Los Angeles County.

## 10. RECOMMENDED MANAGEMENT PRACTICES

Proposed new development within the proposed Puente Hills SEA should be designed to be highly compatible with the continued ecological function of the component biological resources described above; retention of existing natural biotic resources should be ensured. Although a comprehensive evaluation of all possible future land uses within this SEA cannot be made here, a general approach is outlined below and is recommended for use on a project specific basis. In order to preserve the integrity of the SEA, the proposed comprehensive management practices described in the *Los Angeles County SEA Update Study 2000 Background Report* are recommended. These practices address:

- Core habitat
- Habitat linkages and wildlife corridors
- Fire management
- Public access and recreation
- Infrastructure
- Wetlands, riparian habitats, and streambeds
- Non-riparian/upland woodlands

In addition to the comprehensive management practices the following proposed management practices are recommended specifically for the proposed Antelope Valley SEA:

- Limit development densities to one residential unit per ten acre parcel, and constrain development design, where feasible, to cluster dwelling configuration along existing roadways in order to minimize clearing associated with fuel management, and to reduce the need for grading, fencing, and other habitat disturbances.
- Retain habitat linkages within Little Rock and Big Rock Washes as well as the desert-montane transect in keeping with proposed General Management Practices.
- Maintain the habitat of core populations of listed species including the federally endangered southwestern arroyo toad, the federally threatened California desert tortoise, and the state threatened Mohave ground squirrel as well as adequate buffers to eliminate or minimize adverse impacts.



- Retain rare communities with adequate buffers so as to allow for the long term viability and integrity of plant communities as a whole. Rare communities include: mesquite bosque, joshua tree woodland, desert grassland, southern willow scrub, cottonwood-willow woodland, fresh-water marsh, alkali marsh, Mojave riparian forest, desert alluvial fan scrub, and desert alluvial wash.
- Carefully review proposals for new or increased groundwater extraction to prevent overdrafting of the shallow aquifer supporting the dry lakes and riparian habitat areas. The biological functionality of these areas is directly related to the supporting hydrology which originates from the surrounding basin slopes and from the groundwater flows of Little Rock and Big Rock Creeks.
- Require agricultural activities to employ the best management practices (BMPs) recognized in the industry; avoid unnecessary direct impacts to habitat, and conform to legal standards for all pesticide, herbicide and fertilizer applications.
- Prohibit bridges over the Little Rock or Big Rock Creeks except for “flying” type bridges with wide, open spans beneath, that neither impinge nor alter the channel characteristics below.

Additionally, proposed development should be reviewed when required by federal, state, or local laws before implementing plans which may impact biotic resources and/or sensitive species. Potential impacts to listed species or wetland areas require permitting in accordance with applicable laws.

## 11. SOURCES

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