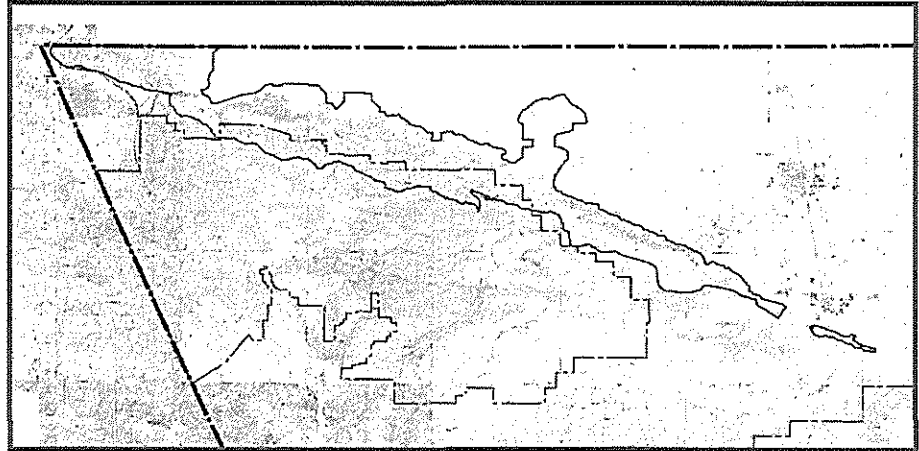


BIOLOGICAL RESOURCES ASSESSMENT
OF THE PROPOSED
SAN ANDREAS RIFT ZONE
SIGNIFICANT ECOLOGICAL AREA



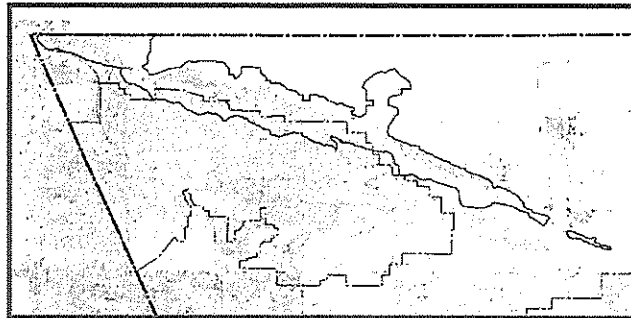
SAN ANDREAS RIFT ZONE
(Including Existing SEA Nos. 56, 57, 58, and 59)

Los Angeles County, California

November 2000

PCR

**BIOLOGICAL RESOURCES ASSESSMENT
OF THE PROPOSED
SAN ANDREAS RIFT ZONE
SIGNIFICANT ECOLOGICAL AREA**



SAN ANDREAS RIFT ZONE
(Including Existing SEA Nos. 56, 57, 58, and 59)

Prepared For:

Los Angeles County
Department of Regional Planning
320 West Temple Street, Room 1383
Los Angeles, California 90012
Contact: George Malone, Section Head
General Plan Development Section

Prepared By:

PCR Services Corporation
Frank Hovore & Associates
FORMA Systems
Contact: Steven G. Nelson, Director of Biological Services
PCR Services Corporation
One Venture, Suite 150
Irvine, California 92618
Tel: 949.753.7001

November 2000

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	iv
1. LOCATION	1
1.1 GENERAL	1
1.2 BOUNDARY DESCRIPTION	1
2. DESCRIPTION	4
3. EXISTING LAND USE	5
4. LAND OWNERSHIP	6
5. VEGETATION	7
6. WILDLIFE	10
7. WILDLIFE MOVEMENT	11
8. SENSITIVE BIOLOGICAL RESOURCES	11
8.1 SENSITIVE PLANT COMMUNITIES/HABITATS	12
8.2 SENSITIVE SPECIES	12
9. REGIONAL BIOLOGICAL VALUE	27
10. RECOMMENDED MANAGEMENT PRACTICES	29
11. SOURCES	30

LIST OF FIGURES

Figure	Page
1 Regional Map	2
2 Existing and Proposed Boundaries	3

LIST OF TABLES

Table	Page
Criteria Analysis	viii
Sensitive Species	13

EXECUTIVE SUMMARY

Location: The proposed San Andreas Rift Zone Significant Ecological Area (SEA) is located in the western portion of the Antelope Valley. Most of this area is situated within the jurisdiction of unincorporated Los Angeles County. The SEA includes a small portion of the western Tehachapi foothills, then stretches in a southeasterly direction along the San Andreas Fault to include Quail Lake, the northern foothills of Liebre Mountain and Sawmill Mountain, large portions of Portal Ridge, Leona Valley, Ritter Ridge, Fairmont and Antelope Buttes, Anaverde Valley, Lake Palmdale, and terminates at Barrel Springs.

Description: The proposed San Andreas Rift Zone SEA covers approximately 89,698 acres and includes a variety of topographic features. The location and orientation of the proposed SEA coincides with a segment of the San Andreas Rift Zone. At its northwest end, the SEA encompasses a portion of the south-facing foothills of the Tehachapi Mountains. Moving southeast, the SEA contains the north-facing slopes of Liebre and Sawmill Mountains. The upper slopes of these mountains are densely vegetated with chaparral and scattered mixed woodlands. The lower slopes are more sparsely vegetated with scrub species and eventually mixed scrub and grasslands moving onto the flatter valley floor. Most of this portion of the SEA is undeveloped open space with few scattered residential developments. The majority of land within the proposed 89,698-acre SEA lies within unincorporated Los Angeles County accounting for approximately 68,722 acres. Other jurisdictions include approximately 15,285 acres within the Angeles National Forest, 5,476 acres within the City of Palmdale, and 215 acres within the City of Lancaster.

Existing Land Use: The proposed SEA currently supports a variety of land uses. The majority of the land use within the SEA is undisturbed open space either within the Angeles National Forest or unincorporated Los Angeles County. Other uses include moderate to high density residential development, rural residential development, ranching and agricultural use.

Ownership: Landownership within the proposed SEA consists of both public and private holdings. Public lands include that portion of the SEA along Liebre and Sawmill Mountains, within the Angeles National Forest, as well as an area which is within the State owned Antelope Valley California Poppy Reserve. The remaining land within the SEA is privately owned. Individual land ownerships within the SEA are estimated to range from less than one acre parcels to several square mile parcels.

Vegetation: Plant communities within the proposed SEA include: chaparral, desert scrub, native and non-native grassland, wildflower field, southern willow scrub, southern cottonwood-willow riparian forest, foothill woodland, juniper woodland, valley oak woodland, bigcone spruce-canyon oak woodland, alkali marsh, fresh water marsh, alluvial wash, and disturbed communities.

Wildlife: Wildlife within the proposed SEA is diverse and abundant due to the large acreage of natural open space and the diversity of habitat types. The entire mosaic of vegetation communities within the proposed SEA and adjoining areas constitutes a functional ecosystem for a large variety of native wildlife species; this applies to the SEA and as well as the regional ecosystem.

Wildlife Movement: The proposed San Andreas Rift Zone SEA encompasses several important linkages for wildlife movement including: the foothills in the western most tip of the proposed SEA that link the San Gabriel Mountains and the Tehachapi Mountains; large drainages extending onto the Antelope Valley floor towards resources such as the Fairmont and Antelope Buttes; and Amargosa Creek facilitating east-west wildlife movement through the Liebre Mountains, Portal Ridge, and Ritter Ridge.

Sensitive Biological Resources: Sensitive plant communities within the proposed SEA include: joshua tree woodland, valley oak woodland, native grassland, wildflower field, southern cottonwood-willow riparian forest, fresh-water marsh, alkali marsh, alluvial wash, and southern willow scrub. A large number of sensitive plant and animal species have been observed or are expected to occur within the SEA including: Mexican flannelbush, Tehachapi slender salamander, California red-legged frog, southwestern pond turtle, California condor, Mohave ground squirrel, Tehachapi pocket mouse and many others.

Regional Biological Value: The proposed SEA meets several designation criteria and incorporates many regional biological values (see Criteria Table on page viii). These values include: a series of marshes and sinks along the San Andreas Rift Zone, which are both unique and restricted in distribution; lakes and other wetland areas along the San Andreas Rift Zone providing breeding habitat for amphibians and foraging for migrating birds scarcely found on slopes adjacent to the Mojave Desert; the Fairmont and Antelope Buttes, representing a unique habitat due to their close proximity to several ecologically significant regions, the vital habitat they provide to wide ranging species for nesting, roosting, denning, refuge, and concentrated wintering grounds for birds of prey; the confluence of three major geographical areas, the Mojave Desert, the San Gabriel Mountains, and the Tehachapi Mountains producing the most unique and diverse flora found in the County, serving as a transition between desert, foothill, and montane environments; the southern limit of the foothill woodland community, blue oak, gray or foothill pine, and California buckeye, rare relic stands of Great Basin sage brush scrub, and rare wildflower fields. The transition of several habitat types provide valuable opportunities for educational and scientific analysis including creosote bush scrub, joshua tree/California juniper mixed woodland, and desert chaparral.

Recommended Management Practices: Proposed new development within the proposed San Andreas Rift Zone SEA should be designed to be highly compatible with the continued ecological function of each of the component biological resources described above. 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 San Andreas Rift Zone 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 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: Joshua tree woodland, valley oak woodland, native grassland, wildflower field, southern cottonwood-willow riparian forest, fresh-water marsh, alkali marsh, alluvial wash, and southern willow scrub.
- 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.
- Retain broad transition zones between the different habitat types of the Mojave Desert, the San Gabriel Mountains, and the Tehachapi Mountains in such a way as to allow for free movement of a unique mix of species (plants and less-mobile wildlife).

- Retain connectivity and linkage values between large open space units such as between the San Gabriel Mountains and the Tehachapi Mountains and between the Fairmont and Antelope Buttes and Portal Ridge in keeping with the proposed General Management Practices.
- Retain existing communities on and surrounding Fairmont and Antelope Buttes to avoid the discouragement of raptor species and loss of wildflower diversity. Although raptors are able to forage in surrounding agricultural fields, flatlands adjacent to the Buttes should avoid further conversion of natural habitat to avoid loss of diversity in small mammal prey.
- Retain connectivity and linkage values between the Fairmont and Antelope Buttes and Portal Ridge.

**CRITERIA ANALYSIS
OF THE PROPOSED SAN ANDREAS RIFT ZONE SEA**

<u>Criterion</u>	<u>Status</u>	<u>Justification</u>
A) The habitat of core populations of endangered or threatened plant or animal species.	Not met	No habitat of known core populations of listed species is present within the proposed SEA.
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	Marshes and sinks along the San Andreas Rift Zone which are unique and restricted in distribution; Fairmont and Antelope Buttes represent a unique habitat due to their location as the most westerly buttes of the Mojave Desert and their close proximity to several geographic regions.
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 most unique and diverse flora found in the County representing a transition between desert, foothill, and montane environments; the southern limit of the foothill woodland community, blue oak, gray or foothill pine, and California buckeye; rare relic stands of Great Basin sage brush scrub; and rare wildflower fields.
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.	Met	The Fairmont and Antelope Buttes provide vital habitat to many wide ranging species for nesting, roosting, denning, and refuge, concentrated wintering grounds for birds of prey; lakes and other wetland areas along the San Andreas Rift Zone provide rare breeding habitat for amphibians and feeding habitat for migrating birds.
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.	Met	The transition of several habitat types including: creosote bush scrub, joshua tree/California juniper mixed woodland, and desert chaparral makes it a valuable for educational and scientific reasons; the close proximity of the Fairmont and Antelope Buttes to the San Gabriel Mountains renders them unique in their species composition and ecological relationships and, therefore, of interest to scientists; the concentrated diversity of vegetation types creates an outstanding opportunity for educational use.
F) Areas that would provide for the preservation of relatively undisturbed examples of the original natural biotic communities in Los Angeles County.	Met	The slopes of Ritter Ridge support one of the best remaining stands of joshua tree and California juniper; large, mostly undisturbed examples of desert, foothill, and montane environments.

SIGNIFICANT ECOLOGICAL AREA UPDATE STUDY

1. LOCATION

1.1 GENERAL

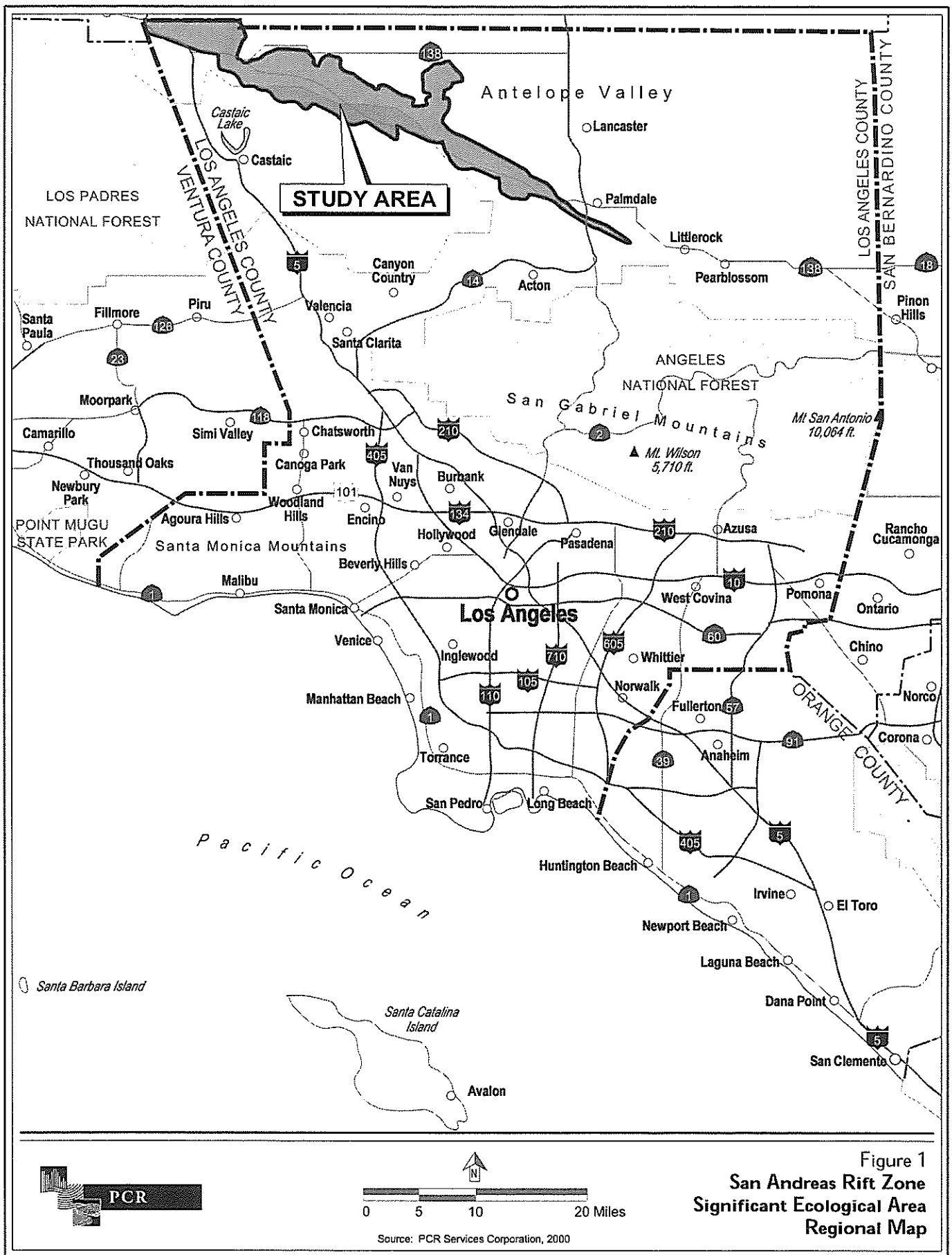
The proposed San Andreas Rift Zone Significant Ecological Area (SEA) is located in the western portion of the Antelope Valley in an unincorporated area of Los Angeles County as shown in Figure 1, *Regional Map*, on page 2. The study area includes a small portion of the western Tehachapi foothills then stretches in a southeasterly direction to include Quail Lake, the northern foothills of Liebre Mountain and Sawmill Mountain, large portions of Portal Ridge, Leona Valley, Ritter Ridge, Fairmont and Antelope Buttes, Anaverde Valley, Lake Palmdale, and terminates at Barrel Springs.

The SEA is located at least partially in each of the following United States Geological Survey (USGS) 7.5' California Quadrangles: Lebec, La Liebre Ranch, Neenach School, Fairmont Butte, Little Buttes, Liebre Mountain, Burnt Peak, Lake Hughes, Del Sur, Lancaster West, Sleepy Valley, Ritter Ridge, and Palmdale as shown in Figure 2, *Existing and Proposed Boundaries*, on page 3.

Existing SEA numbers 56, 57, 58, and 59 have been encompassed within the proposed San Andreas Rift Zone SEA in their entirety. Slight changes in boundaries are due to more accurate methods of mapping and/or exclusion of large disturbed areas along the outer boundary. Existing SEA number 60 is not included and is addressed in the proposed Joshua Tree Woodland SEA report under separate cover.

1.2 BOUNDARY DESCRIPTION

The northwestern tip of the proposed San Andreas Rift Zone SEA encompasses north-facing foothills at the western end of the Tehachapi Mountains in the northwest corner of the County, just east of the Tejon Pass. Outside of Los Angeles County, the functional area of the proposed SEA would encompass the remainder of the Tehachapi Foothills. The southern boundary moves southeast and crosses the California Aqueduct just west of Quail Lake. From this point, the boundary follows the ridgeline of the Liebre and Sawmill Mountains continuing in a southeasterly direction until turning northeast just west of Elizabeth Lake Canyon where it briefly turns north before returning to its southeasterly direction. The boundary extends along the southern edge of



STUDY AREA

Figure 1
 San Andreas Rift Zone
 Significant Ecological Area
 Regional Map

Source: PCR Services Corporation, 2000

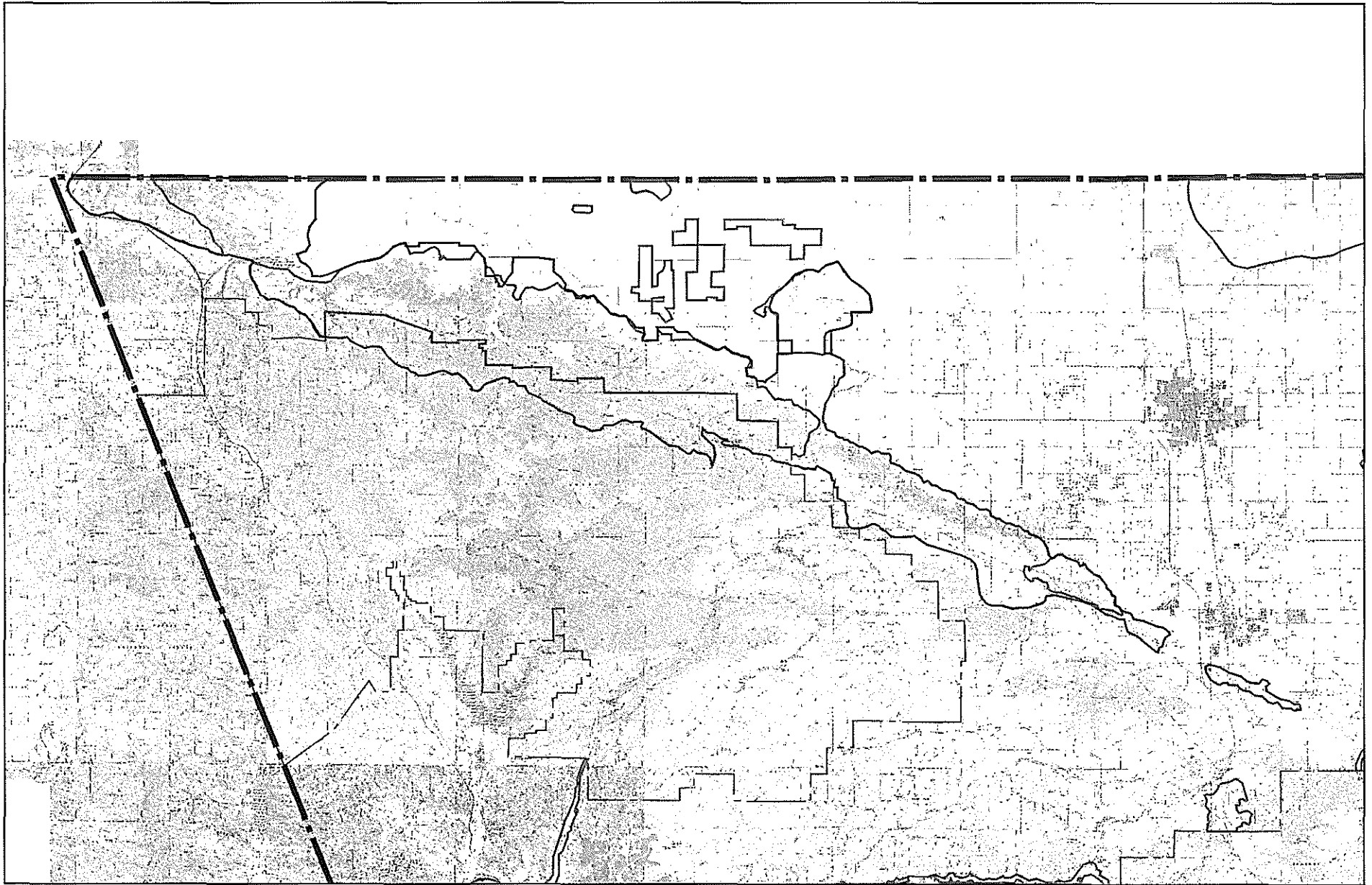


Figure 2

**San Andreas Rift Zone
Significant Ecological Area
Existing and Proposed Boundaries**

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

0 26000 Feet
FORMA Systems
09/06/00

Lake Hughes, Munz Lake, and Elizabeth Lake then widens to include a large portion of the Leona Valley. At Ritter Canyon the boundary veers northeast then follows Amargosa Creek southeast and eventually the northern edge of the California Aqueduct encompassing a portion of Anaverde Valley and terminating at a tributary just west of the Antelope Valley Land Fill.

The northern boundary of the proposed SEA begins at the intersection of the California Aqueduct and the Los Angeles County border in the western Tehachapi Foothills. The boundary follows the western edge of the West Branch California Aqueduct south and then turns east following Highway 138. The boundary continues east and southeast following the edge of agricultural fields and the California Aqueduct. The boundary eventually moves along the northeast edge of Fairmont Reservoir then turns east and crosses the desert floor to encompass Myrick Canyon, Willow Springs Canyon, and the Fairmont and Antelope Buttes. Following the California Aqueduct, the boundary then continues in a southeasterly direction until reaching Leona Siphon, at which point the boundary moves east for roughly one quarter mile eventually following the eastern edge of a tributary to Amargosa Creek. At Verde Peak, the boundary turns south, crosses Anaverde Creek, and continues south to the California Aqueduct closing off this portion of the SEA.

The proposed SEA includes an additional unconnected portion which lies further southeast. This portion encompasses Palmdale Lake then continues southeast following the first ridge line north and south of Barrel Springs Road. The southern boundary eventually turns east following the northern edge of the California Aqueduct. At the intersection with the Palmdale Ditch, the boundary turns north, circles Barrel Springs, then moves northwest along the lowest ridge line to Palmdale Lake completing this portion. The gap between the two portions of the proposed SEA includes the Antelope Valley Land Fill, disturbed lots, and Highway 14.

2. DESCRIPTION

The proposed San Andreas Rift Zone SEA covers 89,698 acres and includes a variety topographic features. The location and orientation of the proposed SEA coincides with a segment of the San Andreas Rift Zone. At its northwest end, the SEA encompasses a portion of the south-facing foothills of the Tehachapi Mountains. Moving southeast, the SEA contains the north-facing slopes of Liebre and Sawmill Mountains. The upper slopes of these mountains are densely vegetated with chaparral and scattered mixed woodlands. The lower slopes are more sparsely vegetated with scrub species, mixed scrub and grassland further onto the flatter valley floor. Most of this portion of the SEA is undisturbed open space with few scattered residential developments. The peak of Liebre mountain represents the highest point in the proposed SEA at 5,701 feet above mean sea level (MSL).

Moving further southeast, Portal Ridge is included in the SEA. This ridge represents a series of peaks on the north side of the San Andreas Rift Zone. Upper slopes are vegetated with dense chaparral, juniper woodland, and joshua tree woodland while lower slopes are vegetated with scrub species. A series of small lakes occur along the base of the south-facing slopes including Lake Hughes, Munz Lake, Elizabeth Lake, and other smaller unnamed ponds. Further southeast, the SEA surrounds Amargosa Creek and a large portion of its watershed located in the Leona Valley. On the north-facing slopes, two large washes drain on to the valley floor, namely Myrick Canyon and Willow Springs Canyon. The vegetation transitions to grasslands as the SEA stretches north across the valley floor and encircles the Antelope Buttes and Fairmont Butte of the Antelope Valley California Poppy Reserve.

Ritter Ridge comprises the smallest and most easterly portion of the range. Slopes on the north side of this ridge line are vegetated with a joshua tree/ juniper mixed woodland. South-facing slopes contain a mixture of scrub and chaparral communities. This section of the SEA also includes Amargosa Creek and a portion of its watershed, located at the base of the south-facing slopes, and a segment of Anaverde Creek and watershed located in Anaverde Valley. These creeks harbor a variety riparian communities.

The final portion of the proposed SEA occurs as a separate unit at its eastern end. It includes Palmdale Lake, Una Lake, and Barrel Springs. The upland portions of this area are vegetated with a desert scrub community with scattered joshua trees. The lower areas consists of open water ponds, cattail ponds, riparian woodlands, and other wetland communities.

The majority of land within the proposed 89,698 acre SEA lies within unincorporated Los Angeles County accounting for approximately 68,722 acres. Other jurisdictions include approximately 15,285 acres within the Angeles National Forest, 5,476 acres within the City of Palmdale, and 215 acres within the City of Lancaster.

3. EXISTING LAND USE

The proposed San Andreas Rift Zone SEA currently supports a variety of land uses. The greater majority of the area is undisturbed open space supporting native vegetation. The Angeles National Forest accounts for a large percentage of the open space within the Liebre Mountain, Sawmill Mountain, and the western half of Portal Ridge. Open space areas within the Forest boundaries consist mostly of infrequent minor disturbances such as fire breaks, camp grounds, trails, roads, and small ranch in-holdings. Open space outside the Forest boundaries is located throughout the SEA and is primarily privately owned land within unincorporated Los Angeles County, with a

small portion in the City of Palmdale at the western end of the SEA. These areas include similar disturbances that occur more frequently.

Rural residential land use located throughout the proposed SEA consists mostly of large lot ranches, cabins, or other types of low density types of housing. Within the forest, boundaries for this land use are limited to development around Munz Lakes, Lake Hughes, and the community of Sandberg. This form of development appears more frequently in the remaining portions of the SEA and includes the community of Three Points as well as many smaller areas. These areas are scattered throughout the SEA, but are more prominent in the lower reaches of larger canyons on the north-facing slopes of Liebre Mountain, Portal Ridge, and within the Leona Valley.

Agricultural and ranching activities are also present within the SEA. This type of land use can be seen in a few areas along the lower north-facing slopes of Liebre Mountain and Portal Ridge particularly within Pine Canyon and Kings Canyon. Other agricultural fields occur in low lying areas of the Leona Valley, Myrick Canyon, Willow Springs Canyon, Anaverde Valley, and the edges of Fairmont Butte.

Land uses adjacent to the proposed SEA consist predominantly of open space to the south and agriculture to the north. Other uses are similar to those within the SEA with a few exceptions. A large portion of the adjacent Elizabeth Lake community consists of medium density residential housing development and lies immediately south of the SEA boundary. Other high density residential communities mixed with commercial development occur north of Ritter Ridge in Quartz Hill, east of Ritter Ridge in the Desert View Highland community, and north of Lake Palmdale in the City of Palmdale.

4. LAND OWNERSHIP

Ownership within the proposed San Andreas Rift Zone SEA consist of both public and private land. Public lands include a portion of the SEA along Liebre and Sawmill Mountains land within the Angeles National Forest as well as a portion within the State owned Antelope Valley California Poppy Reserve. Remaining land within the SEA is privately owned. Individual land ownerships within the SEA are estimated to range from less than one acre parcels to several square mile parcels.

5. VEGETATION

Due to its unique location and the large variation in elevation and topography, vegetation within the proposed San Andreas Rift Zone SEA is extremely diverse. The SEA includes arid desert communities, foothill woodland communities, high elevation pinon and chaparral communities, sag pond wetlands, as well as desert and montane riparian communities. In addition, the transition zones between these communities produce unusual species compositions. All 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). Other communities are named based on dominant species within community boundaries and/or commonly used terminology. Descriptions and general locations of the each plant community present within the SEA are presented below. These include desert scrub, chaparral, non-native grassland, native grassland, southern willow scrub, foothill woodland, joshua tree woodland, juniper woodland, valley oak woodland, bigcone spruce-canyon oak woodland, southern cottonwood-willow riparian forest, freshwater marsh, alkali marsh, alluvial wash, and disturbed are given below.

Desert scrub is a moderately tall, fairly open shrubland with several species contributing to the canopy. Dominants often include Great Basin sage brush, antelope bush, saltbush, and/or rabbitbrush with several perennial grasses dispersed between the shrubs. Within the proposed SEA, this community often inter-grades with juniper woodlands and joshua tree woodlands. Desert scrub is also found on lower slopes within the San Andreas Rift Zone on north facing slopes that transition onto the Valley floor, and on the Buttes, and adjacent valley floor, interspersed with grasslands.

The **chaparral** community consists of broad-leafed or needle-leafed, sclerophyllous (hard-leafed), medium height to tall shrubs. These shrubs form a dense cover on steep slopes below 5,000 feet in Southern California. Dominant species found within this community include chamise, manzanita, California lilac, laurel sumac, toyon, and western mountain-mahogany. This plant community occupies most of the higher elevations within the proposed SEA and is frequently interspersed with scrub and woodlands.

Grassland communities consist of low, herbaceous vegetation that are dominated by grasses but also harbor native forbs and bulbs as well as naturalized annual forbs. Grasslands within the proposed SEA include both non-native and native grasslands. **Non-native grassland** consists of dominant invasive annual grasses that are primarily of Mediterranean origin. Dominant species found within this community include slender oats, wild oats, ripgut brome, foxtail chess, wild mustard, red-stemmed filaree, Mediterranean schismus, and golden tops. Non-native grasslands are located in small patches throughout the SEA, within more significant acreage on, and adjacent to the Buttes, and on south-facing slopes of the Tehachapi Mountains.

Native grassland consists of at least ten percent cover of native purple needlegrass and/or desert needlegrass species with the remaining coverage similar to non-native grasslands. Few small patches of native grassland can be found scattered throughout the SEA mostly in openings in coastal sage scrub and mixed with non-native grasslands in more significant acreage on and surrounding the Buttes and on south facing slopes of the Tehachapi mountains at the western end of the SEA. Some areas of native grassland, such as those surrounding the Buttes, support a large density of wildflowers and are often referred to as wildflower fields.

Wildflower field is an amorphous mix of herb dominated plants noted for conspicuous annual wildflower displays. Dominance varies from site to site and from year to year at any one particular site. Species frequently present include California poppy, tidy tips, dove lupine, valley tassels, purple owl's clover, and broad-leaved Gilia. Within the SEA, prominent wildflower fields occur on the south facing slopes of the Tehachapi Mountains and the Buttes.

Southern willow scrub is a riparian community consisting of dense, broad leafed, winter-deciduous riparian thickets occurring within and adjacent to water courses. The dominant species of this community within the SEA are arroyo willow, red willow, and black willow. This community occurs in segments along portions of many of the drainages as well as the periphery of many of the ponds and lakes in the eastern half of the proposed SEA.

Foothill woodland is a broad community designation encompassing the tree-dominated plant communities occurring transitionally between grasslands and montane chaparral or bigcone spruce-canyon oak woodland. Dominant tree species include interior live oak, blue oak, valley oak, and foothill pine. Foothill woodland occupies much of the western extent of the proposed SEA.

Joshua tree woodland is an open woodland with joshua tree usually as the only arborescent species with numerous smaller shrub species interspersed between. Shrub species include Great Basin sagebrush, rabbitbrush, creosote bush, and cheese bush. Joshua tree woodland is present on the lower slopes in the rift zone in the eastern half of the proposed SEA.

Juniper woodland is an extremely open woodland dominated by California juniper, with understory typical of desert scrub as described above. The majority of this community is found only on lower slopes in the eastern half of the proposed SEA often intermingling with Joshua tree woodland and chaparral communities.

Valley oak woodland is an open woodland community dominated by valley oak. The understory is a grassy savannah composed mostly of non-native grasses. Valley oak woodland occurs on north-facing slope of Liebre Mountain near the western extent of the proposed SEA.

Bigcone spruce-canyon oak woodland is a dense woodland with a mix of dominant tree species. Canyon oak forms a broken canopy with bigcone spruce, California black oak, and foothill pine scattered among it. Areas not underneath the canopy are usually dominated by chaparral species such as scrub oak, manzanita, and California lilac. This community occupies most of the higher elevation slopes within the proposed SEA.

Southern cottonwood-willow riparian forest type is an open broad-leafed winter-deciduous riparian forest dominated by Fremont cottonwood, black cottonwood, black willow, and red willow. The southern cottonwood-willow riparian forest within the proposed SEA occupies short segments of Amargosa Creek as well as the periphery of several lakes and ponds.

Freshwater marsh develops in areas of still or slow-moving permanent freshwater. This community is dominated by the perennial, emergent monocot cattails which reach a height of 2-3 meters and often form a closed canopy. Bulrushes are dominant below the cattail canopy. Freshwater marsh occurs in small patches along Amargosa Creek and other wetland areas scattered along the San Andreas Rift Zone.

Alkali marsh is similar to the freshwater marsh described above but with more salt-tolerant hydrophytes present. Species associated with this community include cattails, *Carex* spp. *Juncus cooperi*, saltgrass, *Nitrophila occidentalis*, *Scirpus nevadensis*, and common reed. Alkali marsh occurs in small segments along Amargosa Creek and other wetland areas scattered along the San Andreas Rift Zone.

Also known as floodplain sage scrub, **alluvial wash** comprises phreatophytic (a plant type that obtains water from the watertable via a long taproot) and upland shrubs that occur in infrequently flooded and scoured habitats such as flood plains, or seasonal streams. The dominant shrub is scalebroom with Great Basin sage brush, rabbitbrush, sweetbush, and chaparral yucca. Alluvial wash is distributed in larger drainages such as upper Amargosa Creek, Myrick Canyon Wash, Willow Springs Wash and others located throughout 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 mustards, telegraph weed, Russian thistle, dock, yellow star thistle, Australian saltbush, and cocklebur. Several disturbed areas occur scattered throughout the proposed SEA and take the form of residential developments, paved roads, fire breaks, dirt access roads, trails, and other similarly disturbed areas.

6. WILDLIFE

Wildlife within the proposed SEA is diverse and abundant due to the large acreage of natural open space and the diversity of habitat types. While a few wildlife species are entirely dependent on a single vegetative community, the entire mosaic of all the vegetation communities within the study area and adjoining areas constitutes a functional ecosystem; this ecosystem contains a variety of wildlife species, both within the SEA and as 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. 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.

Amphibian populations are generally scarce in desert habitats but may be particularly abundant where desert riparian areas occur. The SEA is also likely to support a variety of amphibians within wetland areas along the San Andreas Rift Zone and the moister woodland areas and canyon bottoms of the mountains. Many essential reptilian habitat characteristics are present within the SEA. These include open habitats that allow free movement and high visibility and small mammal burrows for cover and escape from predators and extreme weather. These characteristics as well as a diversity of habitat types are likely to support a wide variety of reptilian species.

The scrubland, woodland, riparian, and grassland habitats in the proposed SEA provide foraging and cover habitat for year-round residents, seasonal residents, and migrating song birds. In addition, the SEA encompasses many year-round water sources, abundant raptor foraging, perching, and nesting habitat. The combination of these resources as well as the confluence of many community types support an unusually high diversity of bird species. Not unlike other taxonomic groups, small and large mammal populations within the proposed SEA are diverse and reflective of the unique confluence of several habitat types.

All 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 Los Angeles County 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 San Andreas Rift Zone SEA includes several important linkages for wildlife movement. The foothills in the western most tip of the proposed SEA are part of an important linkage between the San Gabriel Mountains and the Tehachapi Mountains. This linkage to the Tehachapi mountains is important because it represents a link to the western most extent of the Sierra Nevada Mountains. As such, the Tehachapi Mountains represent the only mountain linkage from the Transverse Ranges or the Coast Ranges to the Sierra Nevada Range. This feature may be an important topographic reference for migrating birds, as well as essential high elevation foraging grounds along route. The Tehachapi Mountains also provide a valuable link for gene flow between divergent populations of many species. The proposed SEA also includes several large drainages as they extend onto the Antelope Valley floor towards resources such as the Fairmont and Antelope Buttes. These washes provide an important linkage for animals traveling between the Valley floor or the Buttes and the Liebre Mountains. In addition, Amargosa Creek facilitates east-west wildlife movement through the Liebre Mountains, Portal Ridge, and Ritter Ridge. The frequency of valuable riparian communities along this travel route located within an otherwise arid climate, further indicates its importance in the region.

8. SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources are habitats or individual species that have special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, rare, or otherwise 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 species present, or potentially present within the proposed SEA, that have been afforded special recognition.

8.1 SENSITIVE PLANT COMMUNITIES/HABITATS

The proposed San Andreas Rift Zone SEA supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Database (CNDDDB), 2000], because of their scarcity and support of a number of state and federally listed endangered, threatened, and rare vascular plants, as well as several sensitive bird and reptile species. These communities include: **joshua tree woodland**, **valley oak woodland**, **native grassland**, **wildflower field**, **southern cottonwood-willow riparian forest**, **freshwater marsh**, **alkali marsh**, **alluvial wash**, and **southern willow scrub** which occur throughout the study area. These communities or closely related designations are considered highest-inventory priority communities by the CDFG, indicating that they are experiencing a decline throughout their range. 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 13 lists those species which have been recorded within the proposed SEA as well as those reasonable 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, joshua tree, or sycamore trees, may be protected under local ordinances but are not included in this table.

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE SEA**

<u>VASCULAR PLANTS</u>		Agency	CNPS		
<u>Scientific Name</u>	<u>Common Name</u>	<u>Listing Status</u>	<u>Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
FERNS AND FERN ALLIES					
Selaginellaceae	Spike-Moss Family				
<i>Selaginella cinerascens</i>	ashy spike-moss		4	Dry slopes on mesas in coastal sage scrub and chaparral.	Potential where habitat occurs
ANGIOSPERMS (Dicotyledons)					
Berberidaceae	Barberry Family				
<i>Berberis nevinii</i>	Nevin's barberry	FE, SE	1B	Sage scrub, chaparral, cismontane woodland, riparian scrub; sandy or gravelly substrate.	100+ observed at San Francisquito Cyn. (1987); one mature plant seen 0.5 mi. N of San Francisquito powerhouse
Cactaceae	Cactus Family				
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	FSC	1B	Chaparral, joshua tree woodland, Mojave Desert scrub, pinyon-juniper woodland, riparian woodland, sandy soil or coarse granitic loam.	23 plants observed SE of Pearblossom Hwy., about 0.5 mi. S of the CA. Aqueduct at Barrel Springs Rd. (1989)

Legend

<u>Agency Lists</u>			<u>California Native Plant Society (CNPS) Lists</u>		
FE	Federally Listed as Endangered	SE	State Listed as Endangered	1A	Presumed extinct in California.
FT	Federally Listed as Threatened	ST	State Listed as Threatened	1B	Rare, threatened, or endangered throughout their range.
FSC	Federal Special Concern Species	SCE	State Candidate for Endangered	2	Rare, threatened, or endangered in California, but more common in other states.
FPE	Federally Proposed as Endangered	SCT	State Candidate for Threatened	3	Plant species for which additional information is needed before rarity can be determined.
FPT	Federally Proposed as Threatened	SP	State Protected	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.
FPD	Federally Proposed for Delisting	SFP	State Fully Protected		
		SR	State Rare		
		CSC	California Special Concern Species		

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE 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>
Convolvulaceae		Morning-Glory Family			
<i>Calystegia peirsonii</i>	Pierson's morning glory	FSC	4	Sage scrub, chenopod (saltbush) scrub, chaparral, cismontane woodland, lower montane coniferous forest, rocky slopes.	12 plants seen along Bouquet Cyn. Rd. (1979, 1982); record along Texas Cyn. Rd. (1982)
Fabaceae		Legume Family			
<i>Astragalus preussi</i> var. <i>laxiflorus</i>	Lancaster milk-vetch		1B	Chenopod scrub, alkaline clay flats or gravelly or sandy washes.	Historic record Lancaster, Antelope Valley (1902)
Papaveraceae		Poppy Family			
<i>Canbya candida</i>	pigmy poppy		1B	Joshua tree woodland, Mojave Desert scrub, sandy places.	Collected in Lancaster (no date)
Polygonaceae		Buckwheat Family			
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	FSC		Coastal scrub, sandy soils.	Elizabeth Lake (1929); collected near Castaic Lake (1929)

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 SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

<u>VASCULAR PLANTS</u>		Agency Listing Status	CNPS Listing Status	Preferred Habitat	Location
Scientific Name	Common Name				
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	FSC	3	Openings/clearings in coastal or desert sage scrub, chaparral or interface; dry slopes or flat ground; sandy soils.	Historic record in general vicinity of Lancaster (1896)
Rubiaceae	Madder Family				
<i>Galium grande</i>	San Gabriel bedstraw	FSC	1B	Cismontane woodland, chaparral, broad-leaved upland forest, lower montane coniferous forest and open chaparral.	Oak forest. rocky slopes Record S of Elizabeth Lake guard station, NE of Castaic (1979)
Saxifragaceae	Saxifrage Family				
<i>Boykinia rotundifolia</i>	round-leaved boykinia		4	Chaparral, riparian woodland, streambanks.	Potential where habitat occurs
Scrophulariaceae	Figwort Family				
<i>Fremontodendron mexicanum</i>	Mexican flannelbush	FE, SR	1B	Closed-cone coniferous forest, chaparral, cismontane woodland, creeks or dry cysn., gabbro soils.	N of Quail Lake, near LA-Kern County line (1935)

Legend

Agency Lists		California Native Plant Society (CNPS) 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
		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 SAN ANDREAS RIFT ZONE 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>
ANGIOSPERMS (Monocotyledons)					
Liliaceae	Lily Family				
<i>Calochortus clavatus</i> <i>var. gracilis</i>	slender mariposa lily	FSC	1B	Chaparral, especially in foothill cysn.; generally found in shade.	Collected in San Francisquito Cyn., near power plant #1 (1922)
<i>Calochortus plummerae</i>	Plummer's mariposa lily	FSC	1B	Sage scrub, valley and foothill grassland, yellow pine forest; dry, rocky or sandy sites, granitic or alluvial soil; to 4,800 feet.	Potential where habitat occurs
<i>Calochortus striatus</i>	alkali mariposa lily	FSC	1B	Chaparral, chenopod scrub, Mohavean desert scrub, meadows, alkaline meadows, and ephemeral washes.	Frequent for ~8 mi. along Sierra Hwy. N of Lancaster (1995); ~200 plants observed just S of Mira Loma Detention Center (1988)
<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

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 SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

<u>INVERTEBRATES</u>				
<u>Scientific Name</u>	<u>Common Name</u>	<u>Agency Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
INSECTA – grasshoppers, katydids, crickets, beetles flies, butterflies, moths				
Order Lepidoptera		Butterflies and Moths		
<i>Plebulinia emigdionis</i>	San Emigdio blue butterfly	FSC	Washes, alluvial scrub, on <i>Atriplex canescens</i> .	Potential where habitat occurs
Order Coleoptera		Beetles		
<i>Paleoxenus dohrni</i>	Dohrn’s elegant eucnemid beetle	FSC	Transition zone forests, higher elevations, on incense cedar.	Potential where habitat occurs

<u>VERTEBRATES</u>				
<u>Scientific Name</u>	<u>Common Name</u>	<u>Agency Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
FISH				
Cyprinidae		Minnow Family		
<i>Gila oreutti</i>	arroyo chub	CSC	Slow water sections of streams with mud or sand substrates.	Potential where habitat occurs
AMPHIBIANS				
Plethodontidae		Lungless Salamander Family		
<i>Batrachoseps stebbinsi</i>	Tehachapi slender salamander	FSC, ST, SP	N-facing slopes in valley-foothill hardwood conifer and valley-foothill riparian.	Potential where habitat occurs on Tehachapi slopes
<i>Ensatina eschscholtzi croceator</i>	yellow-blotched salamander	CSC	Coniferous habitats, montane hardwood habitats, and mixed chaparral.	Kings Cyn. (No Date)

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

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

VERTEBRATES		Agency Listing Status	Preferred Habitat	Location
Scientific Name	Common Name			
Pelobatidae		Spadefoot Toad Family		
<i>Scaphiopus hammondi</i>	western spadefoot	FSC, CSC, SP	Relatively open areas in lowland grasslands, chaparral, and pine-oak woodlands, sandy or gravelly soil in alluvial fans, washes, and floodplains.	Potential where habitat occurs
Bufo		True Toads		
<i>Bufo microscaphus californicus</i>	arroyo southwestern toad	FE, CSC, SP	Washes/streams, sandy banks, willows, cottonwoods or sycamores; riparian habitats of semiarid areas, small cobbly streambeds.	Potential where habitat occurs
Ranidae		True Frog Family		
<i>Rana aurora draytonii</i>	California red-legged frog	FT, CSC, SP	Humid forests, woodlands, grasslands and streamsides, especially where cattails and other plants provide good cover.	4 adults recorded along Ritter Ridge, 9 mi. W of Palmdale (1995)
REPTILES				
Emydidae		Box and Water Turtle Family		
<i>Clemmys marmorata pallida</i>	southwestern pond turtle	FSC, CSC, SFP	Ponds, marshes, rivers, streams, irrigation ditches.	Recorded 1989, 1990, Amargosa Creek, specific location info suppressed by CNDDB

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

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

VERTEBRATES				
<u>Scientific Name</u>	<u>Common Name</u>	<u>Agency Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
Iguanidae Iguanid Lizard Family				
<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 ft., open country, especially sandy areas, washes, flood plains, and windblown deposits.	Record 2 mi. E of Gorman along Hwy. 138 (1953)
<i>Phrynosoma coronatum frontale</i>	California horned lizard	CSC, SP	Scrubland, grassland, coniferous forest, broad-leaf woodlands.	One individual observed on Quartz Hill (1991)
Anniellidae Legless Lizard Family				
<i>Anniella pulchra pulchra</i>	silvery legless lizard	CSC	Coastal dune, valley-foothill, chaparral, and coastal scrub habitats.	Observed 6.4 km. SSW of Lancaster post office (1988)
Colubridae Colubrid Snake Family				
<i>Salvadora hexalepis virgulata</i>	coast patch-nosed snake	FSC, CSC	Coastal chaparral, desert scrub, washes, sandy flats, and rocky areas, creosote bush desert flats, sagebrush semi-deserts; sea level to 7,000 feet.	Records in vicinity of Lake Elizabeth and Lake Hughes cyn.
<i>Thamnophis hammondi</i>	two-striped garter snake	FSC, CSC, SP	Riparian and freshwater marshes with perennial water.	Single adult observed near Amargosa Creek, S of Ritter Ridge, W of Palmdale (1995)

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

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

VERTEBRATES		Agency Listing Status	Preferred Habitat	Location
Scientific Name	Common Name			
BIRDS				
Ardeidae	Heron Family			
<i>Ixobrychus exilis hesperis</i>	western least bittern	CSC	Emergent wetlands of cattails and tules.	Potential where habitat occurs
Cathartidae	New World Vulture Family			
<i>Gymnogyps californianus</i>	California condor	FE, SE, SFP	Montane and foothill regions; vast expanses of open savannah, grasslands, and chaparral, with cliffs, large trees, and snags.	Record of nesting, roosting on Red Rock Mtn. (1976), just S of the SEA
Accipitridae	Hawks, Kites, Harriers and Eagle Family			
<i>Accipiter cooperi</i>	Cooper's hawk	CSC	Open woodlands especially riparian woodland.	Historic record in Palmdale (1921)
<i>Accipiter gentilis</i>	northern goshawk	CSC	Middle and higher elevations and mature, dense coniferous forests.	Potential where habitat occurs
<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.	Records in the Lake Hughes area and along CA Aqueduct
<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.	Recorded from Munz Lakes

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

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

VERTEBRATES		Agency Listing Status	Preferred Habitat	Location
Scientific Name	Common Name			
<i>Buteo regalis</i>	ferruginous hawk	CSC	Rivers, lakes, and coasts; open tracts of sparse shrubs and grasslands, and agricultural areas during winter.	Observed along CA Aqueduct
<i>Circus cyaneus</i>	northern harrier	CSC	Coastal salt marshes, freshwater marshes, grasslands, and agricultural fields; occasionally forages over open desert and brushlands.	Observed along CA Aqueduct
<i>Elanus leucurus</i>	white-tailed kite	SFP	Grasslands with scattered trees, near marshes, along highways.	Records in the vicinity of Lake Hughes
<i>Haliaeetus leucocephalus</i>	bald eagle	FT, FPD, CSC, SE	Lakes, reservoirs, rivers, offshore islands, and some rangelands and coastal wetlands in Southern California.	Potential where habitat occurs
<i>Pandion haliaetus</i>	osprey	CSC	Rivers, lakes, and coasts, mixed conifer.	Observed along CA Aqueduct
Falconidae	Falcon Family			
<i>Falco columbarius</i>	merlin	CSC	Coastlines, wetlands, woodlands, agricultural fields, and grasslands.	Observed on Tejon Ranch
<i>Falco mexicanus</i>	prairie falcon	CSC	Grasslands, savannahs, rangeland, agricultural fields, and desert scrub; often uses sheltered cliff ledges for cover.	Record 1980, specific location info suppressed by CNDDB
Charadriidae	Plover Family			
<i>Charadrius montanus</i>	mountain plover	FPT, CSC	Short grasslands to plowed fields, foothill valleys and sagebrush areas.	24 individuals observed in Little Buttes quad (1999)

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

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

<u>VERTEBRATES</u>		Agency Listing		
<u>Scientific Name</u>	<u>Common Name</u>	<u>Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
Cuculidae	Cuckoos and Roadrunner Family			
<i>Coccyzus americanus</i>	western yellow-billed cuckoo	SE	Riverine woodlands, thickets, and farms.	Potential where habitat occurs
<i>occidentalis</i>				
Strigidae	True Owl Family			
<i>Asio otus</i>	long-eared owl	CSC	Riparian and live oak woodlands. Dense stands of trees.	Potential where habitat occurs
<i>Athene cunicularia</i>	burrowing owl	FSC, CSC	Dry grasslands, desert habitats, and open pinyon-juniper and ponderosa pine woodlands below 5,300 feet.	Tejon Ranch; Antelope Valley California Poppy Reserve
<i>Strix occidentalis occidentalis</i>	California spotted owl	CSC	Oak and oak-conifer habitats.	Vicinity of Tejon Fort; Liebre Mtn.
Apodidae	Swift Family			
<i>Chaetura vauxi</i>	Vaux's swift	CSC	Redwood and douglas fir habitats.	Potential where habitat occurs
Tyrannidae	Tyrant Flycatcher Family			
<i>Empidonax traillii</i>	willow flycatcher	SE	Wet meadow and montane riparian habitats, river valleys and large mtn. meadows.	Potential where habitat occurs
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	FE	<u>Low elevational sites:</u> Riparian woodlands that contain water and low growing willow thickets. <u>High elevational sites:</u> Large, flat, wet meadows that contain patches of willow trees.	S end of Tejon Ranch; Lake Hughes

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

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

VERTEBRATES				
<u>Scientific Name</u>	<u>Common Name</u>	<u>Agency Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
Mimidae Thrashers				
<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.	Historic record in Palmdale (1920); 5 mi. SW of Palmdale (1926)
Laniidae Shrike Family				
<i>Lanius l. ludovicianus</i>	loggerhead shrike	FSC, CSC	Open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	Ritter Ridge; Barrel Springs
Vireonidae Vireo Family				
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE, SE	Perennial and intermittent streams with low, dense riparian scrub and riparian woodland habitats below 2,000 feet elevation.	Potential where habitat occurs
<i>Vireo vicinior</i>	gray vireo	CSC	Pinyon-juniper, juniper, chamise-redshanks, chaparral.	Potential where habitat occurs
Emberizidae Wood Warblers, Tanagers, Buntings, & Blackbird Family				
<i>Agelaius tricolor</i>	tricolored blackbird	FSC, CSC	Freshwater marshes and riparian scrub.	Potential where habitat occurs; nests at Castaic Lake, Ventura Co.
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	FSC, CSC	Generally, steep, rocky areas within coastal sage scrub and chaparral, often with scattered bunches of grass.	Common throughout 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

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

VERTEBRATES

<u>Scientific Name</u>	<u>Common Name</u>	<u>Agency Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
<i>Dendroica petechia brewsteri</i>	yellow warbler	CSC	Riparian woodlands, montane chaparral, and mixed conifer habitats.	Recorded in Santa Clara River near Piru; several nesting pairs observed in Nat'l Forest (1990)
<i>Icteria virens</i>	yellow-breasted chat	CSC	Riparian woodlands with a thick understory.	Munz Lakes
<i>Vermivora virginiae</i>	Virginia's warbler	CSC	Arid, shrubby, mixed conifer, pinyon-juniper, montane chaparral.	Potential where habitat occurs

MAMMALS

Phyllostomidae Leaf-Nosed Bat Family

<i>Macrotus californicus</i>	California leaf-nosed bat	FSC, CSC	Desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis. Roosts in tunnels, caves and possible buildings and bridges.	Potential where habitat occurs
------------------------------	---------------------------	----------	---	--------------------------------

Vespertilionidae Evening Bat Family

<i>Antrozous pallidus</i>	pallid bat	CSC	Nests in dry, rocky habitats/caves, crevices in rocks, arid habitats including deserts, chaparral, and scrublands.	Potential where habitat occurs
<i>Corynorhinus (plecotus) t. townsendii</i>	Townsend's big-eared bat	FSC, CSC	Deserts, grasslands, conifer woodlands. Roosts in limestone caves, mine tunnels, and buildings.	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

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

VERTEBRATES		Agency Listing		
Scientific Name	Common Name	Status	Preferred Habitat	Location
<i>Corynorhinus (plecotus) townsendii pallescens</i>	pale big-eared bat	CSC	Needs caves, tunnels, or other structures for roosting, vegetation and mesic edges for feeding, maternity roosts are in warm places.	Potential where habitat occurs
<i>Euderma maculatum</i>	spotted bat	FSC, CSC	Deserts, scrublands, chaparral, and coniferous woodlands.	Potential where habitat occurs
<i>Myotis yumanensis</i>	Yuma myotis	FSC, CSC	Prefers open forests and woodlands with water but uses a variety of habitats.	Potential where habitat occurs
Molossidae	Free-Tailed Bat Family			
<i>Eumops perotis californicus</i>	western mastiff bat	FSC, CSC	Primarily arid lowlands, especially deserts. Open, semiarid to arid habitats including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban.	Potential where habitat occurs
Sciuridae	Squirrel Family			
<i>Spermophilus mohavensis</i>	Mohave ground squirrel	FSC, ST	Low desert with scattered brush, sandy, or gravelly soil. Burrows for cover and nesting.	6 females and 1 male trapped in Palmdale and vicinity (1932); 1 individual detected in vicinity of Lancaster (1984)

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

**SENSITIVE SPECIES
OCCURRING OR POTENTIALLY OCCURRING
WITHIN THE PROPOSED SAN ANDREAS RIFT ZONE SEA
(CONTINUED)**

VERTEBRATES				
<u>Scientific Name</u>	<u>Common Name</u>	<u>Agency Listing Status</u>	<u>Preferred Habitat</u>	<u>Location</u>
Heteromyidae Pocket Mice and Kangaroo Rat Family				
<i>Perognathus alticola alticola</i>	white-eared pocket mouse	CSC	Ponderosa and Jeffrey pine habitats, mixed chaparral and sagebrush habitats, fallow fields dominated by Russian thistle, requires loose soil for burrows.	Potential where habitat occurs
<i>Perognathus alticola inexpectatus</i>	Tehachapi pocket mouse	FSC, CSC	Arid annual grassland, desert shrub, fallow grain field, Russian thistle, burrows for cover and nesting, aestivates and hibernates, forages on open ground and under shrubs.	Recorded 2.5 mi. SE of Gorman (1952)
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE, CSC	Coastal sage scrub and desert scrub. Sandy soils covered with desert pavement, sagebrush, open areas.	Potential where habitat occurs
Muridae Mice, Rats, and Vole Family				
<i>Onychomys torridus ramona</i>	southern grasshopper mouse	FSC, CSC	Grasslands, desert areas, especially scrub with friable soils.	Common in Antelope Valley

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

9. REGIONAL BIOLOGICAL VALUE

The proposed San Andreas Rift Zone SEA meets many SEA designation criteria incorporating several 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.

Although there are several listed species which occur within the SEA, this criterion is not met due to the lack of known core population areas.

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 proposed SEA encompasses a series of marshes and sinks along the San Andreas rift zone which are both unique and restricted in distribution. The Fairmont and Antelope Buttes represent a unique habitat due to their location as the most westerly buttes of the Mojave Desert and their close proximity to several geographic regions. The confluence of three major geographical areas, the Mojave Desert, the San Gabriel Mountains, and the Tehachapi Mountains produces a unique and regionally rare flora representing a transition between desert, foothill, and montane environments.

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 confluence of three major geographical areas, the Mojave Desert, the San Gabriel Mountains, and the Tehachapi Mountains has produced the most unique and diverse flora found in the County representing a transition between desert, foothill, and montane environments. The SEA also includes the southern limit of the foothill woodland community, blue oak, gray or foothill pine, and California buckeye, rare relic stands of Great Basin sage brush scrub, and rare wildflower fields.

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 Fairmont and Antelope Buttes provide vital habitat to many wide ranging species which forage in outlying habitat, but use the buttes for nesting, roosting, denning, and refuge. The Buttes also serve as concentrated wintering grounds for birds of prey, rare in Los Angeles County, which forage on grassland and agricultural fields in the vicinity. Lakes and other wetland areas along the San Andreas Rift Zone provide breeding habitat for amphibians and feeding habitat for migrating birds scarcely found on slopes adjacent to the Mojave Desert.

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.

The transition of several habitat types including: creosote bush scrub, joshua tree/California juniper mixed woodland, and desert chaparral makes it a valuable for educational and scientific reasons. The close proximity of the Fairmont and Antelope Buttes to the San Gabriel Mountains renders them unique in their species composition and ecological relationships and, therefore, of interest to scientists. The concentrated diversity of vegetation types, particularly in western half of the proposed SEA creates an outstanding opportunity for educational use. This area also harbors the southern limit of the foothill woodland community, blue oak, gray or foothill pine, and California buckeye as well as rare relic stands of Great Basin sage brush scrub.

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

The slopes of Ritter Ridge support one of the most pristine mixed stands of joshua tree and California juniper. The location of the proposed SEA at the confluence of three major geographical areas, the Mojave Desert, the San Gabriel Mountains, and the Tehachapi Mountains has produced a community rich area with desert, foothill, and montane environments. The SEA encompasses large, mostly undisturbed examples of each of these communities.

In conclusion, the area described in this report is proposed to be an SEA because it contains: 1) biotic communities, vegetative associations, and habitat of plant and animal species that are restricted in distribution in Los Angeles County and regionally; 2) concentrated breeding, feeding, resting, or migrating grounds which are limited in availability in Los Angeles County; 3) 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; 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 San Andreas Rift Zone 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 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: joshua tree woodland, valley oak woodland, native grassland, wildflower field, southern cottonwood-willow riparian forest, fresh-water marsh, alkali marsh, alluvial wash, and southern willow scrub.
- 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.
- Retain broad transition zones between the different habitat types of the Mojave Desert, the San Gabriel Mountains, and the Tehachapi Mountains in such a way as to allow for free movement of a unique mix of species (plants and less-mobile wildlife).
- Retain connectivity and linkage values between large open space units such as between the San Gabriel Mountains and the Tehachapi Mountains and between the Fairmont and Antelope Buttes and Portal Ridge in keeping with the proposed General Management Practices.
- Retain existing communities on and surrounding Fairmont and Antelope Buttes to avoid the discouragement of raptor species and loss of wildflower diversity. Although raptors are able to forage in surrounding agricultural fields, flatlands adjacent to the Buttes should avoid further conversion of natural habitat to avoid loss of diversity in small mammal prey.
- Retain connectivity and linkage values between the Fairmont and Antelope Buttes and Portal Ridge.

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

Boyd, S. 1999. *Vascular Flora of the Liebre Mountains, Wester Transverse Ranges, California*.

EIP Associates. 1990. *Biota Report, SEATAC Project 88537, the Hughes Ranch, Quartz Hill, Los Angeles County, California*.

- England & Nelson Environmental Consultants. 1976. *Land Capability/Suitability Study, Los Angeles County General Plan Revision Program, Significant Ecological Areas Report*, Riverside, California.
- Environmental Audit, Inc. November 1989. *Biota Report for Barrel Springs Ranch 63 Acre Tract*, Palmdale, California.
- ESA (Environmental Science Associates). 1999. *Biological Constraints of Los Angeles Prayer Mountain, SEATAC Analysis Report*, Los Angeles County, California.
- Goode, S. 1989. *SEATAC Biota Report on #88502, 47811 Three Points Road*, Los Angeles County, California.
- Goode, S. 1989. *Revised SEATAC Biota Report on #88502, 47811 Three Points Road*, Los Angeles County, California.
- Goode, S. 1989. *Revised Impacts and Mitigations, SEATAC Biota Report on #88502, 47811 Three Points Road*, Los Angeles County, California.
- Independent Environmental Consultants. 1994. *Biological Constraints Analysis, the Amargosa Creek Improvement Project, Identification and Analysis of Impacts to SEA No. 56*, Los Angeles County, California.
- Sierra Delta Corporation. 1988. *Biota Report for Zond Systems, Inc., Los Angeles Wind Electric Generating Station, Gorman, California, Conditional Use Permit 86453*, Las Vegas, Nevada.

PCR SANTA MONICA
233 Wilshire Boulevard
Suite 130
Santa Monica, California 90401
TEL 310.451.4488
FAX 310.451.5279
EMAIL info@pcrnet.com

PCR KOTIN
12100 Wilshire Boulevard
Suite 1050
Los Angeles, California 90025
TEL 310.820.0900
FAX 310.820.1703
EMAIL info@pcrnet.com

PCR IRVINE
One Venture
Suite 150
Irvine, California 92618
TEL 949.753.7001
FAX 949.753.7002
EMAIL info@pcrnet.com

