Appendix I

SIGNIFICANT ECOLOGICAL AREA DESIGNATIONS

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Appendix I

I. SIGNIFICANT ECOLOGICAL AREA STUDIES

The County began to indentify biological resources, such as the Santa Clara River, and valley oak savannahs, in the 1970s. In 1980, 61 of these biologically significant areas were adopted as part of the Conservation and Open Space Element of the Countywide General Plan, five of which were subsequently adopted in the Santa Clarita Valley Area Plan. A number of the SEAs were islands of significant habitats within larger undeveloped areas in 1980, which was thought would provide sensitive plants and animals ample open space and ensure their continued existence. Since 1980 however, many of these areas were impacted by rapid development activity within and around the SEAs, dramatically reducing the opportunity for species movement and genetic dissemination.

In January 2001, the County released the Los Angeles County SEA Update Study 2000. Conservation planning was the fundamental goal of this update, which was designed to accomplish the following: evaluate existing SEAs for changes in biotic conditions and consider additional areas for SEA status; delineate SEA boundaries based upon biotic evaluation; and propose guidelines for managing and conserving biological resources within SEAs.

The SEA Update Study 2000 was based on scientifically grounded concepts regarding the size and type of linkage systems necessary to sustain the biologically diverse plant and animal species that are found within the County. The methods used to identify and delineate SEAs was multifaceted, including: a broad outreach program focusing on government resource agencies, academic institutions, conservation groups, and the general public; a comprehensive database and literature review; field study; and the interpretation of aerial photography. The SEA Map depicts each area that has been designated as ecologically significant because it meets one or more of the following criteria:

See chart on next page.

TABLE A1-1: Los Angeles County SEA Update Study Criteria

Criterion	Intent / Rationale
A) The Habitat of Core Populations of Endangered or Threatened Plant or Animal Species	These areas are important in maintaining viable plant and/or animal populations for those species recognized by state and or federal resource agencies as being extremely low in numbers or having a very limited amount of suitable habitat available. The terms "endangered" and "threatened" have precise meanings defined in both state and federal law (see below). The identification of "core population"[1] will be determined by the United States Fish & Wildlife Service (USFWS) and the California Department of Fish & Game (CDFG). This criterion is not meant to constitute a recovery program for listed species but rather one element of a more comprehensive conservation effort for the long term sustainment of listed species within the county. At the local level, recovery programs of both the CDFG and the USFWS have measures in place which can impose severe penalties for the "take " of listed species or their habitat. Federally Endangered: "any species which is in danger of extinction throughout all or a significant portion of its range ..." Federally Threatened: "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." State Endangered: "... a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." State Threatened: "... a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter [California Code of Regulations, Title 14, Sec 670.5]. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species."
B) On a Regional Basis, Biotic Communities, Vegetative Associations, and Habitat of Plant and Animal Species that are either unique, or are restricted in distribution	The purpose of this criterion is to identify biotic resources that are uncommon on a regional basis. The geographical region considered could be as small as the southern California coastal plains, the Transverse mountain ranges, the Mojave Desert, the southern California coastline, etc.; or they could be as large as southern California, the Pacific coast, all of California, the western United States, or even larger. The point being that the community, association, or habitat is either unique or restricted in distribution in an area larger than the political boundaries of Los Angeles County (i.e., coastal sage scrub, native grasslands, or vernal pools). Resources that are limited in distribution in the region being considered, but common elsewhere, are also included under this category.
C) Within Los Angeles County, Biotic Communities, Vegetative Associations, and Habitat of Plant and Animal Species that are either unique, or are restricted in distribution	The purpose of this criterion is to identify biotic resources that are uncommon within the political boundaries of Los Angeles County, regardless of their availability elsewhere. The County has a high diversity of biological components. It and San Diego County are the only counties in the United States that possess coastal, montane, and desert subregions within their boundaries. It is a rich heritage that few local governments have an opportunity to preserve. Many biotic communities that were once common in Los Angeles County have been severely reduced due to urban and agricultural development. This is especially true south of the San Gabriel Mountains, and among the agricultural fields of the North County. Other biotic features have never been common.

[1] The term "core population" as used here is a general biological term referring to a known and/or a viable population. Other locations of endangered or threatened plant or animal species may also occur in Los Angeles County which are not within a SEA. It should also be noted that the concept of core populations is consistent with current thinking of the USFWS and the CDFG.

Criterion	Intent / Rationale
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	Species or groups of species, at various points in their life cycles, tend to congregate in certain areas. These areas possess resources that are essential to the maintenance of specific wildlife species. This criterion is intended to identify those areas that are limited in distribution either regionally or in Los Angeles County, and not the primary habitat of common species or groups of species.
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	Often times scientists learn the most about a biological phenomenon by studying it at an extreme in its distribution. This frequently reveals the biological and ecological parameters under which it can survive. In addition, isolated populations and communities often are relicts of what was present in an area at some previous time, and may show genetic traits not found elsewhere in the species. These biological and ecological parameters may be useful in determining taxonomic relationships.
F) Areas that would provide for the preservation of relatively undisturbed examples of the original natural biotic communities In Los Angeles County	The intent of this criterion was to identify examples of the primary biotic resources in Los Angeles County. At least one example (e.g., native grassland, valley oak savannah) of each vegetation type will be selected from the various geographical regions in the County in order to preserve basic bio-geographic diversity.

[1] The term "core population" as used here is a general biological term referring to a known and/or a viable population. Other locations of endangered or threatened plant or animal species may also occur in Los Angeles County which are not within a SEA. It should also be noted that the concept of core populations is consistent with current thinking of the USFWS and the CDFG.

II. CRUZAN MESA VERNAL POOLS

General

The Cruzan Mesa Vernal Pools Significant Ecological Area (SEA) lies in the southeastern end of the Liebre Mountains, north of the Santa Clara River, and southeast of Bouquet Canyon. The SEA boundaries encompass the watershed and drainages of the Cruzan Mesa and Plum Canyon vernal pools, considered as a single ecosystem within the SEA. The SEA is located within an unincorporated portion of Los Angeles County and lies entirely within the United States Geological Survey (USGS) California Mint Canyon Quadrangle.

Description

The Cruzan Mesa Vernal Pools SEA includes mesas, canyons and interior slopes, with Plum Canyon creek running east-west through the southern portion of the overall SEA. The extent of the SEA encompasses the watershed supporting both of these regionally unique vernal pools, including the immediate watershed surrounding both systems and the corridor in between. Plum Canyon forms the major drainage running east-west through the southern portion of the SEA, draining west toward Bouquet Canyon. Uplands within the SEA are comprised of slopes and canyons supporting coastal sage scrub or scrub-chaparral vegetation. The Cruzan Mesa vernal pool complex lies within an elevated, topographically enclosed basin atop an eroded foothill between Mint and Bouquet canyons. The Plum Canyon vernal pool, situated in a landslide depression on a hillside terrace, is smaller than the Cruzan Mesa pools, but possesses the same essential vernal pool characteristics as the larger system, and the two areas together form an ecologically functional unit.

The seasonally wet vernal pools and surrounding open coastal sage scrub and chaparral slopes support a wide variety of migrant and resident birds and other native sage scrub vertebrate species. The steep cliffs which surround Cruzan Mesa, especially along the southeast and north margins, provide protected sites for perching, roosting and nesting by a variety of birds of prey.

The SEA supports several regional biological values. These values include: sensitive plant species unique to seasonal pools on heavy clay soils, several of which are at the northernmost point in their overall ranges; seasonal surface water, providing breeding sites for sensitive amphibians, including western spadefoot and Riverside fairy shrimp; vernal pools, found nowhere else in Los Angeles County, and their coastal sage scrub watershed serving as a hydrological filter; seasonal ponds and surrounding mesic vegetation providing essential foraging and wintering sites for migrating birds otherwise uncommon in the southern Liebre Mountains; steep cliffs surrounding the mesa tops and their crevices and cavities providing roosting and nesting sites in the otherwise brush-covered hillsides. These pools are also the only three or four such pools in this portion of Southern California.

The sensitive resources they support are unique locally and regionally, and biologists consider these to be among most sensitive habitat types in Southern California.

Vegetation

The SEA encompasses formations of coastal sage scrub, vernal pool and non-native grassland. The vernal pool margins support limited densities of native grasses, but these do not form separate communities and are included within the vernal pool floral matrix. Sensitive plant species occurring or potentially occurring within the SEA are discussed below in the Sensitive Biological Resources section.

Plant communities within the SEA were classified using standard methodology and terminology. The communities discussed correspond directly with those listed in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986 and 1992 update). Descriptions and general locations of the each plant community present within the SEA are given below.

Vernal pool sites occur in the SEA within the southern end of the Cruzan Mesa basin and on a landslide terrace on the northern slope of upper Plum Canyon, about one and one-half aerial miles southwest of the Cruzan Mesa pool system. True vernal pools, which are rare in Southern California and extremely rare in Los Angeles County, form seasonally in shallow, closed basins, usually where a lens of heavy clay soil holds surface water following rainfall events. Agency-listed sensitive plant species occurring within both of the SEA pool systems include California Orcutt grass and spreading navarretia, along with other vernal pool endemics such as hairgrass, woolly-marbles, waterwort, Mimulus latidens and water-starwort.

Coastal sage scrub occurs throughout the slopes and ridges of most of the SEA, in places intermixed with chaparral elements. To some extent, the mosaic of coastal sage and chaparral reflects the fire history of any given portion of the site, with scrub formations generally occurring on sites which have more recently burned. However, some slopes within upper Plum and Mint canyons, where no fires have occurred for over 30 years, still support "pure" coastal sage scrub, suggesting that the formation is a climax community on those sites.

Dominant species on most slopes within the SEA are California sagebrush, woolly blue-curls, chaparral yucca, black sage, Acton encelia, white sage, and chamise. A variety of less dominant associated species are also present, including lance-leaved live-forever, common tarplant, California buckwheat, beavertail cactus, turkish rugging, and Peirson's morning-glory. Disced or cleared areas have regrown with a dense cover of oats and bromes, California poppy, fiddleneck, several species of lupines, popcorn flower, comb-bur and other disturbance-favored native annuals. Less-frequently disturbed portions of the upper watershed basin support dense stands of chamise – California scrub oak chaparral, with yerba santa abundant along dirt roads and other disturbed areas. In the lower portions of canyons and along Plum Canyon creek, where ground-water levels permit, giant rye grass, Mexican elderberry, acourtia, redberry, toyon, holly-leaved cherry, Fremont cottonwood, western sycamore, and arroyo willow occur.

Non-native grassland generally consists of invasive annual grasses which are primarily of Mediterranean origin, and which have become the dominant ground cover formation on disturbed sites throughout the western states. Common species within this "community," which is a ruderal formation and not a true habitat or community, include oats, bromes, foxtail chess, and other grasses, along with wild mustards, yellow star thistle, wire lettuce, sow thistle, milk thistle, and other disturbance-favored "weedy" taxa. Non-native ruderal formations occur over most of the Mesa around the vernal pools, where coastal sage scrub has been disturbed or removed, in small strips and patches throughout the SEA primarily along disturbed dirt road edges and where grading or other substrate disturbances have not regrown to native species.

Mainland cherry forest is not well described but is typically composed of tall stands of hollyleaf cherry on rocky, dry slopes. Within the SEA, this community is not well developed and inter-mingles with chaparral. It can be found in a single narrow patch on a slope in the southwest portion of the SEA.

Wildlife

Wildlife diversity and abundance within the SEA are moderate, commensurate with the relative homogeneity of the natural open space habitat types. A number of local wildlife species are more-or-less dependent upon coastal sage scrub or scrub-chaparral formations, while other species are strictly limited to seasonal pool habitats. The two vernal

pool systems in the SEA, along with the coastal sage scrub-chaparral uplands surrounding and connecting them constitutes a single, integrated functional ecosystem for wildlife species, both within the SEA boundaries and as a part of the larger regional scrub-chaparral ecosystem.

Analysis of invertebrates on any particular site usually is limited by a lack of specific data, but the fact that the SEA contains only two primary natural habitat types insures that there is sufficient acreage to support healthy populations of whatever invertebrate species are present, probably several hundred terrestrial species. The vernal pools, when ponded, form aquatic habitats for a moderately diverse fauna of freshwater arthropods and other invertebrates, including native fairy shrimp, aquatic flies, diving beetles, water scavengers, ostracods, and snails. The only insect order presently known to have a vernal pool endemic within the SEA is Coleoptera, with one vernal pool ground beetle species thus far having been found.

Amphibians generally are relatively common in coastal sage scrub habitats with persistent surface hydrology during the breeding season, and the SEA supports abundant populations of Pacific chorus frog, western toad, and western spadefoot toad. At least two species of salamander also may be present within more mesic portions of the surrounding canyons and chaparral.

Reptile populations in the SEA would include numerous lizard species, including San Diego banded gecko, yucca night lizard, side-blotched lizard, western fence lizard, western skink, San Diego alligator lizard, coastal western whiptail, San Diego horned lizard, and silvery legless lizard. A robust snake fauna also would be expected within the SEA, including western blind snake, coachwhip ("red racer"), chaparral whipsnake, coastal patch-nosed snake, California rosy boa, San Diego gopher snake, California kingsnake, California mountain kingsnake, night snake, and southern Pacific rattlesnake.

Bird diversity within the SEA is related to habitat opportunities for year-round residents, seasonal residents, migrating raptors and song birds. Open coastal sage scrub hosts a suite of birds typical of such sites at lower elevations over most of the coastal slopes of Southern California. The most productive sites for resident coastal sage scrub and chaparral birds are around riparian and freshwater systems, which also attract large numbers of migrants during Spring and Fall. The vernal pools attract moderate numbers of migrating waders and waterfowl, and provide important winter foraging areas for resident and migratory birds of prey. Coastal sage and chaparral birds resident or breeding within the SEA include ashy rufous-crowned sparrow, Bell's sparrow, black-chinned sparrow, lark sparrow, California thrasher, spotted towhee, California towhee, phainopepla, northern mockingbird, lazuli bunting, and several species of hummingbird, with additional species (western meadowlark, California horned lark, and perhaps also savannah and grasshopper sparrows) nesting and foraging in the grassland and ruderal habitats surrounding the vernal pools. Birds of prey observed around the vernal pools include red-tailed hawk, northern harrier, white-tailed kite, prairie falcon, and golden eagle. Barn owl, great horned owl, and common raven all nest in the cliffs surrounding Cruzan Mesa.

Wildlife Movement

The vernal pools situated within this SEA serve as isolated, high resource quality habitat linkage sites for migratory waterfowl. The vernal pools teem with arthropod and amphibian activity, and so provide essential feeding grounds for long-distance migrants, as well as for resident species of reptiles, birds and mammals. The ponds do not lie within any identified terrestrial movement routes for wildlife, but may serve as important seasonal watering sites for species moving through and across the Plum Canyon divide between Mint and Bouquet canyons. The Plum Canyon stream channel undoubtedly serves as a movement pathway for more mobile species of terrestrial mammals, but it no longer links any larger habitat areas directly, due to land conversion in Mint and Bouquet Canyon.

Sensitive Biological Resources

Sensitive biological resources are habitats or individual species which have been accorded special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, rare, or otherwise of concern, principally due to the species' declining or limited distribution or 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 indicates the habitats as well as plant and animal species present, or potentially present within the SEA, that have been afforded special recognition.

Sensitive Plant Communities/Habitats

This description supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Data Base (CNDDB)], 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 coastal sage scrub, mainland cherry forest, and vernal pool. 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.

Sensitive Species

Sensitive species include those listed, or candidates for listing by the USFWS, CDFG, and CNPS. These sensitive species include, but are not limited to, spreading navarretia, California Orcutt grass, Vernal pool fairy shrimp, San Diego fairy shrimp, Riverside fairy shrimp, golden eagle, California gnatcatcher, San Diego black-tailed jackrabbit, San Diego desert woodrat, and southern grasshopper mouse. In addition, the SEA identifies species observed, recorded in the CNDDB, or reported in previous documentation as observed within or in the immediate vicinity of the SEA.

III. SANTA CLARA RIVER

General

The Santa Clara River Significant Ecological Area (SEA) encompasses the entire Los Angeles County reach of the Santa Clara River, primarily within unincorporated areas of Los Angeles County. The Santa Clara River SEA covers the length of the river and with the watershed extensions encompasses a wide variety of topographic features and habitat types. The orientation and extent of the SEA also consists of the surface and subsurface hydrology of the Santa Clara River, from its headwater tributaries and watershed basin to the point at which it exits Los Angeles County jurisdiction.

Description

The eastern portion of the SEA surrounds the Kentucky Springs and Aliso Canyon watersheds, portions of which are within the Angeles National Forest. It follows the river channel downstream through the Acton basin, taking in Arrastre Creek, Mill Canyon and other side drainages and significant rock outcroppings, then stays within the channel to Agua Dulce Canyon, at which point the northern boundary loops around that watershed and includes Vasquez Rocks County Natural Area, and continues northwest to the forest, while the southern boundary encompasses the lower portion of Bear Canyon and undeveloped portions of Oak Spring Canyon adjacent to the river channel. The southern boundary leaves the river channel at the confluence with Sand Canyon and extends broadly to the south, to include all of the remaining natural areas of the Sand Canyon watershed, along with the major ridgeline, earthquake escarpment, grassland, and canyon habitat features and watersheds of Elsmere, Whitney, Placerita and Bear canyons.

From Sand Canyon west the SEA boundary remains close to the margins of the floodplain to the confluence with San Francisquito Canyon, wherein the northern boundary extends northward upstream on that drainage to the headwaters of San Francisquito Creek on the Angeles National Forest, then returns to the river channel and proceeds west to the confluence with Castaic Creek. From here, it extends north around the lower portion of Castaic Creek, embracing the riparian habitat areas around and above the confluence, with the boundaries of the SEA following the Santa Clara River channel to the Ventura County line. The biological and ecological functionality of the SEA is integrally linked to the river basin for its entire length, of course, so the biogeographic limits of the SEA would extend downstream through Los Angeles/Ventura County to its mouth at the Pacific Ocean, and encompass the significant tributary drainages (Piru Creek, Sespe Creek, Santa Paula Creek, Wheeler Creek, etc.).

The Kentucky Springs and Aliso Canyon watershed zones originate on National Forest land, in semi-arid chaparral and desert scrub habitat, but the drainages themselves support different formations of desert and interior riparian habitat, ranging from seasonal Great Basin sagebrush wash in Kentucky Springs to dense, mature, willow-cottonwood-sycamore woodlands over permanent streams in Aliso Canyon. The surrounding uplands in the basins support pinyon-juniper woodlands, chamise, mountain mahogany, and manzanita dominated chaparral formations, buckwheat scrub, and ruderal lands. Alluvial terraces within both drainages have been rather extensively cultivated for orchard crops or dryland agriculture, and in more recent

years, rural and urban-type residential developments have encroached on the watersheds. Portions of the Aliso Canyon riparian woodlands have been encroached upon by rural development, but the upper portion of the drainage possesses excellent xeric cottonwood-sycamore riparian woodland. The alluvial plain formed along the southern margin of the river basin below these canyons supports intact, high diversity xeric alluvial fan sage scrub.

Downstream of the Acton basin the SEA encompasses the Arrastre Creek drainage, which is the type locality for the federally and state endangered unarmored three-spined stickleback fish, and also loops around the high, rounded rocky butte-like outcroppings on the north side of the river. These features, while only a minor part of the watershed of the river, provide important nesting, roosting, and sheltering habitat values for bats, birds of prey, and other sensitive species foraging along the river corridor. Agua Dulce Canyon has a permanent stream and supports high quality riparian habitat formations from the confluence with the river to the intersection with the Antelope Valley Freeway; from that point north the riparian areas are fragmented, improving and maturing significantly where the creeks pass through Vasquez Rocks County Natural Area.

The alluvial terraces along the river channel as it enters the eastern portion of the Santa Clarita Valley support alluvial fan sage scrub, Great Basin sagebrush scrub, coast live oak woodland, and coastal sage scrub habitats. The alluvial fans of Oak Springs Canyon and Sand Canyon are important recharge grounds for the river aquifer; surface flows from both canyons presently entering the Santa Clara River basin through natural, unconfined channels. Recognizing the importance of this drainage, the SEA boundaries have been drawn to encompass the entire Sand Canyon-Bear Canyon watershed, most of which is within the National Forest. The major habitat linkage zones and watersheds between the river basin and the National Forest, and the protected areas of the county (Placerita Canyon Natural Area) have also been included within the SEA boundary. These canyons form a natural movement zone for wildlife moving across and through the western end of the San Gabriel range to the Santa Susana range and the Santa Clara River basin, and together encompass a spectrum of significant and unique habitat, vegetation and wildlife resources.

The segment of the Santa Clara River passing through the City of Santa Clarita is a dry channel except during seasonal runoff flows. Regardless of this condition, it supports relatively intact stands of alluvial sage scrub formations, riparian woodland, and southern riparian scrub. The dry zones are essential to the continued genetic isolation of the unarmored three-spined stickleback population in the upper reaches of the river.

San Francisquito Creek supports dense and mature southern riparian scrub and riparian woodland formations, along with small areas of freshwater marsh, providing essential wintering areas and resident habitat for waterfowl, wading birds, marshland birds, and a variety of other vertebrate species. After San Francisquito Creek passes from County land into the National Forest, the channel flows become less seasonal, and riparian resources expand and diversify.

Relatively vast areas of willow-cottonwood forest and southern riparian scrub occur west of San Francisquito Creek and within the junction zone of Castaic Creek and the Santa Clara River, supporting numerous sensitive species and providing multi-layered riparian habitat for a wide diversity of wildlife species, particularly birds of prey and riparian-obligate songbirds.

The Santa Clara River channel and its alluvial terraces and tributary creeks together form the single most important and natural value wildlife movement zone through Los Angeles County. Mobile species can enter the river basin anywhere along its length (outside of developed areas) and proceed in either direction without having to pass through narrow culverts or blind channels, with continuous vegetative cover and only short stretches of dry substrates. The overall drainage course provides a continuum of aquatic and terrestrial movement opportunities, shelter, forage, and resident habitat from the mouth of the river at Ventura to the Antelope Valley. The drainage course connects to both districts of the Angeles National Forest, and links together two large public resource preserves (Vasquez Rocks and Placerita Canyon Nature Preserve).

Vegetation

Plant communities within the SEA include: bigcone spruce-canyon oak forest, coast live oak woodland, coast live oak riparian forest, chaparral, coastal sage scrub, coastal sage scrub-chaparral mixed scrub, non-native and native

grasslands, alluvial fan sage scrub, southern cottonwood-willow riparian woodland and forest, southern sycamore-alder woodland, southern willow scrub, vernal pool, pinyon-juniper woodland, juniper woodland, and freshwater marsh. Transitional zones (ecotones) between these communities often contain unusual species compositions. Sensitive plant species occurring or potentially occurring within the SEA are discussed below in the Sensitive Biological Resources section.

Plant communities within the SEA were classified using standard methodology and terminology. Most of the communities discussed 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 them and/or other commonly used terminology. Descriptions and general locations of each plant community present within the SEA are given below.

Big cone spruce-canyon oak forest formations typically occur in higher elevation draws on north-facing slopes, and may have incense cedar, big-leaf maple, California bay, and other shade-loving species intermixed, depending upon slope orientation, substrates, and fire history. Understory vegetation usually is dominated by chaparral species such as scrub oak, poison oak, wild grape, and manzanita. This community occurs on watershed slopes in the eastern portion of the SEA, and in a few of the narrower, more mesic canyons along the southern side of Soledad Canyon.

Coast live oak woodland consists of moderate-density overstory formations of coast live oak trees, usually on erosional plains along the margins of canyon bottoms and on lower slopes in chaparral and coastal sage scrub understory habitats. Mexican elderberry, chaparral currant, squawbush, and California peony are frequent in the understory. Extensive stands of this formation occur in Sand, Placerita, Bear, Whitney, Elsmere, and Soledad Canyons, and in unnamed tributary canyons to these drainages.

Coast live oak riparian forest is a variation of coast live oak woodland wherein the canopy is more closely grown, and the trees occur in narrower formations along watercourses. Willow, California bay, mulefat, and other riparian species often occur in the understory.

Juniper woodland is an open formation dominated by California juniper, often with an understory of foothill yucca, buckwheat, and other scrub species. This community is found on lower slopes within the eastern portion of the SEA and is mixed with a few joshua trees and chaparral species in several places.

Pinyon-juniper woodland in the SEA typically consists of a mixture of single-needle leaf pinyon pine and California juniper, with mountain mahogany, buckwheat, squawbush, foothill yucca, penstemons, and native grasses. This formation occurs on middle elevation north-facing slopes in the Kentucky Springs watershed, and sporadically along the same orientations south of Acton.

Southern cottonwood-willow riparian woodland and forest is a broad-leafed winter- deciduous habitat dominated by Fremont cottonwood, in places mixed with black cottonwood, various species of willow, rarely an alder, and on drier sites, western sycamore. Southern cottonwood-willow riparian woodland (or forest) occurs in numerous reaches of the SEA, forming mature overstory habitat on the Santa Clara River, its main tributaries, oxbow ponds, and alluvial plains. Some of the most extensive formations occur just west of Acton, in upper Aliso Canyon, in lower San Francisquito Canyon, and from Santa Clarita to the Ventura County border. Large tracts of cottonwood-willow habitat occur in Ventura County as well.

Southern sycamore-alder woodland is a formation which most often occurs on broad plains with heavy alluvial substrates, often along narrow creeks and streams with high-energy, permanent flows within the SEA. Alders typically occur along the watercourse, while sycamores usually grow a bit further from the active flowing channel. This community is uncommon within the SEA, occurring only in the upper reaches of the watershed and in portions of Bear, Sand, and Placerita Canyons and to a lesser extent in Aliso Canyon.

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 willow,

and arroyo willow. Within the SEA this community occurs throughout the tributary and primary drainages, wherever the habitat structure is maintained or repeatedly altered by frequent high water flows.

Freshwater marsh develops in areas of still or slow-moving permanent freshwater. This community is dominated by the perennial, emergent cattail or bulrush, which may reach heights of 7 feet and grow dense enough to form a closed canopy. This formation occurs in scattered ponds and slow-flow portions of the river and tributaries within the SEA.

Vernal pool systems are extremely rare in Los Angeles County and there are only two verified vernal pools currently recognized within the area; Cruzan Mesa and Plum Canyon. However, there is at least one small seasonal pond with typical vernal pool characteristics within the upper Placerita-Sand Canyon watershed break. This small pool is surrounded by coastal sage scrub, with a band of native needlegrass and melic grass on its fringes, and supports Riverside fairy shrimp and western spadefoot toad. It is considered a vernal pool by virtue of its habitat values and species unique to this type of seasonal formation.

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 on north-facing exposures; buckwheat, foothill yucca, chamise, hoary-leaf lilac, black sage, and goldenbush on south-facing slopes. This plant community occupies most of the basin slopes along the Santa Clara River and on interior ridges and slopes within the watersheds and drainages west of Acton. Chaparral also occurs on some of the higher elevations of the eastern watershed portions of the SEA, where the shrubs frequently are interspersed as understory formations within oak and conifer woodlands.

Coastal sage scrub and coastal sage scrub-chaparral mixed scrub are formations which typically occur on south or west-facing slopes within the western portion of the SEA. Some sites may be artifacts of fire frequency or occurrence, while other areas appear to be stable scrub communities. Dominant species typically are California sagebrush, purple sage, black sage, white sage, goldenbush, buckwheat, foothill yucca, California encelia, brittlebush, golden yarrow, chamise, hoary-leaf lilac, and a variety of annuals and bulbs. Excellent examples of coastal sage scrub occur in upper Placerita Canyon watershed and on the ridgeline to the north, along the Santa Clara River just east of Sand Canyon, and in San Francisquito Canyon.

Alluvial fan sage scrub, sometimes also known as floodplain sage scrub, generally consists 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, and foothill yucca also usually occur in the habitat type, and may be dominant depending upon substrates and subsurface hydrology. This vegetation type is common throughout the alluvial plains and washes in the SEA, forming particularly high diversity stands along the southern margin of the river at Acton, on uplands east of the Sand Canyon confluence, along the dry reaches of the river in Santa Clarita, and in lower San Francisquito Canyon. Extensive stands of Great Basin sagebrush-dominated alluvial scrub occur around Acton and in the Kentucky Springs portion of the SEA.

Native grassland communities consist of low, herbaceous vegetation dominated by grasses, with native formations generally mixed with native bulbs and other herbaceous species, often intermixed with naturalized annual taxa. There are representatives of native grasslands scattered within the SEA, most notably patches of different needlegrass species and melic grasses on clay soils in Placerita Canyon, on slope wetlands and around oaks on the ridge north of Placerita, and on less-disturbed xeric slopes in the eastern portion of the SEA. Seeps in chaparral often support homogeneous stands of giant rye; other native grasses occur sporadically within most natural habitats along the Santa Clara River basin.

Non-native grassland consists of 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, along with wild mustards and other disturbance-favored "weedy" taxa. Non-native grasslands and other ruderal formations are the dominant understory on most disturbed substrates, particular grazed areas.

Disturbed or barren areas either completely lack vegetation or are dominated by ruderal species. Ruderal vegetation typically found within the SEA includes non-native and native grasses and "weedy" herbaceous species, including doveweed, mustards, wire lettuce, sow thistle, telegraph weed, Russian thistle, dock, yellow star thistle, Australian saltbush, and cocklebur. Disturbed areas occur throughout the SEA on fallow agricultural sites, disked fields, abandoned pastures, residential development, paved road margins, fire breaks, dirt access roads, trails, and other similarly disturbed areas.

Wildlife

Wildlife within the SEA is extremely diverse and abundant, commensurate with extensive acreages of natural open space and great diversity of habitat types, within the river channels and on the surrounding uplands. While a few wildlife species may be entirely dependent upon or obligate within a single vegetative community, the mosaic of vegetation communities within the area and adjoining uplands constitutes a continuum of functional ecosystems. These ecosystems support a wide variety of wildlife species, 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, but the size of the SEA and diversity of habitats present are considered sufficient to support healthy populations of a very large number of invertebrate species, probably in excess of 2,500 species. The riparian formations, wetlands, and aquatic habitats within the SEA support diverse faunas of arthropods, including native fairy shrimp, craneflies, blackflies and other aquatic dipterans, stoneflies, caddisflies, and dobsonflies, water boatmen, giant water bugs, ground beetles, diving beetles, and tiger beetles. Terrestrial insects abound around riparian corridors and in scrub habitats, and are particularly abundant in oak-dominated habitats. Insect orders very well-represented taxonomically, and with some habitat specialization within the Santa Clara River SEA include Orthoptera, Neuroptera, Coleoptera, Diptera, Hymenoptera and Lepidoptera.

Amphibians are abundant and relatively diverse within moister woodland areas, along montane canyon bottoms, in riparian areas, and within surface water features of the SEA. The overall riparian systems of the Santa Clara River basin support abundant populations of Pacific and California chorus frogs, western toad, western spadefoot toad, bullfrog, and African clawed frog (the latter two species are non-native), and in San Francisquito Canyon, California red-legged frog and southwestern arroyo toad. Arboreal, painted, and garden slender salamanders also are present within mesic habitats in the SEA.

Open scrub, chaparral and alluvial fan habitats support diverse reptile populations, and the overall herpetofauna of the SEA would encompass numerous lizard species, along with southwestern pond turtle in Agua Dulce and Bear canyons. Yucca night lizard, side-blotched lizard, western fence lizard, western skink, San Diego alligator lizard, coastal western whiptail, San Diego horned lizard, desert horned lizard, silvery legless lizard and San Diego desert banded gecko all would be expected within the SEA.

The SEA also supports a robust snake fauna, including western blind snake, coachwhip ("red racer"), chaparral whipsnake, coastal patch-nosed snake, California rosy boa, San Diego gopher snake, glossy snake, California kingsnake, mountain kingsnake, long-nosed snake, night snake, California lyre snake, California black-headed snake, two-striped garter snake, San Bernardino ring-necked snake, southern Pacific rattlesnake.

Bird diversity within the SEA is related to habitat opportunities for year-round residents, seasonal residents, migrating raptors, and song birds. Coastal sage scrub and chaparral host a suite of birds typical of such sites at lower elevations over most of the coastal slopes of Southern California. The most productive sites for resident coastal sage scrub and chaparral birds are around riparian and freshwater systems, which also attract large numbers of migrants during Spring and Fall. Coastal sage and chaparral birds resident or breeding within the SEA includes Southern California (ashy) rufous-crowned sparrow, Bell's sparrow, black-chinned sparrow, lark sparrow, lazuli bunting, California gnatcatcher, California quail, greater roadrunner, spotted towhee, California towhee, California thrasher, phainopepla, northern mockingbird, and Anna's, Costa's, and black-chinned hummingbirds. Oak woodlands and riparian areas support many more species; notable species consist of the summer tanager, Bullock's oriole, black-headed grosbeak, band-tailed pigeon, western wood pewee,

several swallow species, western yellow-billed cuckoo, willow flycatcher, and least Bell's vireo. Species associated with ruderal sites and grasslands include western meadowlark, California horned lark, and savannah and grasshopper sparrows. Birds of prey (including common migrants) observed within the SEA include red-shouldered hawk, red-tailed hawk, Cooper's hawk, sharp-shinned hawk, Swainson's hawk, merlin, American kestrel, northern harrier, white-tailed kite, prairie falcon, and golden eagle. Resident owl species within the SEA boundaries include barn owl, great horned owl, long eared owl, and California spotted owl.

Native mammal diversity within the SEA is considerable. These include bats (at least seven species), rodents (at least four species of deer mice, two species of woodrat, Beechey ground squirrel, western gray squirrel, and more), two types of rabbits and one hare, broad-handed mole, long-tailed weasel, American badger, spotted and striped skunks, raccoon, gray fox, bobcat, coyote, mountain lion, and mule deer. Black bear also occur within the SEA boundaries, at least occasionally, but the San Gabriel Mountains population was introduced for game use, and this species is not native within the SEA.

Wildlife Movement

Historically (and prehistorically) the riparian corridor along the Santa Clara River has served as the primary east-west linkage between the Pacific coastline, coast ranges, interior ranges, high desert and southern Sierra (via the Tehachapi range). Animals moving through the Santa Clara drainage had unobstructed passage along the river and within the riparian systems between the coastal lowlands of Ventura and the Mojave Desert, with tributary routes extending south into the San Gabriel range, northward via Castaic, Bouquet and San Francisquito tributaries over the Transverse range and into the San Joaquin Valley, west into the central coast ranges, or east through the Tehachapi mountains and into the southern Sierra Nevada. The present configuration of the tributary drainages has impinged upon connectivity from the Santa Clarita Valley to the north, but the Santa Clara River remains relatively intact and open. The SEA embraces the river corridor and the linkage zones considered essential to insuring connectivity and resource values within the historic movement zones for all of the wildlife species present within the Los Angeles County portion of the Santa Clara River.

Sensitive Biological Resources

Sensitive biological resources are habitats or individual species which have been afforded special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, rare, or otherwise of concern; this is principally due to the species' declining or limited distribution or 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 SEA, that have been afforded special recognition.

Sensitive Plant Communities/Habitats

This report/description supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Database (CNDDB)] 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: bigcone spruce-canyon oak forest, coast live oak riparian forest, southern willow scrub, southern cottonwood-willow riparian woodland, sycamore-alder woodland, freshwater marsh, alluvial fan sage scrub, native grassland, and vernal pool. 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.

Sensitive Species

Sensitive species include those listed, or candidates for listing by the USFWS, CDFG, and CNPS. These species include, but are not limited to, Nevin's barberry, spreading navarretia, slender-horned spineflower, California Orcutt grass, Riverside fairy shrimp, unarmored threespine stickleback, Santa Ana sucker, arroyo southwestern toad, California red-legged frog, southwestern pond turtle, California horned lizard, San Diego mountain king snake, two-striped garter snake, California condor, Swainson's hawk, White-tailed kite, California gnatcatcher, least Bell's vireo, and ringtail cat. In addition, the SEA identifies other species observed, recorded in the CNDDB, or reported in previous documentation as observed within or in the immediate vicinity of the SEA.

IV. SANTA FELICIA

General

The Santa Felicia Significant Ecological Area (SEA) encompasses the almost the entire Los Angeles County portion of the Santa Felicia watershed draining into Lake Piru. This watershed is largely undeveloped and contains vast stands of intact coast sage scrub and chaparral communities on south and north facing slopes, respectively. In addition to the undisturbed upland habitats, the watershed is dissected by excellent examples of mixed riparian (sycamore-willow), oak riparian and coast live oak forests and alluvial scrub in the bottomlands. Non-native grasslands occur in areas where grazing has taken place; however, there is little invasion of these ruderal taxa into the native communities. A brief summary of the plant communities present, or likely to occur, within the SEA is provided in the vegetation section below.

Description

The Santa Felicia SEA includes a wide variety of topographic features and habitat types. The orientation and extent of the SEA encompasses the surface and subsurface hydrology of the Santa Felicia watershed, from its headwater, tributaries, and basin to the point at which it exits Los Angeles County jurisdiction. The northern portion of the SEA is within the Angeles National Forest. Capturing the watershed tributaries, the eastern boundary follows a predominate ridgeline, the western boundary is the county border and the southern boundary captures two other small tributaries that feed the Santa Felicia, to encompass almost the entire watershed that ultimately drains into Lake Piru in Ventura County.

Vegetation

Plant communities within the SEA include: coast live oak woodland, coast live oak riparian forest, chaparral, coastal sage scrub, coastal sage scrub, chaparral, non-native and native grasslands, alluvial fan sage scrub, and sycamore-willow riparian woodland. Sensitive plant species occurring or potentially occurring within the SEA are discussed in the Sensitive Biological Resources section of this document.

Plant communities within the SEA were classified using standard methodology and terminology. Most of the communities discussed 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 them and/or other commonly used terminology. Descriptions of several plant communities present within the SEA are given below.

Coast live oak woodland consists of moderate-density overstory formations of coast live oak trees, usually on erosional plains along the margins of canyon bottoms and on lower slopes in chaparral and coastal sage scrub understory habitats.

Coast live oak riparian forest is a variation of coast live oak woodland wherein the canopy is more closely grown, and the trees occur in narrower formations along watercourses. Willow, California bay, mulefat, and other riparian species often occur in the understory.

Sycamore-willow riparian woodland may include the following: western sycamore, black willow, arroyo willow, skunkbush, and California blackberry.

Alluvial fan scrub generally consists of a mixture of shrubs, including scalebroom, California buckwheat, and white sage, which colonize and persist within infrequently scoured and flooded terrain such as floodplains, alluvial plains, or along seasonal streams.

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 oak, toyon, manzanita, and white sage.

Coastal sage scrub dominant species typically are California sagebrush, purple sage, giant wildrye, coyotebush, and California buckwheat.

Non-native grassland consists of invasive annual grasses that are primarily of Mediterranean origin, including short-pod mustard, tocalote, and ripgut brome.

Native grassland communities consist of low, herbaceous vegetation dominated by grasses, with native formations generally mixed with native bulbs and other herbaceous species, often intermixed with naturalized annual taxa.

Wildlife

Wildlife within the SEA is extremely diverse and abundant, commensurate with extensive acreages of natural open space and great diversity of habitat types, within the stream channels and on the surrounding uplands. While a few wildlife species may be entirely dependent upon or obligate within a single vegetative community, the mosaic of vegetation communities within the area and adjoining uplands constitutes a continuum of functional ecosystems. These ecosystems support a wide variety of wildlife species, 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, but the size of the SEA and diversity of habitats present are considered sufficient to support healthy populations of a very large number of invertebrate species. The riparian formations and aquatic habitats within the SEA support diverse faunas of arthropods, which may include native fairy shrimp, craneflies, blackflies and other aquatic dipterans, stoneflies, caddisflies, and dobsonflies, water boatmen, giant water bugs, ground beetles, diving beetles, and tiger beetles. Terrestrial insects abound around riparian corridors and in scrub habitats, and are particularly abundant in oak-dominated habitats.

Amphibians are abundant and relatively diverse within moister woodland areas, along montane canyon bottoms, in riparian areas, and within surface water features of the SEA. The overall riparian systems of the SEA provide habitat for a number of frog and toad populations, which may include populations of Pacific and California chorus frogs, western toad, and western spadefoot toad as well as the California red-legged frog and southwestern Arroyo toad. Open scrub, chaparral and alluvial fan habitats support diverse reptile populations, and the overall herpetofauna of the SEA would encompass numerous lizard species as well as a robust snake fauna.

Bird diversity within the SEA is related to habitat opportunities for year-round residents, seasonal residents, migrating raptors, and song birds. Coastal sage scrub and chaparral host a suite of birds typical of such sites at lower elevations over most of the coastal slopes of Southern California. The most productive sites for resident coastal sage scrub and chaparral birds are around riparian and freshwater systems, which also attract large numbers of migrants during Spring and Fall. Oak woodlands and riparian areas generally support many more species; notable species consist of the summer tanager, Bullock's oriole, black-headed grosbeak, band-tailed pigeon, western wood pewee, several swallow species, western yellow-billed cuckoo, willow flycatcher, and least Bell's vireo.

Native mammal diversity within the SEA is considerable. These likely include bats, rodents, squirrel, rabbits, mole, weasel, badger, skunks, raccoon, gray fox, bobcat, coyote, and mule deer. Black bear may also occur within the SEA boundaries, at least occasionally, but the San Gabriel Mountains population was introduced for game use, and this species is not native within the SEA.

Wildlife Movement

Historically riparian corridors have served as linkages between the Pacific coastline, coast ranges, interior ranges, the high desert and southern Sierras (via the Tehachapi range). Animals move through the Santa Felecia watershed along and within the riparian systems between Piru Lake in Ventura County and the San Gabriel Mountain range and beyond. The tributary drainages in this SEA appear fully intact and open.

Sensitive Biological Resources

Sensitive biological resources are habitats or individual species which have been afforded special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, rare, or otherwise of concern; this is principally 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 SEA, that have been afforded special recognition.

Sensitive Plant Communities/Habitats

The Santa Felicia SEA supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Database (CNDDB)] 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: coast live oak, coast live oak riparian forest, alluvial fan sage scrub, and native grassland. 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.

Sensitive Species

Sensitive species include those listed, or candidates for listing by the USFWS, CDFG, and CNPS. These species include, but are not limited to, the California condor, red-legged frog and Arroyo toad. The SEA identifies other species observed, recorded in the CNDDB, or reported in previous documentation as observed within or in the immediate vicinity of the SEA.

V. SANTA SUSANA MOUNTAINS/SIMI HILLS

General

The Santa Susana Mountains/Simi Hills Significant Ecological Area (SEA) is located northwest of the San Fernando Valley within unincorporated areas of Los Angeles County and an incorporated area of the City of Los Angeles west of Chatsworth. The area is south of State Route 126 (SR-126) and the Santa Clara River, west of the Golden State Freeway (Interstate 5), and includes much of the Santa Susana Mountains in the north, the Santa Susana Pass, Chatsworth Reservoir, and the eastern portion of the Simi Hills in the south.

Description

The Santa Susana Mountains/Simi Hills SEA includes a variety of topographic features; the northern portion of the SEA encompasses Oat Mountain and much of the Santa Susana Mountains from the Los Angeles County line east to Interstate 5. Portions of many of the canyons associated with the Santa Susana Mountains and Oat Mountain are also included such as Salt Canyon, Potrero Canyon, Pico Canyon, Towsley Canyon, El Toro Canyon, Sulphur Canyon, Devil Canyon, Ybarra Canyon, Browns Canyon, Bee Canyon, and Mormon Canyon. Several blue-line streams occur within these canyons and support many natural springs. The north slopes of the Santa Susana Mountains are within the Santa Clara River watershed which drains the Los Padres National Forest to the north, the Angeles National Forest to the northeast and east, and the Santa Susana Mountains to the south and southeast. The remainder of the SEA is within the Los Angeles River watershed. The majority of the land in the SEA is natural open space with very sparse disturbances in the form of ranches, oil wells, and unimproved access roads. The SEA consists of east-west and northwest trending primary ridges and north-south trending secondary ridges. The peak of Oat Mountain represents the highest point in the SEA at 3,747 feet above mean sea level (MSL). The open space within the SEA supports a variety of communities but is dominated by chaparral, oak woodlands, coastal sage scrub, bigcone spruce-canyon oak woodland, and grasslands. The creeks and canyons support riparian scrub and woodland communities. At its southern end, the SEA includes the eastern portion of the Simi Hills including the east-facing slopes descending from Chatsworth Peak. Chatsworth Reservoir forms a portion of the south boundary and is currently dry except for a small detention basin north of the reservoir.

Vegetation

The plant communities within the Santa Susana Mountains/Simi Hills SEA are composed of numerous plant species. These plant species are adapted to a Mediterranean climate with a cool, wet season followed by a hot, dry season. Due to the topographic complexity and combination of coastal and desert influences, the SEA supports a wide diversity of plant species.

Plant communities within the 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 them and/or commonly used terminology. Descriptions and general locations of each plant community present within the SEA are given below. These include chaparral, coastal sage scrub, alluvial scrub, coast live oak woodlands, valley oak woodland, mainland cherry forest, non-native grassland, native grassland, southern willow scrub, southern cottonwood-willow riparian forest, and disturbed communities.

Chaparral consists of a broad mix of evergreen species and generally occurs below 5,000 feet in Southern California. Dominant species consist of broad-leaved or needle-leafed sclerophyllous (hard-leafed) shrubs, forming a dense, impenetrable cover with little or no understory growth. The understory typically consists of a considerable accumulation of leaf litter. In areas of less dense shrub cover, the understory consists of non-native grasses and other annual forbs. Dominant species include chamise, laurel sumac, hoary-leaved ceanothus, woolly-leaved ceanothus, and toyon. Chaparral is the dominant plant community within the SEA and covers many of the steep slopes and hillsides in the upper elevations.

Coastal sage scrub communities consist of drought-deciduous, low, soft-leaved shrubs and herbs on gentle to steep slopes under 3,000 feet in elevation. Several dominant species may occur within scrub communities, with some areas overwhelmingly dominated by one or two species. Dominant species include California sagebrush, California buckwheat, California bush sunflower, purple sage, and deerweed. Coastal sage scrub is found at the lower elevations within the SEA on drier south-facing slopes, but can also be found on the north-facing slopes and canyon of the Santa Susana Mountains.

Alluvial scrub consists of a mixture of shrubs that colonize sandy-gravelly flood deposited soils within intermittent creeks, arroyos, and drier terraces in large washes. This community intergrades with sage scrub communities and riparian communities and, therefore, occurs adjacent to these communities. Dominant species include Great Basin sagebrush, scalebroom, big saltbush, and squaw bush. Alluvial scrub is predominately found at the northern end of the SEA in Salt Canyon.

Coast live oak woodlands commonly occur along drainages that experience at least a seasonal flow or in other areas under mesic conditions. Soil structure and soil moisture are the most important limiting factors for the survival of oak woodlands; soils must be deep, uncompacted, fertile, well-aerated, and well-drained. This community is dominated by coast live oak. If sufficient groundwater is present, western sycamores, usually associated with riparian habitats, may also occur in the oak woodland. Oak woodlands occupy areas within the canyons and drainages of the SEA.

Valley oak woodland is an open-canopy woodland found on deep, well-drained alluvial soils below 2,000 feet. This community is almost exclusively dominated by valley oak with a grassy understory to form a savannah-like community. This community is located in small pockets in the eastern portion of the SEA.

Mainland cherry forest is not well described but is typically composed of tall stands of hollyleaf cherry on rocky, dry, north-facing slopes. Within the SEA, coast live oak is co-dominant within this community and can be found in canyons in the northern portion of the study area. This community can also be found in association with alluvial scrub in the northwestern portion of the study area as it approaches the Santa Clara River.

Grassland communities consist of low, herbaceous vegetation that are dominated by grasses but generally also harbor native forbs and bulbs as well as naturalized annual forbs. Topographic factors that contribute to grassland presence include gradual slopes or flat areas with deep, well-developed soils in areas below 3,000 above MSL. The species richness of grassland communities is dependent upon a number of land use factors, including intensity and duration of natural or anthropogenic disturbances such as grazing. Heavily grazed grasslands have a lower species richness. Non-native grassland consists of dominant invasive annual grasses that are primarily of Mediterranean origin. Dominant species found within this community include slender wild oat, wild oat, ripgut brome, and foxtail chess.

Native grassland is often associated with coastal sage scrub and is found in pockets in close proximity to coastal sage scrub and non-native grassland. This community consists of at least ten percent cover of native purple needlegrass. The remaining vegetative cover is made up of non-native grasses found in annual grassland and a variety of annual, wild flowers such as golden stars and blue-eyed grass. 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.

Southern willow scrub is a riparian community occurring within and adjacent to water courses. The vegetation within this community is adapted to seasonal flooding. Southern willow scrub is characterized by dense, broad leafed, winter-deciduous riparian thickets dominated by one or more willow species. Most stands are too dense to allow

understory development. The dominant species of this community within the SEA is arroyo willow, red willow, and black willow, with less common associates including mule fat. This community occurs in segments along portions of the intermittent drainages within the SEA.

Southern cottonwood-willow riparian forest consists of an open, broad-leaved, winter-deciduous riparian forest dominated by Fremont cottonwood, black cottonwood, and several willow species including arroyo willow and red willow. This community occupies much of the Santa Clara River adjacent to the northern boundary of the SEA and also occurs within the larger, intermittent and perennial drainages within the SEA.

Disturbed or barren areas either completely lack vegetation or are dominated by ruderal species. Ruderal vegetation typically found onsite include non-native grasses and a high proportion of weedy species, including tocalote, telegraph weed, tree tobacco, doveweed, black mustard, and thistle species. Several disturbed areas occur scattered throughout the SEA and take the form of residential developments, highways, fire breaks, dirt access roads, trails, transmission poles, and other similarly disturbed areas.

Wildlife

Wildlife within the SEA is generally 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 area and adjoining areas constitutes a functional ecosystem for a variety of wildlife species. This applies to the SEA and the regional ecosystem.

The analysis of invertebrates in this study is difficult due to the lack of data, although limited studies have been conducted. The SEA is believed to support healthy populations of a diverse assortment of countless invertebrate species. Amphibian populations are generally restricted in semi-arid and arid habitats but may be particularly abundant where riparian areas occur. The SEA is likely to support a variety of amphibians in abundance within wetland areas along the major canyon bottoms and the moister oak woodland areas. Many essential reptilian habitat characteristics such as open habitats that allow free movement and high visibility and small mammal burrows for cover and escape from predators and extreme weather are present within the SEA. These characteristics as well as the variety of habitat types present are likely to support a wide variety of reptilian species.

The scrubland, woodland, riparian, and grassland habitats in the 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 mosaic of many community types provides for an unusually high diversity of bird species. Several of these species may use this SEA as their only consistent occurrence in the southeastern portion of the county.

Not unlike other taxonomic groups, mammal populations within the SEA are diverse and reflective of the diversity of habitat types. Unlike many other inland hills within the Los Angeles Basin, this SEA is large enough to support relatively stable large mammal populations despite the urban surroundings.

Wildlife Movement

The Santa Susana Mountains/Simi Hills SEA includes several important linkages for wildlife movement. The Simi Hills and Santa Susana Mountains provide a vast open space corridor to foster wildlife movement between the Santa Monica Mountains to the south, San Gabriel Mountains to the east, and Los Padres National Forest to the north. Dense, natural habitat associated with the majority of the study area provides excellent opportunities for concealment and water sources while the grasslands provide an abundance of prey.

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 sensitive; this is due to the species' declining or limited distribution or 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 SEA, that have been afforded special recognition.

Sensitive Plant Communities/Habitats

This report/description supports several habitat types This report/description supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Data Base (CNDDB)], 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 coastal sage scrub, alluvial scrub, valley oak woodland, mainland cherry woodland, native grassland, southern willow scrub, and cottonwood-willow riparian forest which occur throughout the 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.

Sensitive Species

Sensitive species include those listed, or candidates for listing by the USFWS, CDFG, and CNPS. Species which have been recorded within the SEA as well as those reasonably expected to occur include, but are not limited to, Lyon's pentachaeta, Nevin's barberry, Braunton's milk vetch, slender-horned spineflower, arroyo southwestern toad, California red-legged frog, California condor, Swainson's hawk, white-tailed kite, and southwestern willow flycatcher. The table includes locations of sensitive species observed, recorded in the CNDDB, or reported in previous documentation as observed within or in the immediate vicinity of the SEA.

VI. VALLEY OAKS SAVANNAH

General

The Valley Oaks Savannah Significant Ecological Area (SEA) is located northeast of the Santa Susana Mountains and west of the Angeles National Forest, approximately one mile south of the Santa Clara River and one mile north of Pico Canyon. The SEA is bordered on the east by Interstate 5 and is situated between Valencia Boulevard and McBean Parkway. To the west, the SEA is bordered by the foothills of the Santa Susana Mountains which are dominated by chaparral.

Description

The Valley Oaks Savannah SEA is almost completely undisturbed except for a few dirt roads. The majority of the vegetation on the site consists of a valley oaks savannah containing over 1000 trees. Other vegetation on the site includes coastal sage scrub and non-native grasses.

Vegetation

Due to its small size, vegetation within the Valley Oaks Savannah SEA is limited to a few community types. All plant species observed or recorded in previous documentation within the study area are indicated in the Comprehensive Floral & Faunal Compendium of the SEA User Guide. Sensitive plant species occurring or potentially occurring within the SEA are discussed in the Sensitive Biological Resources section of this document.

Plant communities within the 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 them and/or commonly used terminology. Descriptions and general locations of the each plant community present within the SEA including coastal sage scrub, valley oak woodland, non-native grassland, and disturbed are given below.

Coastal sage scrub communities consist of drought-deciduous, low, soft-leaved shrubs and herbs on gentle to steep slopes under 3,000 feet in elevation. Several dominant species may occur within scrub communities and some areas may be overwhelmingly dominated by one or two species. Dominant species include California sagebrush, California buckwheat, chaparral mallow, purple sage, coast goldenbush, and California-astor.

Valley oak savannah is an open woodland community dominated by the broad-leaved, winter-deciduous valley oak with scattered coast live oaks in some areas. The oak trees form an open savannah with an understory that is dominated by California buckwheat and non-native grasses. This community occupies a majority of the site.

Grassland communities consist of low, herbaceous vegetation that are dominated by grasses but generally also harbor native forbs and bulbs as well as naturalized annual forbs.

Topographic factors that contribute to grassland presence include gradual slopes or flat areas with deep, well developed soils in areas below the 3,000 foot elevation. Non-native grassland consists of dominant invasive annual grasses that are primarily of Mediterranean origin. Dominant species found within this community include slender wild oat, wild oat, ripgut brome, and foxtail chess along with scattered coastal sage scrub species. This community type occurs along the western portion of the north boundary of the SEA.

Disturbed or barren areas either completely lack vegetation or are dominated by ruderal species. Ruderal vegetation typically found onsite include non-native grasses and a high proportion of weedy species, including tocalote, telegraph weed, tree tobacco, doveweed, black mustard, and thistle species. The primary disturbed area within this SEA is dirt roadways.

Wildlife

The relatively small size of the SEA and the limited variety of vegetation types is unlikely to support a large diversity of wildlife. However, acorns within the valley oak savannah provide a valuable food source for a variety of wildlife. Furthermore, the mature trees are an important source of nesting and roosting habitat for birds and other arboreal vertebrates. While some wildlife species are entirely dependent on a single vegetative community, the mosaic of vegetation communities within adjoining areas constitutes a functional ecosystem for a variety of wildlife species, both within the SEA and as part of the regional ecosystem.

The analysis of invertebrates in this study is severely limited due to the lack of data. However, due to the undisturbed nature of the SEA, it is likely to support healthy populations of many invertebrate species. Amphibians may not be abundant due to the lack of water in the SEA, however, shaded areas within the woodland may be moist enough to allow for a few species to occupy the site. Reptilian diversity within the SEA is highest within patches of coastal sage scrub and may be abundant due the presence of alluvial wash habitat on adjacent property.

The scrubland, woodland, and grassland habitats in and adjacent to the SEA provide foraging and cover habitat for year-round residents, seasonal residents, and migrating song birds. In addition, the SEA contains abundant raptor foraging, perching, and nesting habitat. Mammal populations within the SEA respond favorably to these habitats. Not unlike other taxonomic groups, mammal populations within the SEA are limited by acreage but are likely to utilize the area frequently.

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 SEA User Guide. Sensitive wildlife species occurring or potentially occurring within the SEA are discussed below in the Sensitive Biological Resources section.

Wildlife Movement

Wildlife movement within the Valley Oaks Savannah SEA is limited to local movement of foraging animals. Although the SEA does not support regional corridors itself, adjacent lands to the west and northwest may be important linkages for wildlife movement to and from the Santa Susana Mountains and the Santa Clara River. The location of the SEA, therefore, may be important secondarily as a corridor buffer and/or adjacent foraging grounds.

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 principally 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 SEA, that have been afforded special recognition.

Sensitive Plant Communities/Habitats

The Valley Oaks Savannah SEA supports two habitat types considered sensitive by resource agencies, namely California Department of Fish and Game (CDFG), because of either their scarcity or 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 are valley oak woodland and coastal sage scrub. 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.

Sensitive Species

Sensitive species include those listed, or candidates for listing by USFWS, CDFG, and CNPS (particularly List 1A, 1B, and 2). These sensitive species include, but are not limited to, San Diego coast horned lizard, sharp-shinned hawk, and Cooper's hawk.