Historic Biological Reports
Scan Control Sheet

County Project Number(s): GPA 91-1

Report Type (check one):
- ☐ Initial Study
- ☐ Species Inventory/Survey
- ☐ Focused Study
- ☑ EIR
- ☐ Draft EIR
- ☐ EIS
- ☐ ND
- ☐ MND
- ☐ Other

Report Date (Month/Day/Year): 01/25/1991

Check if the following apply to the report:

☑ Wetland and/or aquatic habitat

☐ Within designated Coastal Zone

☑ Potential movement corridor for fish and/or wildlife

11.0 BIOLOGICAL RESOURCES

The biological resources element of the EIR was prepared by **Rachel Tierney**, botanist, **Lawrence Hunt**, wildlife biologist, and staff of the **Planning Corporation.** Surveys of biological and botanical resources incorporated into the EIR were conducted in 1988, 1989 and 1990 by staff of the National Park Service, contractors retained by the Rancho Simi Recreation and Parks District, and by the EIR consultants. Contributions to the mitigation plan were provided by Dimitri Hunt of the **Rancho Simi Recreation and Parks District.**

After publication of the Draft EIR, the applicant retained the firm Dames and Moore to review this section of the EIR and to coordinate initial contacts with the Fish and Wildlife Service, the Corps of Engineers, and the State Department of Fish and Game. Because both regulatory and commenting agencies objected to all of the mitigation measures proposed by the consultant in the Draft EIR, additional mitigation planning was provided by Dames and Moore. The consultant sponsored report (which incorporates consultations with Fish and Game and other agencies) is included in Appendix D. Substantial revisions in mitigation planning were made in response to public comments and as a result of the supplemental study performed by Dames and Moore.

11.1 EXISTING CONDITIONS

Planning Guidelines, General Plan Policies, and Area Plan Goals and Policies

The Oak Park Area Plan contains several important adopted environmental goals related to **Biological Resources** including the following goals:

Goals

1. Protect the significant biological resources of the Oak Park Area of Interest.
2. Protect wildlife migration corridors and habitat where feasible.
3. Preserve "threatened" and "endangered" species.
4. Protect, to the maximum extent feasible, natural habitat/vegetation.
5. Compensate for the destruction or degradation of natural habitat/vegetation.

The Area Plan contains an explicit set of policies which implement adopted goals. These policies include:

Policies

1. Where not previously prepared, a biological field reconnaissance report detailing the composition of species at the site and suitable mitigation measures shall be prepared as part of the environmental assessment of all discretionary permits involving earth movement or construction on previously undeveloped land.
2. Discretionary development shall be located to avoid the loss or damage to healthy mature trees and sensitive plant species, including: Catalina Mariposa Lily, Wind Poppy and Santa Susana Tar Plant and other rare or endangered species.
3. Where applicable, developers shall be required to submit an updated Oak Tree Report, covering all oaks located within 50 feet of any proposed grading or construction. Trees, along with identifying number, health and aesthetic grades, shall be shown on the grading plan.

4. All discretionary development shall comply with the oak tree preservation and mitigation requirements of the adopted Oak Park Specific Plans.

5. Discretionary development that is proposed to be located within 300 feet of a marsh, small wash, intermittent lake, intermittent stream, spring, or perennial stream as identified on the latest USGS 7 1/2 minute quad map shall be evaluated by a qualified biologist, approved by the County, for potential impacts on "wetland" habitats.

   Discretionary development that would have a significant impact on significant "wetland" habitats shall be prohibited, unless mitigation measures are adopted that would reduce the impact to a less than significant level, or for lands designated "Urban" or "Existing Community", a statement of overriding considerations is adopted by the decision-making body.

6. Where improved channels are necessary for flood control purposes, they shall be constructed to maintain as natural a setting as possible.

7. No blasting shall be permitted from February 15 through June 30 unless a field survey determines that there are no nesting raptors (other than kestrals) within 1/2 mile of the blasting site or unless studies are conducted to the satisfaction of Ventura County which indicate that blasting in an area will have no significant impact on nesting raptors.

8. Brush removal adjacent to proposed buildings shall be limited to 2 acres or less per lot, unless greater clearance is required by the Fire Protection Ordinance.

9. The California Department of Fish and Game, the U.S. Fish and Wildlife Service, National Audubon Society, California Native Plant Society and the National Park Service shall be consulted when discretionary development may affect significant biological resources.

Based on the consultants review of the project, it is clear that the project, as designed, has not successfully protected wildlife migration corridors, nor has the project been redesigned to avoid endangered species. Without either very substantially reducing the area graded and radically altering the land use density of the project, in situ preservation of rare plants and wildlife corridors is not possible in this case. The consultants have relied on Goal 5, the creation of compensating programs, to offset anticipated impacts.

This chapter of the EIR contains the results of the biological analysis of habitat loss, impacts to plants and animals--including rare plants and special interest animals--and an evaluation of wetland impacts (Policies 1 and 5). Only partial compliance with Policy 2 has been achieved in the consultant's mitigation planning effort; impacts to rare plants have been reduced through the adoption of a unique and comprehensive rare plant management plan (which includes controlled burns to assure germination within a rare plant preserve). Compliance with Policies 3, 4, and 5, which relate to restoration of Oak Woodlands and Riparian zones, has been achieved through requirement of very substantial reforestation efforts throughout the Medea Creek drainage and surrounding areas.

In the consultant's opinion, compliance with Policy 5 limitations related to construction within wetland areas has been achieved through the creation of 'artificial' springs and related wetland areas and through the recommended tree planting program. The participation of relevant agencies will be achieved through review of the EIR and through consultations required to obtain relevant permits. Compliance with the remaining policies has been achieved either through conditioning of the project or by design.

The Ventura County General Plan (Adopted May 24, 1988) contains several goals and policies oriented to the protection of significant biological resources. In addition, on June 20, 1989, the Board of Supervisors adopted General Plan Amendment 89-1 which established protective goals and implementing policies for wetland and riparian habitats. The definition of wetlands provided in the glossary of the General Plan describes wetlands as "...lands which are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is periodically covered by shallow water.....Wetlands include marshes, bogs, sloughs, vernal pools, meadows, river and stream overflows, mudflats, ponds, springs, and seeps." Recently adopted **Policies 1.5.2.3 and 1.5.2.4** require study, mitigation planning, and establishment

of buffer zones in cases where a proposed development may impact a significant wetland or riparian habitat. Intermittent streams and drainages must be evaluated for wetland or riparian habitat potential according to the new policy. In response to these policies, an inventory of the potential wetland environments in the project vicinity was completed by the consultant.

Other policies applicable pertinent to the biological resources study presented in this section include Policies 1.5.2.1 (which requires a biological evaluation if significant resources are present within the boundary of a proposed development) and 1.5.2.2 (which requires adoption of all feasible biological mitigation measures). The general goals associated with these policies encourage protection of habitat, wildlife, migration corridors, and unique and/or sensitive species.

Specific relevant goals of the Biological Resources section of the General Plan Goals, Policies and Programs document state:

- **Goal 1.5.1-1: Preserve and protect significant biological resources in Ventura County from incompatible land uses.**
- **Goal 1.5.1-2: Preserve and protect the habitat of state or federally listed rare, threatened or endangered and animal species.**
- **Goal 1.5.1-3: Preserve and protect plant and animal species and plant communities which are locally unique.**
- **Goal 1.5.1-4: Preserve and protect significant wildlife migration corridors.**

The Oak Park Area Plan requires the protection of significant biological resources and mandates compensation for the loss or degradation of natural habitat/vegetation. Relevant policies include siting of development related to wetlands, oak trees and raptor nesting areas. The tree preservation and mitigation policies dictate the mitigation required to offset the loss of trees to development. Provisions for mitigation are adjusted for the health, ecological and aesthetic value of trees and maintenance procedures for preserved and irreplaceable trees within development areas are provided.

Because the Zone III project is near Santa Monica Mountains conservancy lands and because fauna using the Santa Monica Mountains region use Zone III for water, forage and shelter, this Plan was also considered in evaluating biological resources. Specific regional plans taken into account in the biological analysis included the following:

Santa Monica Mountains Comprehensive Plan. This comprehensive plan contains policies which govern specific biological resources throughout the Santa Monica Mountains National Recreation Area. The plan establishes compatibility ratings for development in various vegetation types. The Conservation Element attempts to "strike a balance between conservation and development but recognizes that the Santa Monica Mountains are an irreplaceable resource". Additional policies are designed to preserve and enhance biological resources including special plant communities, wetlands and wildlife networks.

The Santa Monica Mountains General Management Plan. This plan includes a resource management element that is directed toward preservation, enhancement and maintenance of biological and other natural resources. Objectives are general in nature and designed to promote appropriate management practices within the Santa Monica Mountains. The plan cites urban encroachment and land development as the major threat to the integrity of natural resources. Palo Comado Canyon which in part originates at the northeastern periphery of the Zone III development is identified as a required acquisition in the Comprehensive Plan.

California Department of Fish and Game Code, Chapter 6. This code governs jurisdictional wetlands and dictates mitigation required if development encroaches on these wetlands. A Section 1603 agreement is required to permit alteration of a stream or lake. **A 1603 Permit will be required for the Zone III project. The mitigation measures presented in this Chapter were designed to satisfy the mitigation requirements for a 1603 Permit.**

Clean Water Act of 1977. Regulatory protection for water resources within the Zone III development are under the jurisdiction of the U.S. Army Corps of Engineers. Section 404 of the Clean Water Act prohibits the discharge of dredged or fill into waters of the United States without a permit from the Corps. Delineation of wetlands is required to determine acreages affected by dredging and filling operations. Impacts to biological resources are assessed by the United States Fish and Wildlife Service. Policies concerning loss of wetlands generally stress the need to compensate for wetlands lost by creating wetlands from non-wetland habitat on at least an acre-for-acre basis. **The consultant recommended mitigation measures incorporate typical compensatory requirements for 404 Permits issued in situations when wetlands will be impacted by a proposed undertaking.**

Overview of the Biological Significance of Zone III

In accord with the scope of work for this portion of the EIR, the botanical and biological resource investigations focused on the floral and faunal sensitivities of the Zone III development and on the evaluation of riparian corridors along the unnamed tributary drainages in that project boundary that descend southerly into Medea Creek.

The proposed development encompasses about 160 acres and is situated in a region of high vertebrate diversity. This diversity is a function of the wide variety of habitats occurring locally and regionally. Additionally, the constriction of the remaining open space to a narrow east-west strip traversing the steeper, exposed slopes of the southern Simi Hills may also contribute to higher densities of vertebrates. Several ravines dissect the site in a north-south direction. These formations provide valuable habitat as well as functioning as local wildlife corridors within the site and between open space to the north, east and distant south. The size of the project site is small enough to be encompassed in the home ranges of the more mobile species of snakes, birds and medium to large mammals. For these taxa, the entire site as well as the various habitat corridors imbedded within it facilitate wildlife movements within and among suitable habitats in the region.

The project site lies on the south central edge of Simi Hills, Ventura County, California. The Simi Hills forms a physiographic bridge between the large open areas of the Las Posas Hills, Oak Ridge and the Santa Susana Mountains to the north and the Santa Monica Mountains to the south at the western edge of the San Fernando Valley. Elevations vary from approximately 1000 to 2400 feet. Topographically, the Simi Hills are complex, varying from rolling hills to vertical cliff faces. They are also geologically and edaphically complex. Vegetation responds to this complexity with a variety of plant communities ranging from open grassland to oak woodland. Grazing has occurred over most of the area. The region lies within the Mediterranean Climatic Regime characterized by warm, dry summers and cool, moist winters. Precipitation is concentrated between November and April. Mean annual temperatures for the Canoga Park area (20 miles to the east) is 63.5 degrees Fahrenheit and average annual precipitation is 16 inches, based on a 30 year mean (1951-1980). Temperature and precipitation vary spatially depending on site topography.

As discussed in Chapter 8 of the EIR, fire has played an important role in the development and maintenance of chaparral and grasslands in the Simi Hills. Since 1967, at least 140,000 acres of the Simi Hills have been burned by wild fires. Most of the project site displays evidence of recent burns.

The physiognomy and spatial distribution of vegetation is governed by the interaction of soil type, slope, aspect, elevation, insolation, precipitation, temperature and fire history. The multivariate effects of these factors result in specific plant associations and larger-scale vegetation patterns. Major plant communities in the Simi Hills are:

Riparian woodland
Riparian scrub
Oak woodland
Chamise Chaparral
Coastal sage scrub
Non-native grassland
Rockland.

The most widespread vegetation type is chaparral and grassland. Coastal sage scrub predominates on the warmer, drier, south-facing slopes. Chamise chaparral dominates the northern slopes. Both vegetation types are often associated with shallow soils. Woodlands occupy deeper soils on shallower slopes and valley bottoms and intergrade with grassland. Riparian vegetation occurs in canyons with permanent or semi-permanent water sources and ravines with ephemeral water. It is better developed in the former and intergrades with scrub vegetation in the latter situations.

The regional and local diversity and abundance of vertebrates is determined in large part by soil type, elevation, slope, rainfall and biotic factors, primarily vegetation and to a lesser degree intra- and interspecific interactions. The present structural development and areal extent of any particular vegetation type is also heavily influenced by physical conditions. As a result, vegetation patterns often provides insight into certain animal associations.

It is only in a regional context that major vegetation-habitat associations become apparent. As the mobility of a vertebrate declines, its association with a particular habitat type is emphasized. Because of this behavioral distinction, it is difficult to generalize animal-habitat associations across vertebrate groups. In general the limited size of the project site translates to broad habitat usage by most mobile vertebrates.

Overall, an estimated 12 species of amphibians, 25 species of reptiles, 140 species of birds and 50 species of mammals are known to occur in the specific area encompassing the project site.

Vertebrates are not distributed evenly among habitats. Different species have different habitat requirements and consequently must move between habitats to forage, find water, reproduce, and locate shelter. Population fragmentation depends on the mobility of a particular species. Sedentary, fossorial or semifossorial species with specific habitat requirements such as certain amphibians and reptiles live in a very "coarse-grained" environment relative to their more mobile counterparts such as birds and large mammals.

Undisturbed open space provides cover and foraging space for resident and migratory vertebrates. As open areas are fragmented by urban encroachment and associated roadways the free movement of animals between areas of suitable habitat becomes increasingly restricted. The genetic consequences of small, isolated populations (e.g., small effective population size and associated increases in inbreeding frequency) can have negative effects on the long-term viability of such populations.

Of the seven major plant communities in the project vicinity, three will be altered adversely or will be enhanced through proposed mitigations. Five major plant communities have been defined for the Oak Park Community: Valley oak Woodland, Chamise chaparral, riparian woodland and annual grassland. Each community is defined biologically by vegetation aspect and plant composition. Wildlife are less easily assigned to distinct habitat associations. Most animal species use a variety of habitats within a given territory; however, for purposes of this discussion, wildlife species have been described in the context of the plant communities where they are most often found. The wildlife diversity of the Medea Creek drainage is high. Although urban expansion is rapidly encroaching south on remaining undeveloped lands in the vicinity

of the Oak Park Community, contiguous undeveloped lands to the north contribute substantially to the overall habitat values for resident wildlife. Several deeply incised canyons within the project region facilitate the dispersal of many wide-ranging species. Animals such as mule deer, coyote, gray fox, mountain lion, and bobcat rely on the this network of canyons for movement. Movement corridors function as access routes for resource exploitation, serve as a mechanism for range expansion and maintain habitat continuity. The presence of perennial surface water contributes considerably to the high quality of the local environment for plants and wildlife.

Currently the Simi Hills form a 'bridge', linking the Las Posas Hills, Oak Ridge and Santa Susana Mountains to the north with the Santa Monica Mountains to the south. This bridge is of even greater regional importance as it is one of the last remaining links between the Traverse Ranges (e.g., Santa Susana Mountains and San Gabriel Mountains) and the coastal ranges. This bridge is becoming increasingly fragmented and the Simi Hills and Santa Monica Mountains are becoming more isolated as a result of urban development on the east (San Fernando Valley) north (Simi Valley) and west and south (Thousand Oaks, Conejo Valley). Additionally, a major freeway (U.S. Highway 101) separates the Simi Hills from the Santa Monica Mountains and functions as a very effective filter barrier to the free movement of medium and large mammals. Development in the southern portion of the Simi Hills is further constricting wildlife movement into the remaining open space areas between Palo Comado, Cheseboro and Las Virgenes Canyons. The location of important regional wildlife corridors are illustrated in Figure 11-1.

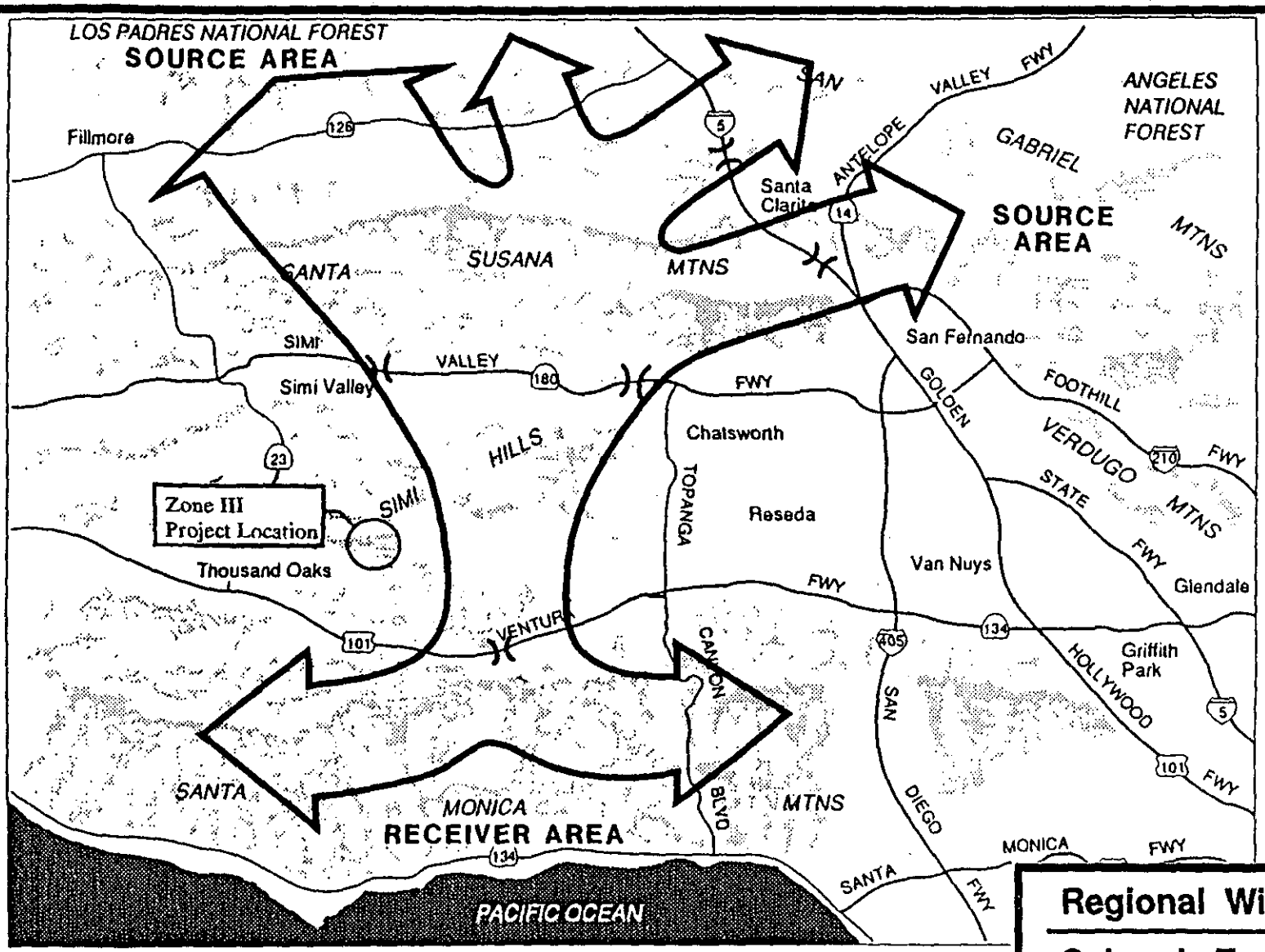
Previous studies have emphasized the importance of the region for birds of prey. Scrub and grassland habitats provide an extensive foraging resource within the Medea Creek-Lindero Canyon region. Woodlands associated with the major canyons and cliffs in the vicinity of the Simi Hills afford numerous nesting sites. Many raptor species have consistently been observed in the project vicinity: turkey vulture, black-shouldered kite, northern harrier, red-tailed hawk, golden eagle, American kestrel, prairie falcon, barn owl, great horned owl, and raven. Two additional species, the sharp-shinned and Cooper's hawk are to be expected as winter visitors within scrub and woodland habitats. A third, the merlin, could occur with uncommon frequency during the fall and winter months.

The dominant attributes of each important plant community that will either be impacted by the project or enhanced by proposed mitigations are described below.

Riparian Woodland

Riparian woodland is confined to ephemeral, intermittent, and perennial drainages and their tributaries within the project area. The community is characterized by tall deciduous and evergreen trees with a dense understory of shrubs, herbaceous annuals and herbaceous perennials. Aquatic emergent plants may be found in association with intermittent and perennial streams. Dominant trees along the larger streams include western sycamore, Fremont cottonwood (*Populus fremontii*), and arroyo willow (*Salix lasiolepis*). Coast live oaks occur extensively on the upper banks. Wild currant (*Ribes* sp.), wild blackberry (*Rubus ursinus*), and monkey flower (*Mimulus* sp.) are typical understory species. Stands of cattails (*Typha* sp.) and tules (*Scirpus* sp.) are also found at various locations within the Medea Creek drainage and in the riparian areas within Zone III.

The riparian community is unsurpassed in the diversity of its resident fauna compared to other adjacent communities. The tree canopy is an important nesting and foraging resource for many bird species. A distinct avian complement occupies the understory.



Regional Wildlife Corridors

Oakpark Zone III

County of Ventura
Planning Division

Figure
11-1

Larger streams support populations of amphibians and reptiles, including the California newt (*Taricha torosa*), Pacific treefrog (*Hyla regilla*), and western pond turtle (*Clemmys marmorata*). Stream corridors are important avenues of dispersal for mammalian species. The canyons form a continuum between the higher elevations, mesas, and valleys of the region. Mule deer, coyote, grey fox, bobcat, raccoon, and striped skunk are a few of the more common species that utilize this habitat even in urbanized corridors.

A shrubbier vegetation is more characteristic of smaller, steeper drainages; elderberries and willows comprise the dominant tree species in these areas. The understory is typically dominated by shrub species more often assigned to the chaparral and coastal scrub communities.

Within the Zone III boundary, riparian vegetation is limited to four small, steep, ephemeral and intermittent southward trending canyons draining the south slope of the Simi Hills. The shrubbier form of riparian habitat is more common here, but the lower, broader portions of these tributaries contain large trees such as cottonwoods. Riparian habitats within these are described in a separate section.

Chamise Chaparral Scrub

Chaparral scrub is most often found on higher elevation, north-facing slopes within the project region. The community is composed of a dense growth of evergreen shrubs. The dominant species include sumac (*Ceanothus* sp.), lemonade berry (*Rhus integrifolia*), holly leaf cherry (*Prunus ilicifolia*), and chaparral yucca. Chaparral sometimes intergrades with coastal scrub. The inherent diversity of this plant community is reflected in its associated fauna. Several granivorous birds and small mammals exploit the abundant seed resource. Predatory birds, mammals, and reptiles are drawn to the scrub community because of the available prey base.

Coastal Sage Scrub

This community is typified by an assemblage of gray-green shrubs with a diverse herbaceous understory. Black sage, white sage (*Salvia apiana*), purple sage, California sagebrush, and California buckwheat constitute the dominant shrubs. The understory includes annual grasses, deerweed, wishbone bush, and filaree (*Erodium* sp.). Perennial bunchgrasses also occur in stands of coastal scrub that have been unaffected by grazing or cultivation. Coastal scrub intergrades with both chaparral and annual grassland. The animal community typically inhabiting coastal scrub is much the same as that described for chaparral in terms of its composition. The two vegetation types support a comparable diversity and abundance of species. Coastal scrub is found as a transition zone between the Medea Creek-Lindero Canyon Valley floors and the higher elevation chaparral previously described.

Significance Thresholds

Significance thresholds for biological concerns were derived from a review of the California Environmental Quality Act (Appendix G), important California biological management guidelines established by State and local agencies, and local/regional plans and ordinances. Using these guidelines, the proposed project was judged to have a significant impact to the biological resources of the Zone III development or immediately surrounding regions if it would:

(1) Conflict with adopted environmental plans and goals in the community where it is located (CEQA Guidelines, App. G [a]); (Ventura County General Plan, Oak Park Area Plan, and the Santa Monica Mountains Comprehensive Plan);

(2) Substantially affect a rare or endangered species (CEQA Guidelines App. G [c]);

(3) Interfere substantially with the movement of any resident or migratory fish or wildlife species (CEQA Guidelines App. G [d]);

(4) Substantially diminish habitat for fish, wildlife or plants (CEQA Guidelines App. G [t]);

(5) Involve the use, production or disposal of materials which pose a hazard to animal or plant populations in the area affected (CEQA Guidelines App. G [v]);

(6) Involve the alteration or conversion of biological resources (locally important species or locally important communities) identified as significant within the County or region (Ventura County Guidelines for Preparation of Environmental Assessments [Draft]).

For purposes of the impact analysis, a plant or animal was considered **locally important** if any of the following criteria were met:

(1) The species, subspecies or variety is limited in distribution in the County or region, are endemic (limited to a specific area) in the region;

(2) The species is the extreme of its range or in disjunct from its known range;

(3) Species whose habitat requirements make them susceptible to local extinctions as a consequence of development, the introduction of barriers to movement, and/or accompanying increases in human activity;

(4) Populations of particular species which exhibit unusual adaptations or are quality examples of the species; and

(5) Taxa which are considered sensitive by recognized monitoring groups (i.e., Audubon Society, California Native Plan Society, California Department of Fish and Game, etc.).

Following the general significance guidance provided in the Draft Jordan Ranch EIR (County of Ventura, 1990), communities were considered locally important if they met any of the following criteria:

- Plant communities or habitat types that are of singular or limited occurrence within the County or project area;

- Plant communities or habitat types that are critical or essential habitat for rare, threatened, endangered or locally important species;

- Plant communities, habitat types or geographic areas which link substantial, intact open space areas;

- Plant communities or habitat types that exhibit characteristics approximating pristine conditions;

- Type localities for particular species of plants or animals;

- Communities considered sensitive by recognized monitoring groups such as the

California Natural Diversity Data Base, California Department of Fish and Game, Audubon Society, California Native Plant Society; and

- o Ephemeral or perennial wetlands defined as areas which sporadically, seasonally or perennially serve to emit, conduct, or impound water, making it available to water-dependent and/or facultative associations of plants or animals.

Having established the regional significance and impact evaluation criteria for biological resource evaluation, the following two sections describe the separate and distinct botanical and vertebrate wildlife composition of the lands included within and immediately adjacent to the proposed development.

Existing Botanical Setting

Baseline botanical resource data were collected during two field surveys conducted on March 28 and April 26, 1990. The objectives of these surveys were to compile a plant species inventory of the site, to locate rare plant populations and suitable habitat for rare plants potentially occurring on-site, to map the general plant communities, and to identify sensitive habitats.

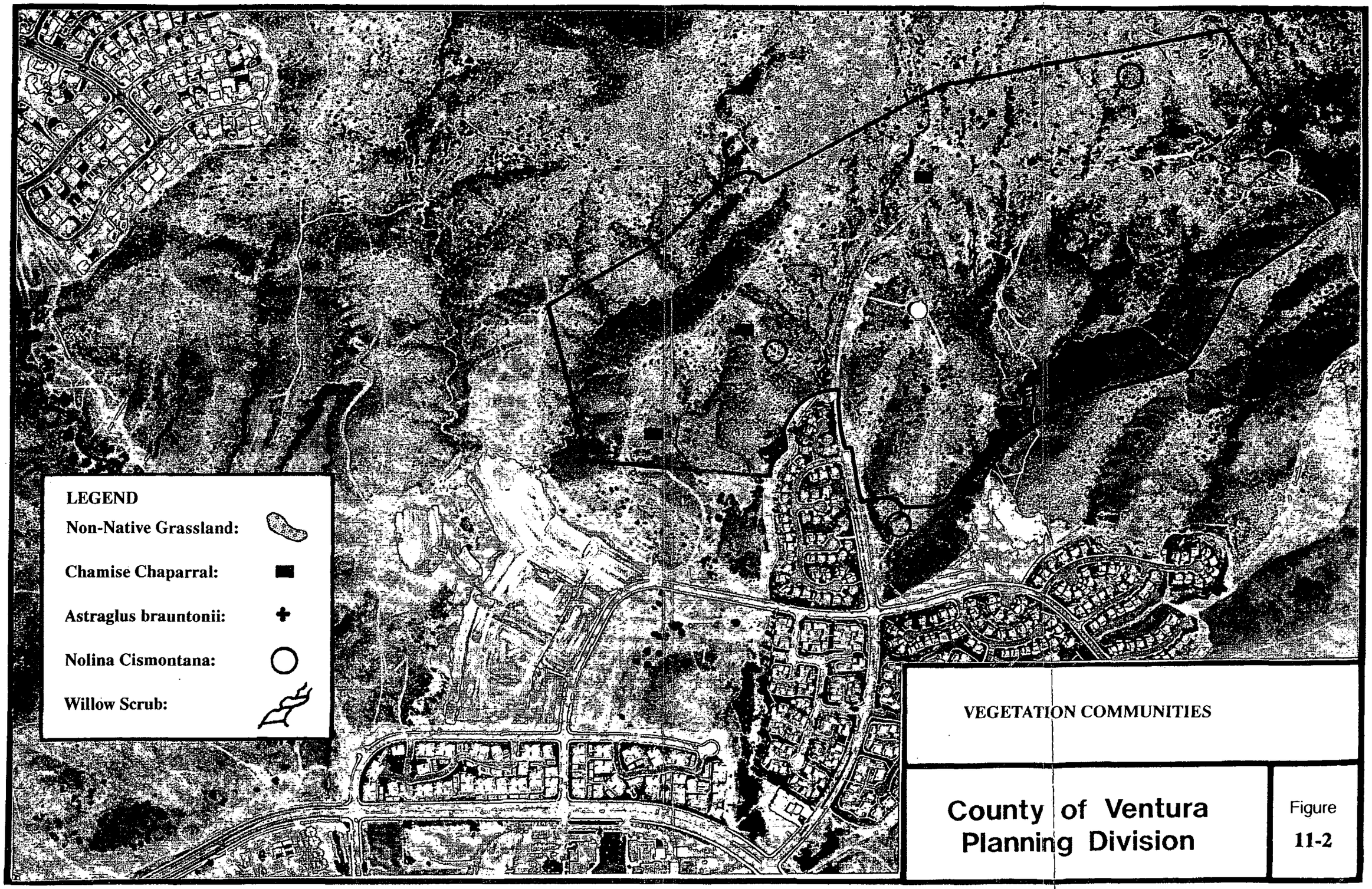
Plant Communities

The following discussion of plant communities follows the classification developed by Robert Holland (1986). The locations of these communities within the development boundary are mapped in **Figure 11-2** (Plant Community and Biological Constraints). An inventory of all species encountered during the surveys are listed in **Table 11-1.**

The **Chamise Chaparral** plant community occupies the majority of the site. Typically, this habitat is dominated by a thick cover of Chamise (Adenostoma fasciculatum). The community within the proposed development contains a more diverse inventory of shrub species than is commonly found in this plant association. This condition is especially prevalent on south-facing slopes. Although sparsely distributed, Black Sage (Salvia mellifera), California Buckwheat (Eriogonum fasciculatum) and Laurel Sumac (Rhus laurina) contribute a substantial percent to the total vegetative cover. Chamise forms the most continuous cover on the northern or northwestern exposures. Open areas between individual shrubs support an assortment of herbaceous species including Black Mustard (Brassica nigra) and Cryptantha (Cryptantha clevelandii).

Several small **Non-Native Grasslands** are also present on-site. This community contains common annual European grasses (Avena and Bromus spp.) as well as Filaree (Erodium cicutarium), scattered Sawtooth Goldenbush (Haplopappus squarrosus) and Black Mustard (Brassica nigra). The native bunch grass Purple Needlegrass (Stipa pulchra) is an occasional and minor constituent in this community.

Four unnamed **"blue line" drainages** tributary to Medea Creek (United States Geological Survey Thousand Oaks Quadrangle) are present within the development boundary. **Significant wetland habitat is established in two of these drainages.** Vegetation within this drainage consists of Arroyo Willow (Salix lasiolepis), Mulefat (Baccharis glutinosa), Poison Oak (Toxicodendron diversilobum), Giant Rye (Elymus condensatus) and several Fremont Cottonwood saplings (Populous fremontii). A few Coast Live Oak trees are established downstream, just outside of the project boundary, in the proposed Deerhill Park. A second riparian habitat, a **Freshwater Seep,** is not identified by an USGS topographic map of the area. Even though this is a drought year, surface water was present at the end of April for a distance of approximately 30 feet.



VEGETATION COMMUNITIES

County of Ventura
Planning Division

Figure
11-2

TABLE 11-1
Plant Species List

SCIENTIFIC NAME	COMMON NAME	STATUS[A]	HABIT[B]
Adenostema fasciculatum	Chamise	N	S
Arctostaphylos glandulosa	Eastwood Manzanita	N	S
Artemisia californica	Coastal Sagebrush	N	S
Astragalus brauntonii	Braunton's Milk Vetch	N	S
Avena barbata	Slender Oats	I	AG
Baccharis glutinosa	Mulefat	N	S
Baccharis pilularis ssp. consanguinea	Coyotebush	N	S
Brassica geniculata	Mustard	I	PH
Brassica nigra	Black Mustard	I	AG
Brickellia californica	California Brickellbush	N	Su
Bromus mollis	Soft Chess	I	AG
Bromus rubens	Red Brome	I	AG
Calochortus catalinae	Catalina Mariposa	N	PH
Calochortus clavatus	Club-Haired Mariposa	N	PH
Camissonia californica	California Camissonia	N	A
Ceanothus cuneatus	Buck Brush	N	S
Ceanothus oliganthus	Hairy Ceanothus	N	S
Centaurea melitensis	Tocalote	I	A
Centaurea solstitialis	Yellow Star Thistle	I	A
Chenopodium californica	Soap Plant	N	P
Chlorogalum pomeridianum	Soap Plant	N	PH
Conyza canadensis	Horseweed	I	A
Cordylanthus filifolius	Bird's Beak	N	A
Corethrogyne filaginifolia	Custerweed Aster	N	S
Cryptantha clevelandii	Cryptantha	N	A
Dichelostemma pulchella	Blue Dicks	N	PH
Elymus condensatus	Giant Rye	N	PG
Emmenanthe penduliflora	Whispering Bells	N	A
Encelia californica	Encelia	N	PH
Eriodyctyon crassifolium	Thick-leaved Yerba Santa	N	S
Eriogonum fasciculatum ssp. fasciculatum ssp. polifolium	California Buckwheat	N	S
Eriophyllum confertiflorum	Golden Yarrow	N	Su
Erodium cicutarium	Redstem Filaree	I	A
Eschscholzia californica	California Poppy	N/C	A
Eucrypta chrysanthemifolia	Common Eucrypta	N	A
Filago californica	Filago	N	A
Galium angustifolium	Narrow-leaved Bedstraw	N	Su
Galium nuttalii	Climbing Bedstraw	N	Su
Gnaphalium bicolor	Cudweed	N	P
Hemizonia ramosissima	Tarweed	N	A
Haplopappus palmeri	Palmer's Goldenbush	N	S

A Status: N=native; I=introduced; C=cultivated

B Habit: T=tree; S=shrub; Su=subshrub; PH=perennial herb; A=annual herb; AG=annual grass; PG=perennial grass; f=fern.

SCIENTIFIC NAME	COMMON NAME	STATUS[A]	HABIT[B]
Haplopappus squarrosus	Sawtooth Goldenbush	N	S
Helianthus gracilentus	Sunflower	N	PH
Helianthemum scoparium	Rush Rose	N	Su
Heteromeles arbutifolia	Toyon	N	T
Heterotheca grandiflora	Telegraph Weed	N	A
Keckiella cordifolia	Climbing Keckiella	N	S
Lobularia maritima	Sweet Alyssum	I/C	A
Lotus scoparius	Deerweed	N	Su
Lotus salsuginosus	None	N	A
Lotus sp.	None	N	A
Malacothamnus fasciculatus	Chaparral Mallow	N	S
Malacothrix saxatilis	Cliff Aster	N	Su
Marah macrocarpus	Manroot	N	V
Marrubium vulgare	Horehound	I	Su
Melilotus albus	White Sweet Clover	I	A
Mirabilis californica	Wishbone Bush	N	Su
Nicotiana glauca	Tree Tobacco	I	T
Nolina parryi (N. cismontana)	Nolina	N	PH
Orthocarpus purpurascens	Owl's Clover	N	A
Paeonia californica	Peony	N	PH
Pellaea mucronota	Bird's Foot Fern	N	F
Perezia microcephala	Sacapellote	N	PH
Phacelia cicutaria var hispida	Phacelia	N	A
Phacelia viscida	Sticky Phacelia	N	A
Populus fremontii	Fremont Cottonwood	N	T
Quercus agrifolia	Coast Live Oak	N	T
Quercus dumosa	Shrub Oak	N	S
Rhamnus crocea	Red Berry	N	S
Rhamnus ilicifolia	Hollyleaf Red Berry	N	S
Rhus laurina	Laurel Sumac	N	S
Rhus ovata	Sugar Bush	N	S
Ribes indecorum	White-flowered Currant	N	S
Salix lasiolepis	Arroyo Willow	N	T
Salvia columbariae	Chia	N	A
Salvia leucophylla	Purple Sage	N	S
Salvia mellifera	Black Sage	N	S
Sambucus mexicana	Eldberry	N	T
Schismus barbatus	Schismus	I	AG
Scutellaria tuberosa	Scullcap	N	PH
Senecio vulgaris	Common Groundsel	I	A
Solanum xanti var. xanti	Chaparral Nightshade	N	S
Stipa coronata	Giant Stipa	N	PG
Stipa lepida	Slender Needlegrass	N	PG
Stipa pulchra	Purple Needlegrass	N	PG
Tauschia arguta	Southern Tauschia	N	PH
Tetradymia comosa	Cottonthorn	N	S
Toxicodendron diversilobum	Poison Oak	N	S
Trichostema lanatum	Wooly Bluecurls	N	S
Verbena lasiostachys	Verbena	N	PH
Vicia sativa	Spring Vetch	I	A

A Status: N = native; I = introduced; C = cultivated

B Habit: T = tree; S = shrub; Su = subshrub; PH = perennial herb; A = annual herb; AG = annual grass; PG = perennial grass; f = fern.

Several clumps of Cattail (Typha sp.) are established within the drainage, along with Poison Oak (Toxicodendron diversilobum), Giant Rye (Elymus condensatus), Verbena (Verbena lasiostachys) and Elderberry (Sambucus mexicana).

Sensitive Botanical Resources

A "sensitive botanical resource" includes both rare plant species and habitats. Native plants are regarded as "sensitive" because they are threatened with extinction throughout their range or they are in danger of local extirpation. Habitats are also considered sensitive if they exhibit a limited distribution, have high wildlife value, contain sensitive species, and/or are particularly susceptible to disturbance.

Rare Plants: Regulatory Setting and Occurrence Within the Project Boundary

Rare, or otherwise sensitive plants and habitats are protected by federal and state legislation. The federal Endangered Species Act of 1973, and the published list of endangered and threatened species, provide legal protection for threatened and endangered taxa nationwide. The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over the federal program.

California has a similar mandate embodied in the California Endangered Species Act of 1970 and its corollary laws: the California Species Preservation Act of 1980 and the California Native Plant Protection Act of 1977. The California Department of Fish and Game (CDFG) and the California Native Plant Society (CNPS), have jurisdiction over the California Species Protection Laws. Candidate species (taxa that are under review for state or federal listing) can gain fully-protected status at any time. State candidate species are also protected from removal or disturbance.

In addition to the programs described above, the Native Plant Society compiles and updates an inventory of sensitive species. This list includes state and federally-recognized rare plant species, as well as those plants determined to be rare by this organization of experts. The Native Plant Society maintains several "lists" in an effort to categorize degrees of concern. List '1A' includes plants assumed extinct in California. List '1B' includes species which are rare, threatened or endangered in California and elsewhere. List '2' contains plants rare in California, but more common elsewhere. List '3', a review list, contains species which require more information. List '4' describes species of limited distribution.

Many species qualify for formal protection under the California Environmental Quality Act (CEQA, State of California, 1986), **even if these plants are not registered under state or federal programs.** These include the majority of plants on the California Native Plant Society Lists 1 and 2, as well as species that are rare, endangered or threatened regardless of recognition by the Federal or State agencies. Section 15380 (Rare and Endangered Species) of the 1986 CEQA Statutes and Guidelines (amended March, 1988) state:

(a) "Species as used in this section means a species or subspecies of animal or plant, or a variety of plant.

(b) A species of animal or plant is:

(1) "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or

"Rare" when either:

(A) Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or

(B) The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act.

(c) A species of animal or plant shall be presumed to be rare or endangered as it is listed in:

(1) Sections 670.2 or 670.5, Title 14, California Administrative Code; or

(2) Title 50, Code of Federal Regulations Section 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.

(d) A species not included in any listing identified in subsection (c) shall nevertheless be considered to be rare or endangered if the species can be shown to meet the criteria in subsection (b)."

As outlined in the introductory section of this chapter, the Ventura County General Plan Goals, Policies and Programs (County of San Buenaventura, 1988) states in section 1.5 Biological Resources, the following goals pertaining to rare, endangered or threatened plants 1) Preserve and protect the habitat of state or federally listed rare, threatened or endangered plant species and 2) Preserve and protect plant and animal species which are locally unique. The Oak Park Area Plan (County of San Buenaventura, 1988) lists as one of its goals to preserve "threatened" and "endangered" species. The Oak Park Wildlife Management Plan (Oak Collaborative, 1986) identifies as one of its goals, the protection of existing biological resources, including rare plants.

Two rare plants have been identified on the project site during the spring survey. These are the Braunton's Milk-Vetch (Astragalus brauntonii) and Nolina (Nolina parryi/cismontana). The locations of individuals or populations identified within the development are mapped on **Figure 11-1.** A discussion of the habitat requirements and rarity of each species follows.

Braunton's Milk Vetch (Astragalus brauntonii)

This species has been found in the foothills bordering the Los Angeles plain in the Santa Monica, Santa Ana and San Gabriel Mountains. It is most commonly (and most abundantly) seen after chaparral burns, and appears to be a limestone endemic (Marsh, 1990; Spenger, 1990; Thomas, 1990). Small populations have also been noted following artificial, mechanical disturbance such as grading (Bramlet,1990; Thomas, 1990). However, the number of plants observed following mechanical disturbances are usually small in contrast with the dense growth that occurs in the first several years following a wildland fire. Occasionally individuals have been identified after seed has fallen or in a down-slope area below a main population; presumably these seeds have been scarified by abrasion enabling germination (Spenger, 1990). Heat or scarification of the seed coat is required for germination (Carroll, 1986). Once established, Braunton's Milk-Vetch is a short-lived perennial and populations persist for approximately 3 to 5 years. After this time, the vegetative form of the plant dies and the perpetuation of the plant persists only in seed form in the soil for many years thereafter until the next fire cycle (Nature Conservancy, 1986).

The California Native Plant Society includes this species on their List 1B (plants rare, threatened or endangered in California and elsewhere). All plants in this category meet the definitions of Section 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code, and are eligible for state listing (CNPS, 1988). The Native Plant Society, in an effort to further refine their designations, assigns their listed species a "R-E-D" code, which stands for: (R) a plants **rarity** (addressing the extent of the plant, both in numbers of individuals and the extent of the distribution); (E) **endangerment** (or threat of extinction); and (D) **distribution** (which focuses on the general range of the species). Plants are rated on an ordinal scale from 1 to 3. The higher the number, the more critical the concern. Braunton's Milk-Vetch receives a 3-2-3 designation which is defined as:

> R (rarity) = 3; Occurrence limited to one site or a few highly restricted sites, or present in such small numbers that it is seldom reported.
>
> E (endangerment) = 2; Endangered in a portion of its range.
>
> D (distribution) = 3; endemic to California.

Braunton's Milk-Vetch is also a candidate for federal listing.

The Nature Conservancy (1986) conducted a study of all known populations of the Milk-Vetch and determined that five out of the twelve occurrences recorded on the California Natural Diversity Data Base had been extirpated. Three of the remaining seven sites are historic, and contain potential habitat for Astragalus brauntonii, though no plants have been observed for a number of years. One of these sites, at Los Liones in Topanga State Park, is protected from development. The other two are on private lands (the Silvernale Ranch owned by Rocket Dyne in the Simi Hills of Ventura County and Temescal Canyon in the Santa Monica Mountains in Los Angeles County).

Four recent sightings of the plant are on file with the California Natural Diversity Data Base. Two are situated in Coal and Gypsum Canyons in the San Gabriel Mountains. Both are slated for residential development. Impacts to Astragalus brauntonii associated with the proposed development of the Coal and Gypsum sites have not yet been evaluated (Homrighausen, 1990). Prior to 1990, the Gold Hill area north of Monrovia in the Santa Ana Mountains contained two small populations. One has since been extirpated (Bitterley, 1990; Wallace, 1990). The Medea Creek population in the Santa Monica Mountains has been partially removed by development, although a portion of the Medea Creek location is ostensibly protected in a 200-foot wide, wildlife corridor. These remaining individuals are threatened with off road vehicles, competition by other plants in a fire restricted area, use and trampling (Thomas, 1990). The habitat, however, is protected by the City of Thousand Oaks (Nature Conservancy, 1986). Since the 1986 study, several individuals were discovered to the southwest of the Medea Canyon location, in designated "Open Space" within the North Ranch community (Burgess, 1990).

Although two known locations receive some form of protection (Los Liones in Topanga State Park, Medea Canyon in a designated open space), these areas are not managed for the preservation of the species. This species persists in a vegetative form for a limited number of years. Without occasional burns or possibly other forms of mechanical disturbance to stimulate germination, the stored seed bank will eventually lose viability. **Preserving the habitat, while suppressing fire-induced regeneration of seed-producing plants, will not protect the species through time.**

The population within the Zone III project vicinity is located on a knoll along the southern side of a water tank, and consists of 16 plants. The area directly south of the water tank is maintained as a helicopter landing pad by the Ventura County Fire Department. The site is cleared annually of vegetation with hand-held equipment, and was last graded in the Fall of 1988 (Ventura County Fire Department, 1990). Presumably this most recent grading activity that initiated the germination and growth of the plants. The area directly surrounding the Astragalus is very sparsely vegetated with Marrubium vulgare at present.

A second population of the Milk-Vetch was located just outside of the project boundary. This location was also recently graded to install a small cement drainage channel and retaining wall. The site contains 5 individuals. Both populations are growing on rocky soils derived from limestone parent materials. Substantial areas (mapped on **Figure 11-1**) contain the appropriate parent soil materials for the plant and these areas were designated as presumed habitat.

Nolina (Nolina parryi and Nolina cismontana)

Recent taxonomic treatment of the genus Nolina in Southern California has placed the coastal or cismontane taxon (erroneously labeled N. parryii in Munz's treatment of the genus) in its own species. This form has been named N. cismontana. N. parryi will refer to the high-elevation desert form only (Dice, 1988, 1990). The author of the new taxon is presently working on the treatment for the upcoming Jepson Flora, where the revised taxonomy will be featured. The genus Nolina will be placed in the Liliaceae family. Anatomical differences separating the two species include a shorter (or stemless) trunk and narrower leaves on the cismontana taxon.

The cismontane species is found on dry sites within the chaparral, and is occasionally the dominant constituent of the plant community (Marsh, 1990). The plant may spread extensively by underground runners. Recent electrophoresis testing of a large stand has demonstrated that each individual was enzymatically, and presumably genetically, identical. A subsequent burn at the test site induced flowering of all individuals. Supporting the electrophoretic data, all entities were determined to be female (Dice, 1990).

The Zone III development contains four scattered stands of this species, primarily on the more sparsely vegetated, south facing exposures. The Nolina often grows with Spanish Bayonet (Yucca whipplei), which it closely resembles.

Other known populations of the cismontane form of Nolina (Nolina cismontana) are found in several locations on drier slopes and knolls in: 1) Ventura County (two small populations appeared after a burn in the Ojai area and in Medea Canyon); 2) Orange County (five stands, two of which have been extirpated, two are threatened); and 3) three sites in San Diego County, one of which is threatened by development (Dice, 1990; Marsh, 1990). The species is absent from Los Angeles County (Dice, 1990).

Nolina cismontana is not recognized on any list of rare plants. This omission is not surprising in light of the past taxonomic confusion. The desert form is much more common and the two taxa have been traditionally grouped together. Although formal identification of its rarity has not been established within the activities of federal and state agencies, CEQA Guidelines provide that a plant or animal may be treated as rare or endangered even if it has not been placed on an official list. In his study of the genus, the author of this recent taxonomic treatment states, Nolina cismontana is known from only a handful of populations throughout a very limited area in Southern California. The majority of all known populations are within one mile of expanding urbanization, and like a number of other plants and animal species in coastal California, their existence is threatened by this ever expanding development. Nolina cismontana deserves consideration by the California Native Plant Society, the California Department of Fish and Game, and the United States Fish and Wildlife Service for rare, endangered or threatened species status.

Other Sensitive Botanical Species Potentially Occurring On-Site

Sensitive plant species identified as having a potential to occur within the Project boundaries, but not located during the spring surveys, are listed below. Sources for this list include the California Department of Fish and Game Natural Diversity Data Base, the Santa Monica National Forest Service, and the California Native Plant Society. Along with scientific and common names of each plant, the habitat where they are most commonly found is provided:

Brickellia nevinii (Nevin's Brickellia)
CNPS: 3 (a review list)
State/Federal: None
Habitat: Dry sites in chaparral, from Santa Monica and south facing San Gabriel Mountains to Santa Barbara County.

Potential for Occurrence: This species was not seen during the spring survey. Coincidence with flowering period (which is in the fall) is not necessary for a positive identification.

Calochortus catalinae (Catalina Mariposa)
CNPS: 4 (a watch list)
State/Federal: None
Habitat: Grasslands, Chaparral.
Potential for Occurrence: Suitable habitat present on-site, survey coincided with flowering period.

Hemizonia minthornii (Santa Susana Tarplant)
CNPS: 1B
State/Federal: Rare/Candidate
Habitat: Santa Susana rock outcrops.
Potential for Occurrence: Found to the northeast of the site. Some small outcrops resembling the Santa Susana formation are present in the northern slopes of the project site, although this species was not seen. These are very distinctive perennial plants and floral identification is not necessary.

Pentachaeta lyonii (Lyon's Pentachaeta)
CNPS: 1B
State/Federal: /Candidate
Habitat: Thin grasslands in scattered locations in Ventura and Los Angeles Counties.
Potential of Occurrence: Suitable habitat does occur on-site. The late spring survey corresponded with the flowering period of this diminutive annual. The severe drought suffered the past few years may have suppressed the development of the species on-site this season. However, the Pentachaeta is almost always associated with annual Polemones, which were absent from this community.

Stylomecon heterophylla (Wind Poppy)
CNPS Considered, but rejected: Too common
Habitat: Grassy and brushy slopes.
Potential for Occurrence: This species was identified in the Oak Park Wildlife Management Plan (Oak Collaborative, 1986), but has since been reclassified as an occasional, rather than rare, species. Potential habitat occurs on-site.

The Oak Park Specific Plan requires for the preservation and maintenance of all healthy trees, as well mitigation for all oak trees removed during development. Specific requirements (including short and long-term preservation plan development), financial responsibility, and required size of replacement trees are outlined in this plan. The mitigation program outlined by the consultant prepared in accord with the plan. **A substantial stand of oaks is located in an immediately adjacent canyon west of the proposed project. This stand of trees is within lands owned by the Rancho Simi Recreation and Park District. An important up canyon trail ascends this small canyon which links the valley floor to the Simi Hills. About seventy-five (75) mature oak trees are present in this drainage and the immediate vicinity.**

Riparian Habitats

The definition of a wetland for the purposes of impact evaluation is provided in the General Plan Glossary:

> **Wetlands - Lands which are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is periodically covered with shallow water. The frequence of occurrence of water is sufficient to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands include marshes, bogs, sloughs, vernal pools, wet meadows, river and stream overflows, mudflats, ponds, springs and seeps.**

Policy 1.5.2.3 of the County General Plan states in part that:

> **Discretionary development that would have a significant impact on significant "wetland" habitats shall be prohibited, unless mitigation measures are adopted that would reduce the impact to a less than significant level, or for lands designated "Urban" or "Existing Community", a statement of overriding considerations is adopted by the decision-making body.**

Amendments to the General Plan provide additional guidance regarding mitigation planning adjacent to wetland environments:

> **Discretionary development shall be sited a minimum of 100 feet from significant "wetland habitats to mitigate the potential impacts on said habitats. Buffer areas may be increased or descreased upon evaluation and recommendation by a qualified biologist and approval by the decision-making body. Factors to be used in determining adjustment of the 100 foot buffer include soil type, slope stability, drainage patterns, presence or absence of endangered, threatended or rare plants or animals, and compatibility of the proposed development with the wildlife use of the wetland habitat area. The requirement of a buffer (setback) shall not preclude the use of replacement as a mitigation when there is no other feasible alternative to allowing a permitted use, and if the replacement results in no net loss of wetland habitat. Such replacement shall be "in kind" (i.e., same type and acreage), and provide wetland habitat of comparable biological value. On-site replacement shall be preferred wherever possible. The replacement plan shall be developed in consultation with California Department of Fish and Game (Policy 1.5.2.4 of Goals, Policies and Programs).**

Similar to the oaks in wildlife benefits, riparian habitats provide food, nesting sites and cover. With the addition of intermittent or year-round water, this perhaps is the most useful habitat for the greatest number of plant and animal species (Oak Collaborative, 1986).

Wetlands, delineated by the presence of 1) hydrophytic vegetation, 2) hydric soils and 3) wetland hydrology for at least two weeks out of the growing season, are protected from disturbance without first obtaining a permit from the Army Corps of Engineers (Section 404 of the Federal Clean Water Act). The California Department of Fish and Game also requires a permit for any project which will "change the natural flow or substantially change the bed, channel or bank of any river, stream, or lake designated by the Department [of Fish and Game], or use any material from the streambeds, without first notifying the Department of such activities" (California Department of Fish and Game, 1989). **The Department of Fish and Game generally requires a 2:1 replacement ratio for wetlands prior to issuing permits which enable disturances to a riparian system.** Unlike the Federal characterization of wetlands, the State requires only one of the three wetland parameters to be met at any site.

It is likely the absence of oak tees is at least partially attributable to Native California modification of the area through repeated, periodic burning of chaparral stands. As discussed in the Cultural Resources evaluation, frequent burning of the vegetative cover in environments such as the Zone III area was practiced by the Chumash. Both ethnohistoric and archaeological evidence corroborate this finding. Therefore, the absence of oaks in this case may reflect both environmental and cultural conditions in the recent past.

Supplemental Wetland and Riparian Resource Identification and Management Jurisdiction

In response to comments, supplemental analysis was performed of the riparian resource-wetland habitat issue (Dames and Moore Report-Appendix D). According to the applicant's consultant, alteration of the freshwater spring on the property will require a 404 permit from the Corps of Engineers and, in the opinion of Dames and Moore, the Department of Fish and Game would not also have jurisdiction over this natural feature. The written concurrence of Fish and Game with this determination has not been obtained. The drainages and associated riparian vegetation are under Fish and Game jurisdiction and therefore the distinction between the spring and drainages is not significant.

Local Wildlife Corridors

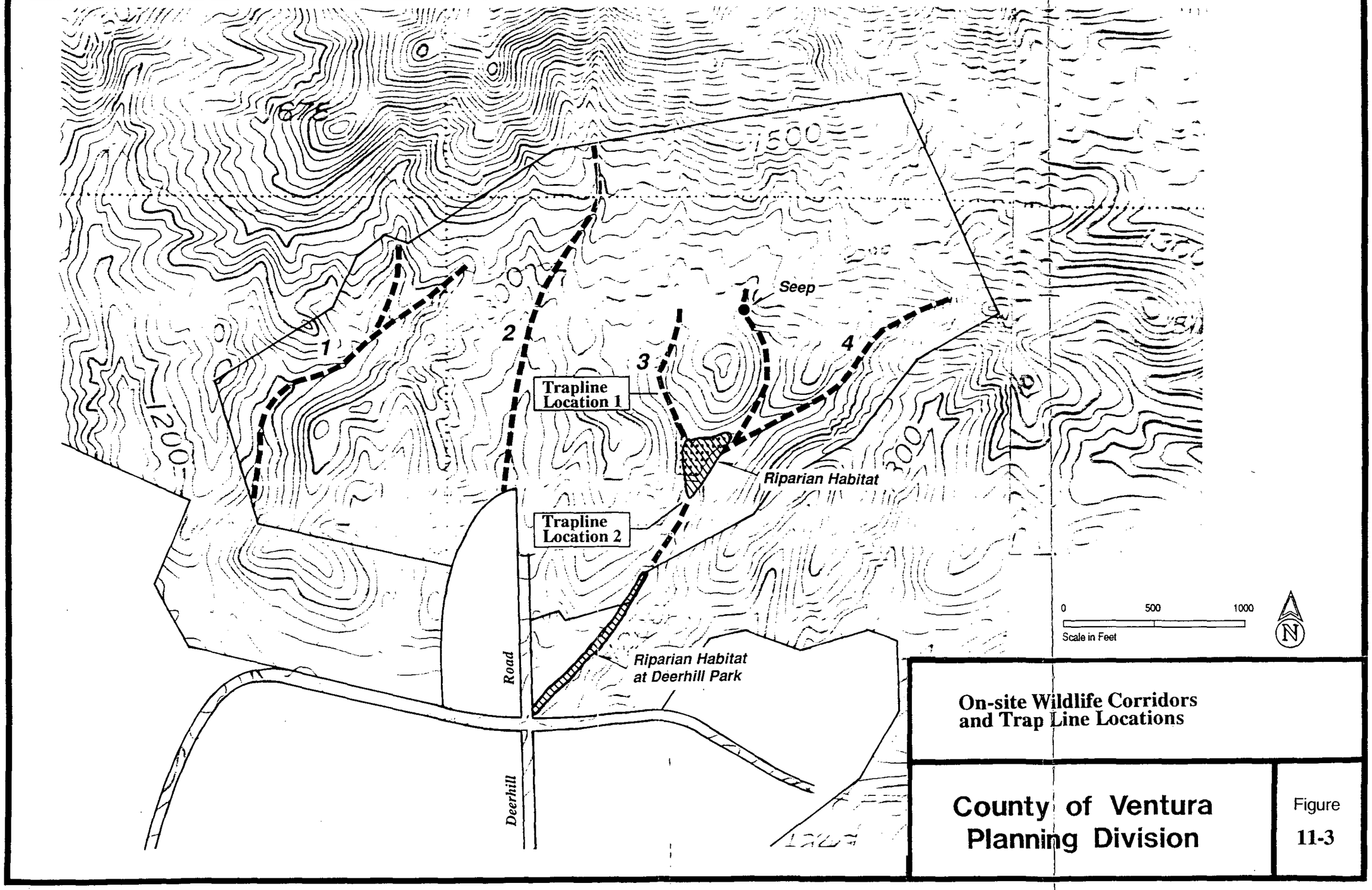
Overview

It is difficult to state with any certainty the value of a particular habitat or parcel of open space as a wildlife corridor in the absence of detailed analysis of the movements of at least a few of the dominant vertebrate species that occupy the site. However, the requirement of open space for unrestricted animal movements is obvious. Likewise, it is apparent that larger vertebrates need larger areas in which to forage or satisfy other requirements. Suitable areas must be available for dispersal of young as well as routes for immigration and emigration of individuals between populations to maintain genetic variability and reduce inbreeding.

It is important to understand that **the entire project site in its present form functions as a wildlife corridor, especially for species favoring chaparral and grassland habitats.** These species can utilize this area to traverse the lower slopes of the southern Simi Hills in an east-west direction.

Imbedded within the regional landscape surrounding the project site are several natural features that could be considered wildlife corridors. Any of the deeper ephemeral washes and intact streams in the area offer value as potential wildlife corridors. These elements are particularly valuable because they dissect a series of habitats along their entire length thereby contacting a wide variety of vertebrate species.

Three corridors on-site and three in the immediate vicinity off-site have been identified as having important wildlife value. In an east to west direction these are: Palo Comado Canyon, Corridors A-D, and Medea Creek. As shown in **Figure 11-3**, the first and last drainages bracket the project site on the east and west. **The Medea Creek and Palo Comado Canyon drainages are considered to be of regional importance in allowing wildlife to move between the Simi Hills (and areas to the north) and the Santa Monica Mountains to the south. The four corridors identified on-site are of local importance to wildlife movements.**



On-site Wildlife Corridors and Trap Line Locations

County of Ventura
Planning Division

Figure
11-3

Adjarian (1988) has identified and described four potential wildlife corridors on the project site. All of these corridors are ephemeral or perennial watercourses which support woodland-type vegetation. Given the **wildlife value of these habitats and based on current field work, Adjarian's assessment of the on-site wildlife corridors is accurate and his recommendations for the preservation and enhancement of these corridors are in agreement with the finding of the present study.**

Palo Comado Canyon and Medea Creek

Palo Comado Canyon is approximately 0.5 air miles east of the eastern boundary of the project site. Medea Creek is about 0.5 miles west of the western boundary of the project site. Both are important regional wildlife corridors because of their large size, relatively undisturbed condition, extensive vegetation development and presence of permanent water.

Palo Comado Canyon is subject to considerably less human activity than Medea Creek, but both drainages have been highly modified as they approach Highway 101. Road undercrossings designed to maximize wildlife access are essential to prevent man-made structures such as freeways from isolating vast tracts of open space on either side. Tracks and sign indicate that the existing undercrossings in Medea Creek as it crosses Kanan Road are heavily used by a variety of small and large mammals and snakes. General recommendations for improvement of Medea Creek and smaller wildlife corridors to the east have been reviewed in the Oak Park Wildlife Management Plan (1988) and should be applied to any alteration of existing drainages in the project area.

Corridors 'A-D'

The following 'wildlife corridors' are intermittent drainage courses that extend outside of the Zone III boundary. They are labelled 'A to D' in an east to west direction and are illustrated on **Figure 11-3.**

Corridor 'A' in **Figure 11-3** is classified by Adjarian (1988) as a 'primary' corridor. It is about 2000 feet long, beginning near the northeast corner of Tract 3141 and proceeds north-northeast to parallel the eastern project site boundary, then enters the Palo Comado Canyon drainage. **This corridor is characterized by a continuous chaparral cover traversing chaparral and grassland habitats along its length. This corridor and adjacent slopes have high wildlife value because they appear to allow wildlife movements from the grassland and chaparral habitats along the eastern portions of the project site into Palo Comado Canyon.**

Corridor B lies approximately in the center of the project area and has an upper east and west arm, east of the existing water storage tanks on the project site. These arms converge to form a single large ravine that continues south-southwest under the intersection of Kanan and Deerhill Roads to eventually empty into Medea Creek. These ravines provide ephemeral water sources and have within them at least two fresh-water seeps that have high botanical and wildlife value. Additionally, recent aerial photographs and USGS topographical quadrangles (Thousand Oaks, 7.5' Quad, 1981) show the presence of a small pond in this ravine approximately 800 feet north of the southern boundary of the project site. An earthen dike that supported this pond has since collapsed, but when intact, it retained a large pool that probably significantly increased the wildlife value of the ravine. Vegetation in this system is classified as Southern Willow Scrub and the ravine traverses Chamise Chaparral and Non-native Grassland habitat throughout its length. **Field surveys documented that this riparian system receive high wildlife usage and several species of vertebrates were observed on-site only in this drainage (e.g., Black-bellied Slender Salamander, Hermit Warbler, Dusky-footed Woodrat). Additionally small mammal diversity in this ravine is very high (5 species over a 700 foot length of ravine).**

Corridor C **is a small ravine immediately west of the existing asphalt access road to the water storage tank. For its size this ravine receives a surprisingly high amount of mammal use, as evidenced by track and sign of Coyote, Raccoon, Opossum, Bobcat and Gray Fox.** The area is moderately disturbed by off-road vehicles. This ravine is not significantly differentiated from the surrounding area in terms of vegetation but there does appear to be a substantial and sustained flow of water following storms, which may account

for its high wildlife use. The ravine and any wildlife value associated with it appears to terminate where the system abuts the northern edge of Tract 3157-2. This ravine extends north into steep brushy ravines onto Rancho Simi Recreation and Park lands and may provide a conduit for wildlife movement between the project site and ravines to the east that ultimately empty into Medea Creek.

Corridor D is adjacent to the southwestern boundary of the project site in an area of oak savannah/grassland that extends north-northwest about 1500 feet from Doubletree Drive on Rancho Simi Recreation and Park land, across the western edge of the project site and into ravines that empty into Medea Creek. It contains about 15 Coast Live Oak trees (two within the boundary of the project area) scattered across relatively undisturbed grassland and scattered tracts of chaparral. **Native mammal sign found here included Coyote, Bobcat, Gray Fox, Striped Skunk and Deer Mouse. This area appears to have high value for reptile species especially snakes. The vegetation and edaphic conditions also appear favorable for the Silvery Legless Lizard, a sensitive species. Additionally, raptor use of this area is high. The value of this area lies in its unique (for the project site) vegetation associations and its importance as a route of travel that enables vertebrate access to Medea Creek.**

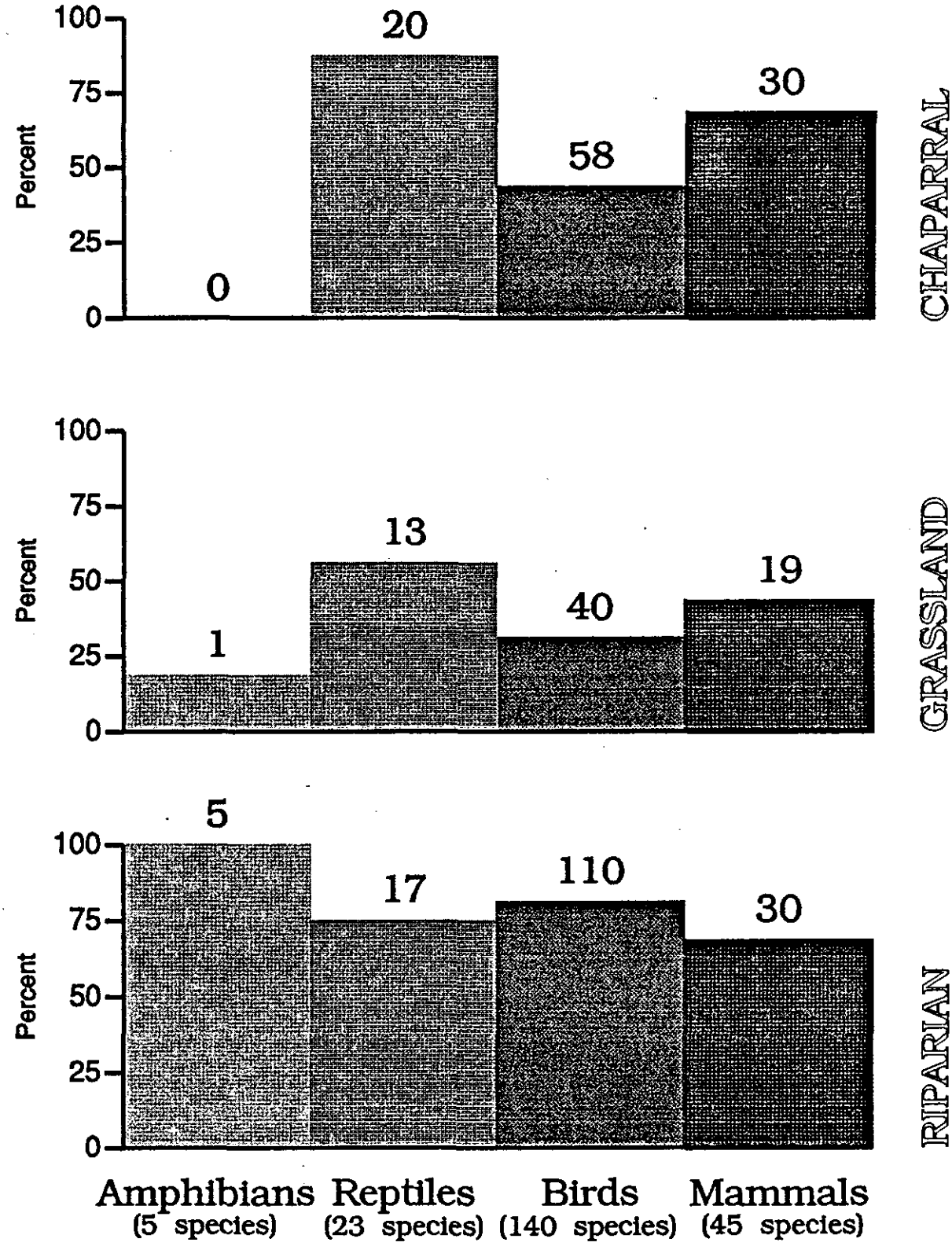
Field Survey: Inventory of Vertebrates

Faunal surveys of the project site and adjacent areas were conducted to determine the present wildlife diversity of the immediate area, to evaluate wildlife habitat relationships, and to determine the spatial arrangement of potential wildlife corridors through the project site in relation to the regional mosaic of open space. The property was surveyed on eight occasions between 2 February and 2 May 1990. Field surveys began with a reconnaissance of the 160 acre project site and Medea Creek to the west and grasslands to the east and southeast in order to characterize the location and areal extent of important wildlife habitats. Detailed site visits followed the initial survey that focused on locating important microhabitats and creating an inventory of vertebrate species. Amphibians and reptiles were surveyed by walking randomly through each of the representative habitats on the project site as well as the Medea Creek riparian corridor to the west and grasslands to the east and southeast of the development.

The purpose of these transect surveys was to locate as many suitable microhabitats as possible. Observations on birds were made whenever field work was being conducted between 2 February and 2 May. Mark Holmgren of the University of California-Santa Barbara Vertebrate Museum assisted in these avian surveys. Mammal species were surveyed by a combination of direct and indirect observation, including small-mammal live-trapping and analysis of scats, burrows, and tracks. Small mammal species diversity was sampled by live-trapping. The location of trap lines are indicated in **Figure 11-3**. Surveys were conducted on foot and vertebrates observed directly or by sign are recorded in **Table 11-2**. Literature and museum records provided additional information on the local and regional distributions of vertebrates. The field surveys and background research focused on potential impacts to sensitive species as well as on the consequences of direct and cumulative loss of habitat and alteration of the remaining wildlife corridors in the area. Sensitive species included vertebrates listed as threatened or endangered by the California Department of Fish and Game and the U.S. Fish and Wildlife Service. Species recognized by county, state or federally governments as "species of special concern" were also considered.

Survey Results

Three habitats on-site provide important wildlife benefits: Chamise Chaparral dominates the project site, occurring throughout the upper slopes and over most of the more exposed lower areas; Southern Willow Scrub is restricted to the ravines scattered throughout the site and although very limited in areal extent the habitat provides the most important wildlife habitat. Imbedded within this vegetation type are freshwater seeps. Two seeps were located in the same drainage (Corridor 'B' in **Figure 11-3**) during the field surveys and although recent drought conditions have substantially reduced their output, these microhabitats probably have important long-term wildlife value. Non-native grassland is also limited in extent in the project area and occurs at the east and southeast corners of the site, extending into much larger areas off-site,



Vertebrate-Habitat relationships for the project site and adjacent areas

Oakpark Zone III

County of Ventura Planning Division

Figure 11-4

as well as to smaller patches in the east-central and west-central portions of the parcel. For the purposes of discussion, these two seeps are considered a single spring location because they provide surface water in the same drainage and they are proximal to one another.

Vertebrate mobility generally increases with body size. Rarely are larger vertebrates restricted to a particular habitat at local spatial scales. Because of the limited size of the Zone III development area, most large vertebrates (including most birds) probable utilize the entire project site. Overall, the consultant documented the use of Zone III by 2 species of amphibians, 5 species of reptiles, 54 species of birds and 22 species of mammals. **Table 11-2** lists species known or expected to occur in the vicinity of the project site and **Figure 11-4** illustrates the observed vertebrate-habitat relationships. A brief review of observations regarding species present in the Zone III boundary are provided below.

Amphibians

A combination of habitat degradation through urban encroachment and stream alteration, coupled with unusually low precipitation for several consecutive years, is responsible for the low diversity of amphibians encountered during the surveys. Five species of amphibians were identified as potentially occurring on the project site. Two widely distributed and locally common species were found on site during the field surveys. The riparian areas within Zone III and adjacent to the site are of obvious importance to this group of vertebrates.

Reptiles

Twenty-three species of reptiles are known to occur or potentially occur within the project boundary. Five species were sighted during the field surveys. Four of the species are regionally widespread and common to abundant locally. One species, the Silvery Legless Lizard, (Anniella pulchra pulchra) is geographically widespread in California but has a very fragmented distribution locally due to specific microhabitat requirements.

Birds

One hundred and forty (140) species of birds are known or potentially may occur on the project site. Fifty-five species (40%) were observed during the field surveys, including two sensitive taxa, the Black-shouldered Kite (Elanus leucurus) and the Loggerhead Shrike (Lanius ludovicianus).

Mammals

The existing project site supports an interesting and diverse mammal assemblage. Small and large mammal diversity is surprisingly high within the development. Possible reasons for this diversity include the mosaic of habitats in the Simi Hills area and the constriction of the available habitat to the steeper portions on the Simi Hills foothills as a result of urbanization. Small mammal live-trapping in chaparral and riparian habitats on-site documented the presence of at least 8 species comprising largely complementary assemblages in these habitats (**Table 11-3**). Twenty-three species (51%) of the 45 species of mammals identified as known or potentially occurring on-site were directly or indirectly observed during the field surveys. Fourteen species of bats may potentially occur on-site but their nocturnal, aerial habits preclude an accurate assessment of their diversity and abundance without detailed sampling.

TABLE 11-2
Occurrence and Habitat Associations of Vertebrates in Oak Park Zone III, Ventura County, California

TAXON	OCCUR.	DISTRIB.	SITE ABUND.	VEGETATION C	VEGETATION G	ASSOC. R	STATUS
AMPHIBIANS AND REPTILES							
BLACK-BELLIED SLENDER SALAMANDER (Batrachoseps nigriventris)	K	R	C			X	
ENSATINA (Ensatina eschscholtzii)	E	R	C			X	
CALIFORNIA TOAD (Bufo boreas)	U	W	C			X	
PACIFIC TREEFROG (Pseudacris regilla)	K	W	C		X	X	
CALIFORNIA RED-LEGGED FROG (Rana aurora draytonii)	U	R	R			X	F2;CSC
WESTERN FENCE LIZARD (Sceloporus occidentalis)	K	W	C	X	X	X	
SIDE-BLOTCHED LIZARD (Uta stansburiana)	K	W	C	X	X	X	
COAST HORNED LIZARD (Phrynosoma coronatum ssp.)	E	W	U	X	X		
WESTERN SKINK (Eumeces skiltonianus)	K	W	C	X		X	
WESTERN WHIPTAIL (Cnemidophorus tigris)	E	W	U	X	X	X	
SOUTHERN ALLIGATOR LIZARD (Gerrhonotus multicarinatus)	U	W	U	X		X	
SILVERY LEGLESS LIZARD (Anniella pulchra)	K	R	U	X		X	U
WESTERN BLIND SNAKE (Leptotyphlops humilis)	E	W	R			X	D
COASTAL ROSY BOA (Lichanura trivirgata)	E	W	R	X			
WESTERN RACER (Coluber constrictor mormon)	E	W	C		X	X	D
COACHWHIP (Masticophis flagellum)	E	W	C	X	X	X	D
STRIPED RACER (Masticophis lateralis)	E	R	C	X	X	X	
WESTERN PATCH-NOSED SNAKE (Salvadora hexalepis)	K	W	U	X	X		
CALIFORNIA KINGSNAKE (Lampropeltis getulus)	E	W	C	X	X	X	
GOPHER SNAKE (Pituophis melanoleucus)	E	W	C	X	X	X	
RING-NECKED SNAKE (Diadophis punctatus)	E	W	U	X	X	X	
TWO-STRIPED GARTER SNAKE (Thamnophis hammondii)	U	R	R			X	D

TAXON	OCCUR.	DISTRIB.	SITE ABUND.	VEGETATION C	VEGETATION G	ASSOC. R	STATUS
CALIFORNIA RED-SIDED GARTER SNAKE (Thamnophis sirtalis infernalis)	U	R	R	X		X	D
NIGHT SNAKE (Hypsiglena torquata)	E	W	U	X			
CALIFORNIA BLACK-HEADED SNAKE (Tantilla planiceps)	E	R	U	X	X		
CALIFORNIA LYRE SNAKE (Trimorphodon biscutatus)	E	W	R	X			
SAN DIEGO MOUNTAIN KINGSNAKE (Lampropeltis zonata pulchra)	U	R	R		X	F2;CSC	
WESTERN RATTLESNAKE (Crotalus viridis)	E	W	C	X	X	X	
BIRDS							
GREAT BLUE HERON (Ardea herodias)	U	Re	U		X		SA
GREEN-BACKED HERON (Butorides striatus)	U	Re	R			X	
BLACK-CROWNED NIGHT HERON (Nycticorax nycticorax)	U	Re	R			X	
TURKEY VULTURE (Cathartes aura)	K	Re	C	X	X	X	
BLACK-SHOULDERED KITE (Elanus leucurus)	K	Re	R		X	X	CP; SA
NORTHERN HARRIER (Circus cyaneus)	E	Wm	R		X	X	CSC B
SHARP-SHINNED HAWK (Accipiter striatus)	U	Wm	U			X	CSC
COOPER'S HAWK (Accipiter cooperi)	E	Re	U			X	CSC; B
RED-SHOULDERED HAWK (Buteo regalis)	E	Re	U		X	X	B
RED-TAILED HAWK (Buteo jamaicensis)	K	Re	C	X	X	X	
FERRUGINOUS HAWK (Buteo regalis)	K	Wm	U	X	X		
GOLDEN EAGLE (Aquila chrysaetos)	E	Re	R	X	X		CSC; CP
AMERICAN KESTREL (Falco sparverius)	K	Re	C	X	X	X	
MERLIN (Falco columbarius)	E	Wm	U	X		X	SC
PEREGRINE FALCON (Falcon peregrinus anatum)	E	Wm	R	X			CE; CP; FD
PRAIRIE FALCON (Falco mexicanus)	E	Re	R	X	X		CSC
CALIFORNIA QUAIL (Callipepla californica)	K	Re	C	X		X	
BAND-TAILED PIGEON (Columba fasciata)	U	Re	U	X		X	

TAXON	OCCUR.	DISTRIB.	SITE ABUND.	VEGETATION C	VEGETATION G	ASSOC. R	STATUS
WHITE-WINGED DOVE (Zenaida asiatica)	U	Re	R	X		X	
MOURNING DOVE (Zenaida macroura)	K	Re	C	X	X	X	
GREATER ROADRUNNER (Geococcyx californianus)	K	Re	C	X			
BARN OWL (Tuyo alba)	U	Re	U			X	SC
COMMON SCREECH-OWL (Otus asio)	U	Re	R			X	
GREAT HORNED OWL (Bubo virginianus)	K	Re	U			X	
BURROWING OWL (Athene cunicularia)	U	Re	R		X		CSC
LESSER NIGHTHAWK (Chordeiles acutipennis)	U	Sm	U	X	X		
COMMON POORWILL (Phalaenoptilus nuttallii)	E	Re	U	X	X		
BLACK SWIFT (Cypseloides niger)	U	Re	U			X	CSC
CHIMNEY SWIFT (Chaetura pelagica)	E	Sm	U			X	
VAUX'S SWIFT (Chaetura vauxi)	E	Sm	U	X	X	X	
WHITE-THROATED SWIFT (Aeronautes saxatalis)	E	Re	U	X	X	X	
BLACK-CHINNED HUMMINGBIRD (Archilochus alexandri)	U	Re	U			X	
COSTA'S HUMMINGBIRD (Calypte costae)	K	Wm	C	X		X	
ANNA'S HUMMINGBIRD (Calypte anna)	K	Re	C	X		X	
RUFOUS HUMMINGBIRD (Selasphorus rufus)	E	Wm	C	X		X	
ALLEN'S HUMMINGBIRD (Selasphorus sasin)	E	Re	C	X		X	
ACORN WOODPECKER (Melanerpes formicivorus)	K	Re	C			X	
YELLOW-BELLIED SAPSUCKER (Sphyrapicus varius)	E	Wm	U			X	
RED-BREASTED SAPSUCKER (Sphyrapicus ruber)	E	Wm	U			X	
NUTTALL'S WOODPECKER (Picoides nuttallii)	K	Re	C			X	
DOWNY WOODPECKER (Picoides pubescens)	E	Re	C			X	
HAIRY WOODPECKER (Picoides villosus)	E	Re	C			X	
LEWIS'S WOODPECKER (Melanerpes lewis)	U	Wm	R			X	

TAXON	OCCUR.	DISTRIB.	SITE ABUND.	VEGETATION C	VEGETATION G	ASSOC. R	STATUS
COMMON FLICKER (Colaptes auratus)	K	Re	C	X		X	
GREATER PEWEE (Contopus pertinax)	U	Wm	R			X	
WESTERN WOOD-PEWEE (Contopus sordidulus)	U	Sm	R			X	
HAMMOND'S FLYCATCHER (Empidonax hammondii)	E	Sm	U			X	
WESTERN FLYCATCHER (Empidonax difficilis)	E	Sm	U			X	
BLACK PHOEBE (Sayornis nigricans)	E	Re	C	X		X	
SAY'S PHOEBE (Sayornis saya)	K	Re	C	X	X	X	
ASH-THROATED FLYCATCHER (Myiarchus cinerescens)	E	Re	U	X		X	
TROPICAL KINGBIRD (Tyrannus melancholicus)	U	Wm	U	X	X		
CASSIN'S KINGBIRD (Tyrannus vociferans)	U	Re	U	X	X		
WESTERN KINGBIRD (Tyrannus verticalis)	K	Sm	C	X	X		
HORNED LARK (Eremophila alpestris)	E	Wm	C		X		
PURPLE MARTIN (Progne subis)	U	Sm	R			X	CSC; SC
TREE SWALLOW (Tachycineta bicolor)	E	Sm	U			X	
VIOLET-GREEN SWALLOW (Tachycineta thalassina)	E	Wm	C		X	X	
ROUGH-WINGED SWALLOW (Stelgidopteryx rufi-collis)	K	Wm	U		X	X	
BANK SWALLOW (Riparia riparia)	U	Sm	U			X	CSC
CLIFF SWALLOW (Hirundo pyrrhonata)	U	Re	U			X	
BARN SWALLOW (Hirundo rustica)	E	Wm	U		X	X	
SCRUB JAY (Aphelocoma coerulescens)	K	Re	C	X		X	
COMMON CROW (Corvus brachyrhychos)	K	Re	C	X	X	X	
COMMON RAVEN (Corvus corvax)	K	Re	C	X	X	X	
PLAIN TITMOUSE (Parus inornatus)	K	Re	C			X	
BUSHTIT (Psaltriparus minimus)	K	Re	C	X		X	
WHITE-BREASTED NUTHATCH (Sitta carolinensis)	U	Re	U			X	

TAXON	OCCUR.	DISTRIB.	SITE ABUND.	VEGETATION C	VEGETATION G	ASSOC. R	STATUS
CACTUS WREN (Campylorhynchus brunneicapillus)	E	Re	U	X			
CANYON WREN (Catherpes mexicanus)	K	Re	C			X	
BEWICK'S WREN (Thryomanes bewickii)	K	Re	C	X		X	
HOUSE WREN (Troglodytes aedon)	K	Re	U			X	
WINTER WREN (Troglodytes troglodytes)	U	Wm	U			X	
NORTHERN MOCKINGBIRD (Mimus polyglottis)	K	Re	C	X		X	
BROWN THRASHER (Toxostoma rufum)	U	Wm	R	X		X	
CALIFORNIA THRASHER (Toxostoma redivivum)	K	Re	C	C			
WESTERN BLUEBIRD (Sialia mexicana)	K	Re	C			X	
VARIED THRUSH (Zoothera naevia)	E	Wm	U			X	
SWAINSON'S THRUSH (Catharus ustulatus)	K	Re	C			X	
HERMIT THRUSH (Catharus guttatus)	K	Wm	C	X		X	
AMERICAN ROBIN (Turdus migratorius)	E	Re	C	X		X	
RUBY-THROATED KINGLET (Regulus calendula)	K	Wm	C	X		X	
BLUE-GRAY GNATCATCHER (Polioptila caerulea)	E	Re	U			X	
WRENTIT (Chamaea fasciata)	K	Re	C	X		X	
WATER PIPIT (Anthus spinoletta)	U	Wm	R			X	
CEDAR WAXWING (Bombycilla cedrorum)	E	Wm	U			X	
PHAINOPEPLA (Phainopepla nutens)	K	Wm	U			X	
LOGGERHEAD SHRIKE (Lanius ludovicianus)	K	Re	C	X	X	X	S;B
HUTTON'S VIREO (Vireo huttoni)	E	Re	U			X	
WARBLING VIREO (Vireo gilvus)	U	Re	R			X	
RED-EYED VIREO (Vireo olevacious)	U	Wm	R			X	
ORANGE-CROWNED WARBLER (Vermivora celata)	K	Re	C			X	
YELLOW WARBLER (Dendroica petechia)	U	Re	U			X	CSC

TAXON	OCCUR.	DISTRIB.	SITE ABUND.	VEGETATION C	VEGETATION G	ASSOC. R	STATUS
YELLOW-RUMPED WARBLER (Dendroica coronata)	K	Wm	C	X		X	
HERMIT WARBLER (Dendroica occidentalis)	K	Wm	U			X	
COMMON YELLOWTHROAT (Geothlypis trichas)	E	Re	U			X	
WILSON'S WARBLER (Wilsonia pusilla)	K	Re	U			X	
PAINTED REDSTART (Myioborus pictus)	U	Wm	R			X	
YELLOW-BREASTED CHAT (Icteria virens)	E	Re	R			X	CSC
WESTERN TANAGER (Piranga ludoviciana)	U	Re	R			X	
ROSE-BREASTED GROSBEAK (Phlercticus ludovicianus)	E	Wm	R			X	
BLACK-HEADD GROSBEACK (Phlercticus melanocephalus)	K	Re	U			X	
BLUE GROSBEAK (Guaraca caerulea)	U	Re	R		X	X	
LAZULI BUNTING (Passerina amoena)	U	Wm	R	X		X	
FOX SPARROW (Passerella iliaca)	K	Re	C	X		X	
SONG SPARROW (Passerella melodia)	K	Re	C			X	
LINCOLN'S SPARROW (Passerella lincolnii)	U	Wm	U	X		X	
WHITE-THROATED SPARROW (Zonotrichia albicollis)	E	Wm	U	X		X	
GOLDEN-CROWNED SPARROW (Zonotrichia atricapilla)	R	Wm	C				
WHITE-CROWNED SPARROW (Zonotrichia leucophrys)	K	Wm	C	X	X	X	
HARRIS SPARROW (Zonotrichia querula)	U	Wm	R	X			
DARK-EYED JUNCO (Junco hyemalis)	K	Re	C	X		X	
CHIPPING SPARROW (Spizella passerina)	E	Re	U		X	X	
BREWER'S SPARROW (Spizella breweri)	K	Re	C	X			
BLACK-CHINNED SPARROW (Spizella atrogularis)	E	Re	U	X			
SAVANNAH SPARROW (Ammodramus sandwichensis)	K	Wm	C		X		
GRASSHOPPER SPARROW (Ammodramus savannarum)	E	Re	U		X		
LARK SPARROW (Chondestes grammacus)	K	Re	U		X	X	

TAXON	OCCUR.	DISTRIB.	SITE ABUND.	VEGETATION C	VEGETATION G	ASSOC. R	STATUS
BLACK-THROATED SPARROW (Amphispiza bilineata)	E	Re	U	X			
SAGE SPARROW (Amphispiza belli)	E	Re	U	X			
RUFOUS-CROWNED SPARROW (Aimophila ruficeps)	K	Re	C	X	X		
RUFOUS-SIDED TOWHEE (Pipilo erythrophthalmus)	K	Re	C	X		X	
BROWN TOWHEE (Pipilo fuscus)	K	Re	C	X		X	
HOODED ORIOLE (Icterus cucullatus)	U	Re	R			X	
NORTHERN ORIOLE (Icterus galbula)	E	Re	U			X	
SCOTT'S ORIOLE (Icterus parisorum)	U	Re	R	X		X	
RED-WINGED BLACKBIRD (Agelaius phoeniceus)	E	Re	U			X	
TRICOLORED BLACKBIRD (Agelaius tricolor)	U	Re	R			X	F
BREWER'S BLACKBIRD (Euphagus cyanocephalus)	E	Re	C		X		
BROWN-HEADED COWBIRD (Molothrus ater)	U	Re	R		X		
BOBOLINK (Dolichonyx oryzivorus)	U	Wm	R		X		
LESSER GOLDFINCH (Carduelis psaltria)	K	Re	C		X	X	
HOUSE FINCH (Carpodacus mexicanus)	K	Re	C	X	X	X	
ROCK DOVE (Columba livia)	K	Re	C			X	
EUROPEAN STARLING (Sturnus vulgaris)	K	Re	C			X	
HOUSE SPARROW (Passer domesticus)	K	Re	U			X	
MAMMALS							
OPOSSUM (Didelphis virginianus)	K	W	C			X	
ORNATE SHREW (Sorex ornatus)	E	R	U			X	
GREY SHREW (Notiosorex crawfordi)	U	R	R	X			
BROAD-HANDED MOLE (Scapanus latimanus)	K	R	C	X	X	X	
FRINGED MYOTIS (Myotis thysanodes)	E	W				X	
CALIFORNIA MYOTIS (Myotis californicus)	E	W		X	X	X	

TAXON	OCCUR.	DISTRIB.	SITE ABUND.	VEGETATION C	VEGETATION G	ASSOC. R	STATUS
LONG-EARED MYOTIS (Myotis evotis)	E	W				X	
YUMA MYOTIS (Myotis yumanensis)	E	W				X	
SMALL-FOOTED MYOTIS (Myotis subulatus)	U	W		X			
HAIRY-WINGED MYOTIS (Myotis volans)	E	W				X	
HOARY BAT (Lasiurus cinereus)	E	W		X		X	
RED BAT (Lasiurus borealis)	E	R		X	X	X	
BIG BROWN BAT (Eptesicus fuscus)	E	W		X	X	X	
WESTERN PIPISTRELLE (Pipistrellus hesperus)	E	W		X			
PALLID BAT (Antrozous pallidus)	E	W		X	X	X	
LUMP-NOSED BAT (Plecotus townsendii pallescens)	E	R		X	X	X	A
BRAZILIAN FREE-TAILED BAT (Tadarida brasiliensis)	E	W		X	X	X	
WESTERN MASTIFF BAT (Eumops perotis californicus)	U	R	R	X			F2; CSC
BRUSH RABBIT (Sylvilagus bachmani)	E	W	U	X		X	
AUDUBON'S COTTONTAIL (Sylvilagus auduboni)	K	W	C	X		X	
BLACK-TAILED JACKRABBIT (Lepus californicus)	K	W	C	X	X		
BEECHEY GROUND SQUIRREL (Otospermophilus beecheyi)	K	W	C	X	X	X	
BOTTA'S POCKET GOPHER (Thomomys bottae)	K	W	C	X	X		
CALIFORNIA POCKET MOUSE (Perognathus californicus)	K	R	C	X			
PACIFIC KANGAROO RAT (Dipodomys agilis)	K	R	C	X			
WESTERN HARVEST MOUSE (Reithrodontomys megalotis)	E	W	U			X	
CALIFORNIA MOUSE (Peromyscus californicus)	K	R	C				
BRUSH MOUSE (Peromyscyus boylii)	K	W	U				
CACTUS MOUSE (Peromyscus eremicus)	K	W	C	X			
DEER MOUSE (Peromyscus maniculatus)	K	W	C	X	X	X	
DUSKY-FOOTED WOODRAT (Neotoma fuscipes)	K	R	C			X	

TAXON	OCCUR.	DISTRIB.	SITE ABUND.	VEGETATION C	VEGETATION G	ASSOC. R	STATUS
DESERT WOODRAT (Neotoma lepida)	K	W	C	X			
CALIFORNIA MEADOW VOLE (Microtus californicus)	E	W	U		X		
HOUSE MOUSE (Mus musculus)	E	W	U			X	
GREY FOX (Urocyon cinereoargenteus)	K	W	C	X	X	X	
COYOTE (Canis latrans)	K	W	C	X	X	X	
RACCOON (Procyon lotor)	K	W	C			X	
RINGTAIL (Bassariscus astutus)	K	W	R	X		X	CP
LONG-TAILED WEASEL (Mustela frenata)	E	W	U		X		U
STRIPED SKUNK (Mephitis mephitis)	K	W	C	X		X	
SPOTTED SKUNK (Spilogale putorius)	E	W	U	X		X	
BADGER (Taxidea taxus)	K	W	C		X		CSC
MOUNTAIN LION (Felis concolor)	K	W	R	X	X	X	U
BOBCAT (Lynx rufus)	K	W	C	X	X	X	
MULE DEER (Odocoileus hemionus)	K	W	C	X	X	X	

EXPLANATION OF ABBREVIATIONS USED IN TABLE 11-2

1. *Occurrence:*

K = Known to occur on project site or adjacent canyons.

E = Expected to occur on project site or in adjacent canyons.

U = Regionally distributed but unlikely to occur on project site due to a lack of suitable habitat.

2. Distribution:

A. Amphibians, Reptiles and Mammals.

R = Restricted to California and adjacent portions of Baja California.

W = Widespread throughout California and/or western United States.

B. Birds.

Re = Annual or summer resident in region.

Sm = Spring and summer migrant.

Wm = Fall and winter migrant.

3. Site Abundance:

C = Common on project site and adjacent areas.

U = Uncommon on project site and adjacent areas.

R = Locally and regionally rare.

4. Vertebrate-Habitat Associations:

Chaparral = Chamise Chapparal.

Grassland = Non-native Grassland.

Riparian = Southern Willow Scrub and Fresh-water Seeps.

5. Site Status:

CE = California Endangered - A California native species or subspecies which is in serious danger of becoming extinct (CDFG, 1988).

CT = California Threatened - A California native species or subspecies although not presently threatened with extinction, is likely to become an endangered species in the near future (CDFG, 1988).

CP = California Fully Protected - California native species or subspecies that may not be taken or possessed at any time (CDFG, 1988).

FE = Federally Endangered - A species or subspecies which is in serious danger of becoming extinct.

FT = Federally Threatened - A species or subspecies although not presently threatened by extinction, is likely to become an endangered species.

F2 = Federal Candidate Category 2 - May warrant listing but sufficient biological information to support a proposal rule is lacking.

CSC = California Special Concern - California native species or subspecies considered to be of special concern due to their existence at the limit or beyond their normal range.

SA = Special Animal - Native species or subspecies of special concern regardless of their legal protection status (CDFG, 1988).

SC = Special Concern - Species or subspecies considered to be of special concern due to their existence at the limit or beyond their normal range.

B = National Audubon Society Blue List.

D and U = Uncommon - A species or subspecies with a limited distribution and their vulnerability to threat is low at this time. These species are uncommon enough that their status should be monitored regularly.

S = Sensitive - Native species or subspecies known or highly suspected to occur that are considered viable candidates for Federal Threatened or Endangered classification (USFWS, 1986).

Vertebrate-Habitat Relationships

Despite its limited size, the project site is typical of the surrounding undeveloped areas in supporting a wide variety of vertebrates species. Although habitat diversity on-site is relatively low, the site is adjacent to well-developed riparian and oak woodlands and large grassy expanses as well as large open spaces to the north and east.

TABLE 11-3
Live Trapping Results

CHAMISE CHAPPARAL: 50 trap-nights

Deer Mouse (Peromyscus maniculatus) - 4 males.
Desert Woodrat (Neotoma lepida) - 2 males; 1 female.
Pacific Kangaroo Rat (Dipodomys agilis) - 2 males.
California Pocket Mouse (Perognathus californicus) - 1 male.

SOUTHERN WILLOW SCRUB: 50 trap-nights

Cactus Mouse (Peromyscus eremicus) - 1 male; 1 female.
California Mouse (Peromyscus californicus - 2 males.
Beechey Ground Squirrel (Otospermophilus beecheyi) - 1 male.
Dusky-footed Woodrat (Neotoma fuscipes) - 1 male.

The limited time and season available for field surveys precluded a comprehensive assessment of wildlife populations densities. Moreover because of their reclusive and/or nocturnal habits, it is particularly difficult to verify the presence or absence of certain vertebrate groups such as snakes and bats without intensive pit-fall trapping and mist-netting. Species considered regionally uncommon or rare may actually be much more abundant, because of a lack of knowledge of their specific microhabitat requirements and activity times. The current drought conditions have stressed most vertebrate species causing either a decline in numbers or a truncation of activity times or both.

The results of the field and literature surveys for vertebrate occurrence and vertebrate-habitat associations has been tallied in **Table 11-2**. Habitat-vertebrate relationships are summarized in the following discussion and are graphically displayed in **Figure 11-4**.

Chamise Chaparral

This type of habitat had little value for amphibian species but is a very important resource for all other vertebrates found or expected to occur on-site.

Of the twenty-three species of reptiles known to occur or potentially occurring on-site, twenty species (87%) partially or entirely utilize chaparral and scrub habitats. Eighteen species of reptiles are found or are expected to occur in two or more habitats on the project site. Five species (22%) have specific habitat requirements and for these species, riparian and chaparral habitats have equal value.

These include sensitive species such as the Silvery Legless Lizard, Western Blind Snake, Coastal Rosy Boa, Coachwhip, California Red-sided Garter Snake and the San Diego Mountain Snake.

Avian use of chaparral habitats is extensive. Fifty-eight species (41%) of the 140 species of birds that are known or are expected to occur on the project site utilize this habitat. The primary value of this habitat type to birds is the foraging space and cover. Additionally many species that primarily use riparian habitats utilize chaparral for foraging and cover. Nine species (6%) appear to exclusively utilize this habitat type.

Mammal use of chaparral is extensive (30 species or 67% of the total inventory) and includes both resident and transient species. Eight species (18%) appear to utilize chaparral habitats exclusively.

Mammal sign (tracks, burrows, and scat) occurs commonly throughout chaparral habitats on the project site indicating moderate to high densities for several species. The results of small-mammal trapping are consistent with these observations. As shown in **Table 11-3**, trap-success in chaparral habitats on the project site averaged 40% and included ten individuals of four species. This prey base probably accounts for the density and diversity of carnivore sign in chaparral habitats on-site.

Riparian Habitats and Freshwater Seeps

Riparian habitats contain the highest vertebrate species densities because of the presence of permanent and temporary water sources, increased habitat heterogeneity and because these ravines and streamcourses generally contact a series of other habitats. Ravines in the project area form well-defined ecotones with chaparral and grassland habitats. Aerial photos document that these ravines have been historically significant as potential breeding sites for such species as the Western Toad, Pacific Treefrog and the California Red-legged Frog. Medea Creek to the west and Palo Comado Canyon to the east may also serve as important recruitment sites for these species. Amphibians depend heavily on this habitat type to satisfy physiological and reproductive requirements. All other vertebrate groups are likewise heavily represented in this habitat. Small mammal trap success in the riparian habitats in Corridor "B" was 24% and included six individuals of four species. Species composition in these ravines is largely complementary to conditions in the adjacent chaparral habitats.

A microhabitat of considerable wildlife value are the freshwater seeps imbedded within the riparian habitat on-site. Two seeps were located in the upper reaches on Corridor 'B' (on **Figure 11-3**), east of the existing water storage tank. This is the same ravine that has held semi-permanent water in the recent past (e.g., 1979 aerial photos). The diversity of large carnivore tracks including sensitive species such as Mountain Lion, Bobcat and possibly Ringtails, demonstrates that these ravines and seeps are also used by large mammals.

Non-native Grassland

This type of habitat is second in importance to chaparral within the development. More extensive areas of grassland occur off-site to the southeast and southwest. Vertebrate use of grasslands as a permanent resource on-site is low relative to chaparral and riparian habitats, however, grasslands provide essential feeding grounds for many widely-foraging vertebrates such as large mammals, raptors and snakes.

Use of grasslands by amphibian species is very low (20%) possibly due to the exposed nature of this type of habitat. About 57% (13 species) of the known or potentially occurring reptiles may utilize grasslands. Approximately 42% (19 species) of known or potentially occurring species of mammals and 29% (40 species) of birds may utilize this habitat type.

Sensitive Vertebrate Taxa

Several wildlife species considered sensitive by State, Federal and local agencies are expected or known to occur within the region. Special status is assigned species that have shown significant declines in population size and distribution in recent years. Agency published "watch lists" are inventories of species that have demonstrated these downward trends. These sources include Remsen (1976), Tate (1986), (Jennings, 1987), and Williams, (1986). Sensitive taxa identified for this region include:

- o Turkey Vulture (*Cathartes aura*)
- o Black-shouldered Kite (*Elanus leucurus*)
- o Northern Harrier (*Circus cyaneus*)
- o Sharp-shinned Hawk (*Accipiter striatus*)
- o Cooper's Hawk (*Accipiter cooperi*)
- o Golden Eagle (*Aquila chrysaetos*)
- o Merlin (*Falco columbarius*)
- o Prairie Falcon (*Falco mexicanus*)
- o Peregrine Falcon (*Falco peregrinus*)
- o Mountain Lion (*Felis concolor*)
- o Red-Legged Frog (*Rana aurora draytonii*)
- o Silvery Legless Lizard (*Anniellapulchra pulchra*)
- o Southwestern Pond Turtle (*Clemmys marmorata pallida*)

A discussion of relevant sensitive taxa that may be present (or were confirmed to be present) in Zone III is provided below.

Amphibians

No sensitive amphibian species were found on or adjacent to the project area during the course of the field surveys. The California Red-legged Frog (Rana aurora draytonii) is listed as a Federal Candidate, Category 2 species. It was once widespread in permanent streams throughout southern California but has been extirpated from most drainages through a combination of habitat modification, disease and the introduction of Bullfrogs (Rana catesbeiana).

Medea Creek and Palo Comado Canyon provide suitable habitat for this species (i.e., permanent water) but it is highly unlikely that this species occurs on the project site. In past years, the presence of a man-made retention basin in Corridor 'B', east of the existing water storage tank may have provided habitat for this species but its isolation from recruitment sources to the west and east make occupation of the site by this species unlikely.

Reptiles

Seven species (30%) of the reptiles potentially occurring on the project site are classified as sensitive taxa. **One sensitive species, the Silvery Legless Lizard (Anniella pulchra pulchra) was found during the field surveys in the Medea Creek drainage approximately 0.25 miles west of the western boundary of the project site.** This species is widespread in California but has a restricted distribution locally due to specific edaphic and climatic requirements. Consequently, its distribution is composed of a many more or less isolated populations. The location of a populations in the Medea Creek drainage suggests a fragmented distribution in alluvial deposits throughout the area. The lower slopes and ravine edges within the project site may contain suitable edaphic conditions for this species.

The Coast Horned Lizard (Phrynosoma coronatum) was observed during field surveys and excellent habitat is available on-site. Populations of this species are probably Phrynosoma coronatum frontale; however, the site is near the northwestern limit of the intergrade zone between P.c. frontale and the Federal Candidate, Category 2 subspecies, P.c. blainvillei.

Five species (22%) of snakes expected to occur on the project site have experienced serious regional declines throughout southern California due to habitat loss. These inlcude the Western Blind Snake, Red Coachwhip, Western Racer, Two-striped Garter Snake and California Red-sided Garter Snake. The San Diego Mountain Kingsnake, A Federal Candidate, Category 2 taxon, probably does not occur on the project due to a lack of suitable habitat, but potentially may occur in the Medea Creek and/or Palo Comado drainages.

Birds

Twenty-one species (15%) of the 140 avian species known or expected to occur on the project site are classified as sensitive taxa. Of these, 2 species were observed during the field surveys. **The Black-shouldered Kite (Elanus leucurus) is classified as a 'Special Animal' and is fully protected under the California Department of Fish and Game regulations. A single individual was seen foraging in the grasslands adjacent to the southeast corner of the project site. Previous studies and conversations with knowledgeable residents of the area confirm that these grasslands are frequently used by as many as five individuals of this species (and several other raptor species). At least one Loggerhead Shrike (Lanius ludovicianus), also a sensitive species, was observed on most visits to the project site, usually foraging in the chaparral/grassland ecotones in the southeast corner of the site as well as chaparral areas on the northern half of the site.**

No other sensitive avian taxa were observed on the project site but the general area appears to provide excellent habitat for a number of sensitive raptor species. **Avian diversity on and adjacent to the project site is high, owing to the variety of habitats in the general area.** The Medea Creek and Palo Comado drainages as well as the small ephemeral washes on the project site are important habitats for birds. Avian activity appears to be centered in the riparian areas (79%) due to the interaction of increased food availability, enhanced structural habitat complexity and a series of riparian-chaparral and riparian-grassland ecotones. This habitat also provides important foraging sites and cover for many migratory species such as the Yellow Warbler and Hermit Warbler, as well as roosting and nesting sites for a diverse array of raptors.

The woodlands and riparian habitats associated with Medea Creek and the project site receive high raptor use as documented by the present field surveys and past work (e.g., Oak Park Wildlife Management Plan, 1988). The latter study identified 12 species of raptors that utilize regions immediately west and north (uplands) of the project site in the Oak Park area. Nesting activity was confirmed for nine species, including such sensitive species as Cooper's Hawk, Red-Shouldered Hawk, Golden Eagle, Northern Harrier, Prairie Falcon and Barn Owl. **Surveys in the early 1980's by National Park Service biologists indicated that Palo Comado Canyon "may have the highest concentration of nesting raptors in the United States. The Oak Park Area may be vital as a feeding area that is in close proximity to the nesting sites." (Reynolds, 1981).**

Mammals

Six species (13%) of the 45 species of mammals known or expected to occur on the project site are classified as sensitive taxa. Two species of bats are included in this tally but their presence on-site is unknown owing to the logistic difficulties associated with censusing these species. **Ringtails (Bassariscus astutus) a fully protected species, probably occurs on the project site.** Two fresh tracks, tentatively assigned to this species were found in soft sediments near the seeps in the upper portions of Corridor 'B', east of the water storage tank. The riparian habitats in this area provide excellent habitat for this species because they access rocky uplands suitable for den sites as well as providing suitable cover and prey densities. Badger (Taxidea taxus) 'digs' (i.e., areas where they burrow for ground squirrels, gophers, etc.), were found at several location in the ravines and grasslands near the southeast corner of the site. **Mountain Lions (Felis concolor) are known to occur in the Simi Hills. A single track of this species was found at a seep in the same ravine that the ringtail tracks were found.** The project site does not appear to provide suitable den sites for this species; however, the ravines may function as dispersal corridors between upland den sites and lowland areas where prey is more abundant.

Given the large foraging area of this species, it is likely that the project site provides partial home range space. Cougar tracks have been documented in the Medea Creek and Lindero Creek drainages and a possible den site (unoccupied) was found near springs at the upper end of the former site (Oak Park Wildlife Management Plan, 1985).

11.2 IMPACTS

Issue 1: Loss of Botanical Resources in Chaparral and Grassland Habitats

Project buildout would result in the direct loss of about 68 acres of Chamise Chaparral and about 4 acres of Non-Native Grassland. Also, a substantial portion of the land designated "Open Space" on the Tentative Tract map (4517) would be cleared for fire protection (about 22 acres). Disturbance associated with clearing and grubbing, grading, and equipment storage and movement would further destroy an undetermined amount of native vegetation. **Total habitat loss is estimated to be about 94 acres.**

In addition to a direct reduction of vegetation and fauna, the indirect effect of urbanization would have far reaching and damaging consequences on the surrounding plant communities. Although about 45 acres of grassland and chaparral will be preserved on-site as part of a Rancho Simi Recreation and Park District holdings, the value of the immediate project area, in terms of animal and plant diversity and value to wildlife, would be reduced. **Human disturbance such as noise, introduction of domestic animals and/or increased intrusion of domestic plants and animals into undeveloped areas would further reduce the value of surrounding land to wildlife.** Noxious weeds, such as the Yellow Star Thistle (Centaurea solstitialis), would invade "temporarily disturbed" wildlands. This species is evident alongside the paved road and fences that lead to the water tank at the northern end of Deerhill Road. **Without abatement, this thorny weed would ultimately invade riparian zones and all open, disturbed sites (Thomas, 1990).**

The project site is surrounded by undeveloped lands to the north and east, and, given the large expanse of extant, similar vegetation, the project specific effects associated with loss of Chaparral habitat (from a botanical perspective) is an adverse but insignificant impact. However, due to the rate of development within the region, and potential for development of properties to the east within the Jordan and Ahmanson Ranches, the impacts of cumulative vegetation loss and the degradation of habitat are significant.

Issue 2: Impacts to Rare Plant Populations

The small extant population of Braunton's Milk-Vetch located on-site is within the proposed fuel-modification zone line. Within this buffer, all vegetation would be removed. The slopes would be graded and recontoured, burying any seed present. Low fuel cover would be established and activities related to the

suppression of fire would further restrict and disturb the existing stand of rare plants. Development of the proposed subdivision would permanently destroy this small population. The development of "C" Drive would disturb the off-site population as well. These plants, located to the south of the development, lie along the proposed route of this access and an associated retaining wall.

Suitable habitat for this rare plant is present on all outcrops of limestone soils within the project boundary, and the seed bank on these sites probably contain viable seed of the species. **Project buildout would result in the loss of about 3 acres of potential habitat within Zone III. Intensive fire suppression activities would terminate the renewal of viable seed and would result in the eventual loss of all potential for the continued existence of the species within this site.**

Although only a handful of individuals are present, this site represents one of only nine known potentially extant populations of Braunton's Milk-Vetch. Of these nine sites, three are in immediate danger of extirpation (Coal Canyon, Gypsum Canyon and Oak Park). Four are located on private lands. Only two locations are protected from development (Medea Canyon, North Ranch and Los Liones), and none are presently managed for the continued existence of this plant. Astragalus brauntonii may have once been more locally abundant following fire throughout its range, but the modern combination of intensive development in southern California and an aggressive fire prevention policy, have reduced the Milk Vetch (Astragalus) taxon to the status of critically endangered species (Nature Conservancy, 1988). The project would result in both project specific and cumulative effects on this rare plant species.

Project implementation would also result in the direct loss of all four populations of Nolina now established within the site. Residential development of "S" and "K" Courts would completely eliminate the individuals located in these areas. The development of a proposed helicopter landing pad and access road on the southern border of the site would have impacted the population established along the ridge; however, the applicant and the Fire Department have agreed to relocate this heliport to avoid impacts. The new heliport landing pad will also disturb some of these plants. The population located in the northeastern corner of the development lies partially within the fuel modification zone.

Issue 3: Impacts to Riparian Habitat and the Existing Spring — includes park site

Figures 11-3 and 11-6 display the location and extent of the riparian corridors and related wildlife corridors as well as the active spring that will be impacted by the project. Applicable acreages lost and corresponding replacement requirements (assuming a 2:1 replacement ratio) include:

- loss of .85 acres of riparian habitat should be replaced by the establishment of 1.7 acres of new riparian vegetation;
- 1.4 acres of eligible "waters" under State or Federal jurisdiction should be replaced by the establishment of 1.4 acres of riparian habitat;
- to mitigate cumulative effects to disturbance of 1.25 acres of riparian habitat which will be impacted by the creation of Deerhill park, an additional 2.5 acres of replacement habitat should be provided.

Total compensatory habitat replacement should be about 5.6 to 6.0 acres. Candidate drainages and restoration sites have been identified by the applicant's consultant and verified as viable candidate sites by the County consultant and Rancho Simi Recreation and Park District staff. A description of each potential restoration site is provided in the Dames and Moore study included in Appendix D and an illustration of restoration site locations in relation to the project are provided in **Figure 11-6.**

The spring (freshwater seeps) and associated riparian vegetation are important and unique habitats and their disruption by the project will result in significant unavoidable effects. The springs represent one of the few year-round water sources available to wildlife in the area and is therefore an extremely valuable

and unique resource.

Issue 4: Indirect Impacts: Disruption to the Ecology of Surrounding Park Lands and Open Space

Indirect effects on the habitats adjacent to Zone III are the most likely result of project approval. **The adverse biological effects on surrounding Rancho Simi Recreation and Park District (RSPRD) property could potentially include increased and unregulated recreational use of Park lands, intrusion of non-native plants and domestic pets into the natural ecosystem, and the creation of impediments to wildlife dispersal. Disturbance to nearby habitats through increased noise, lighting, and general human activity are also potentially significant.**

There are several established trails linking Oak Park with surrounding open space and Rancho Simi Recreation and Park District lands. These are approved access points for hiking and equestrian use. Increased use of surrounding lands by residents of the Oak Park community is expected in the future. These trails will become more important in park management because trail access for valley residents is limited.

Unauthorized uses of surrounding Rancho Simi District lands are currently a management problem. The most severe forms of environmental degradation are off-road vehicle damage, vandalism, and illegal discharge of firearms. District personnel monitor the park lands but vehicle patrols are restricted to the existing road system. Because of the limited access, the size of the park, and staff limitations, the preservation of park lands from unwanted intrusions are difficult to enforce. The District is actively pursing increasing enforcement efforts and, with the installation of fences and gates in many areas adjacent to residential areas. the severity of this impact is being reduced. ORV use, unregulated foot traffic and vandalism could destroy native plant populations and disrupt wildlife habitat. Firearms and increased potential for brush fires are additional sources of wildlife harassment and habitat destruction. These impacts are existing problems that will be amplified by the development of Zone III. **The installation of the proposed perimeter fence around the Zone III development will at least partially mitigate this problem.**

Impacts to rare plants and wildlife habitats from human disturbance associated with Zone III occupation *could become significantly adverse unless access to the park is regulated.* This can be accomplished by encouraging use of the designated trail system and by prohibiting or discouraging entry elsewhere. The proposed fencing around the perimeter of this project will reduce potential impacts on surrounding lands. Effective management of the park as a recreational resource, consistent with existing policies, can be accomplished with adequate planning. The proposed project would potentially contribute to existing management problems.

Invasion of escaped exotic plantings into native plant habitats could result from landscape introductions. Non-native plant species tend to degrade habitat values for wildlife and reduce the diversity of the floral community through competition. **The volcanic soils comprising much of the south slope of the ridge north of Zone III are unlikely to support most exotic plant species; however, there is some potential for exotics to displace natives, particularly within the drainages and lower slopes where soils are better developed. This possibility can be largely avoided by encouraging the use of native plants in the landscaping for future developments.**

Domestic pets can cause substantial losses among various wildlife species if allowed to roam free. Leash laws for dogs are intended in part to control this problem. Cats are not so easily contained in their movements and they are highly effective predators on reptiles, birds and small mammals. **However, *sensitive wildlife species are not expected to be significantly impacted from increased predation* by domestic animals.**

Most animals tend to avoid areas of intense human activity. These effects are expected to increase significantly above current levels if the parcels are converted to residential use. **Noise, night lighting and visual disturbance may cause some species to abandon currently held territories. These effects would be most pronounced among nocturnal species whose vision is inhibited by artificial lighting.**

Nearly all of these problems are existing residential-park/open space management problems. The Zone III development would not introduce any new incompatibilities between plants and wildlife and residential use. These potential impacts were determined to be adverse but not significant. Some effective mitigation measures for this issue have been incorporated into the project design.

Issue 5: Construction Related Vertebrate Mortality

Based on field observations, live-trapping and literature sources, it is possible to crudely bracket the number of individuals of certain vertebrate groups that would suffer direct mortality due to construction-related activities on the project site.

The degree of mortality sustained by any particular population is a function of species-specific vagility; adaptability of a species to urban situations; location of the population within the project (center vs. edge); population density; degree of saturation of adjacent open space by conspecifics and availability and proximity of suitable off-site habitats. Vagility, home range size and population density is inversely related to body size in terrestrial vertebrates. Larger mammals, birds and reptiles (i.e., terrestrial snakes) may be able to vacate the project site and reside elsewhere. Species whose home ranges extend beyond the project site may be less affected by development than their smaller, less vagile counterparts.

Small vertebrate species will be directly affected by construction. They are more likely to suffer direct mortality as well as higher mortality in attempting to relocate to adjacent open spaces. The following examples are based on visual and live-trapping surveys conducted on-site. Assuming a 25 foot "draw" on either side of a trap line and knowing the trap line length, it is possible to crudely estimate small mammal densities, then extrapolate these estimates to the entire project site. Approximately 160 acres of chaparral and non-native grassland occur on the project site. Corridor "B" is estimated to be approximately 5,300 feet long and 200 feet wide (=1,060 sq.ft.). Based on the live-trap results (Table 11-3) it is estimated that over 400 rodents comprising at least 4 species reside in the Corridor "B" riparian habitat along (17.4 rodents/acre). Lower rodent densities are estimated for chaparral/grassland habitats (11.6 rodents/acre). Over 1800 rodents of at least 4 species are estimated to reside on the project site in chaparral habitats.

In the absence of censuses specifically designed to estimate vertebrate population densities it is difficult to objectively state the mortality and/or displacement of vertebrate species that would follow development of the project area. Certainly as currently proposed, project buildout will eliminate the site as a vertebrate resource for all but the most adaptable species.

Construction of the project will result in wildlife mortality. This impact was determined to be an adverse but not significant impact. The extent of animal mortality will not seriously impact the viability of any vertebrate species. Regional animal populations will be sustained despite the mortality of vertebrates associated with construction disturbances.

Issue 6: Cumulative Loss of Habitat and Degradation of Existing Wildlife Corridors

Development of this project will directly eliminate or adversely impact over 100 acres of Chamise Chaparral and Non-native Grassland in addition to four ravines that sustain varying physiognomies of semi-riparian vegetation. The total extent of habitat destruction or modification cannot be estimated with precision until a refined grading plan is prepared and the location and extent of all off-site improvements are designed. In addition to habitat disruption or destruction, four important local wildlife corridors will also either be destroyed or partially destroyed and subsequently abandoned. A 100-foot "Fuel Modification Zone" around the southern perimeter of the site will also result in the destruction of a substantial amount of habitat. The area of disturbance and modification of habitat extends beyond the direct impact area. Indirect habitat effects will result from habitat degradation. **Human and domestic animal intrusion into adjacent open space to the west (Medea Creek drainage), north (Simi Hills) and**

east (Palo Comado Canyon drainage) will significantly reduce the wildlife value of these areas. The direct loss of habitat resulting from construction as well as the indirect loss through habitat degradation will destroy the entire site as a functioning wildlife corridor. The cumulative impact will be to seriously modify or possibly even eliminate at least four local wildlife corridors. Additionally, the regionally important corridors of Medea Creek and Palo Comado Canyon will be degraded to an unknown extent although this aspect of the project's impact is less certain and less defined than on-site effects.

The significance of the impacts of this project on regional wildlife corridors generated substantial public comment. Comparing the data about regional corridors on this property with corridors on the adjacent Jordan-Ahmanson properties, it is clear that although the Zone III undertaking will significantly effect the local on-site corridors, the preservation of open lands to the east on the Jordan-Ahmanson parcels is a more *important objective to preservation of regional wildlife corridors. The Zone III project sphere of influence* for cumulative wildlife effects does not extend over all adjacent lands. The dominant adverse effects on wildlife corridors of regional significance will result from potential approval of the Jordan and Ahmanson Ranch General Plan applications. The consultants concur with the National Park Service comments on the Draft EIR that the loss of the wildlife corridors in the Zone III is a significant. However, the proposed mitigation program for the Zone III biological resources is relatively comprehensive compared to similar programs in other regions and mitigation programs typically conditioned by the County. Specifically, the following mitigation efforts have been conceived to diminish the project's impacts on wildlife corridors:

(1) Culvert designs will conform with specifications in the EIR developed by National Park Service consultants;

(2) Water sources (springs and seeps) shall be replaced with "artificial" springs with an assured long term water supply and these sources shall be installed prior to project grading (or game guzzlers shall be provided and maintained until permanent "artificial" *springs are established*);

(3) The applicant has dedicated over 1600 acres of open space in the Oak Park Community and some of this acreage serves as an important function as permanent wildlife corridor in the Medea-Lindero drainages.

(4) By re-establishing permanent water sources east and west of the Zone III project, as animals adapt to the new source locations, presumably new corridors south into the coast range would develop.

(5) The applicant has agreed to full compensation of all site specific riparian system impacts through implementation of a riparian enhancement program. This mitigation exceeds the scope of requirements for project specific impacts given the relatively low density of riparian vegetation and qualifying wetland areas on the property;

In summary, project specific impacts on wildlife corridors within the boundary of the Zone III development were determined to be significant. A comprehensive mitigation program (see below) has been conceived to offset these effects. According to County staff, the scope of the cumulative effects for this project should conform to the natural boundaries in the Oak Park drainages and therefore the cumulative effects on Jordan-Ahmanson wildlife corridors were determined to be significant but mitigated by the proposed mitigation programs discussed below. The real threat to the integrity of the Jordan-Ahmanson area wildlife corridors are proposed developments within the canyons included within these ownerships, not the Zone III project.

Development of this project will completely eliminate relatively sedentary species that currently live within the project boundary. More mobile vertebrate species will be displaced into adjacent habitats which are already likely to be saturated with conspecifics. These displaced individuals will also suffer high mortality rates. Widely- foraging vertebrates such as raptors and carnivores will experience a contraction of foraging space, the cumulative effects of which are elimination of the entire site as a wildlife corridor. This situation contributes to the further isolation of the Transverse Ranges, Simi Hills and Santa Monica Mountains from one another. **The direct and cumulative effects of habitat loss on existing vertebrate populations is considered significant.**

Issue 7: Impacts to Sensitive Vertebrate Taxa

The juxtaposition of several habitats on-site as well as the location of the project site between two major drainages (Medea Creek and Palo Comado Canyon) has resulted in the presence of a diverse vertebrate assemblage that is rapidly disappeared in an intact form from the region. This faunal assemblage is not expected to occur on the upper, more exposed sloped of the Simi Hills.

While several sensitive taxa were observed to use the project site, no resident populations or evidence of nesting or denning was observed on-site. It appears that the site functions as foraging space for highly mobile species such as raptors and carnivores. This does not diminish its importance as regional open space. For example, the Black-shouldered Kites (Elanus leucurus) will experience a further contraction of their already shrinking grassland foraging areas if the site is developed as proposed. Removal of Southern Willow Scrub vegetation in the ravines may destroy important roosting sites for this species. The same situation may be expected to occur for other raptor species because Palo Comado Canyon receives exceptionally high raptor use for foraging and nesting (Reynolds, 1981). **Widely-foraging carnivore species will suffer contraction of home ranges and further restriction of their movements across the site to adjacent open spaces.**

The National Park Service has identified the Zone III area as a wildlife corridor for both raptors and carnivores. "The corridor is vital to prevent isolation of wildlife species into an island-like situation in the Santa Monica Mountains. The remnant populations of Mountain Lion may also be using the area for migration and dispersal between the [Transverse Ranges and the Santa Monica Mountains]." (Reynolds, 1981). These impacts are significant and require mitigation planning. Both direct and indirect impacts will occur to sensitive taxa as a result of project approval and construction; no feasible or effective measure exist to diminish this impact satisfactorily.

Project build-out as currently proposed will result in the loss of the entire site as a wildlife resource for all species, including sensitive taxa. This is considered to be a significant impact in terms of the cumulative reduction of suitable habitat in the region (Simi Hills and Conejo Valley), and also in terms of the unique location of the site between two important drainage systems (Medea Creek and Palo Comado Canyon). The high diversity of vertebrates here is a direct result of the habitat diversity on-site (e.g., freshwater seeps) and adjacent to the site.

11.3 MITIGATION MEASURES

Mitigation planning was substantially revised in response to comments and to take into account the objections of regulatory agencies expressed in comments on the Draft EIR.

Issue 1: Loss of Botanical Resources in Chaparral and Grassland Habitats

Although the project specific loss of botanical resources within the development boundary (other than rare plants) was judged to be an adverse but insignificant impact, cumulative effects on these vegetation communities were determined to be significant. To mitigate impacts on the chaparral community, the following measure is proposed:

(1) **The applicant shall fund a $50,000 chaparral research program to be managed by the Rancho Simi Recreation and Park District. The purpose of the program shall be to study ecological issues related to the management of the chaparral community within the District's boundary. Research programs shall be performed only by qualified professional botanists, wildlife biologists, or other relevant researchers.**

To mitigate impacts to grassland habitats, the following measure shall be implemented:

(2) **Native plants shall be used in the restoration of areas disturbed by the construction of the Zone III project.**

(3) **The applicant shall fund a program to restore four acres of native grassland. The restoration shall be performed in accord with procedures outlined in Appendix D of the EIR (Dames and Moore, November 19, 1990:10-11) The applicant (or a designee) shall be responsible for maintaining the restored grassland for a period of three years or until the native grasses are successfully established.**

Discussion

The first mitigation measure has been completely revised (since publication of the Draft EIR). Instead of restoring several acres of chaparral as was originally proposed, the measure has been revised to reflect the need to increase knowledge about this vegetation community and to obtain information necessary to encourage its perpetuation in areas characterized by urban encroachment.

The second measure is at least partially be addressed in various elements of the project landscape plan. The fire clearance zone plantings are outlined in the Aesthetics and Visual Resources chapter. There are varying opinions regarding how best to plant and restore these cleared areas. The Oak Park Wildlife Management Plan (Oak Collaborative, 1986) suggests the use of the following, native species in a staged, transition planting within the fire control area of the designated Open Space:

> **Zone 1** (farthest from the home) Selective clearing of the most flammable brush, sages and buckwheat. Specimen native shrubs should be maintained clear of duff and deadwood with a minimum 20 foot clearance between shrubs. The following lower flammability native replacement shrubs should be replanted: Arctostaphylos glauca, Heteromeles arbutifolia, Quercus agrifolia, Rhus ovata and Rhus laurina.
>
> **Zone 2**: (the area closer to the structure than zone 1. This area has probably been graded) Low fuel-volume native plants should be used: Eschscholzia californica, Mimulus (Diplacus) species, Trichostema lanatum, Zauschneria species, Arctostaphylos densiflora, Quercus agrifolia.
>
> **Zone 3**: (the area 25-50 feet from the house) This planting must be irrigated and be comprised of prostrate plants that can be maintained at less than 18 inches in height. Plants suitable for Zone 3 are: Arctostaphylos uva-ursi, Baccharis pilularis "Twin Peaks" or "Pigeon Point," Atriplex glauca.

Disturbed sites located outside of the Fire Control Zone should be revegetated with native species that occurred on the site prior to disturbance. This seed mix should include Adenostema fasciculatum and other associated species. The exact planting prescription shall be determined by the Rancho Simi Recreation and Park District, and shall reflect the species composition of the effected community. A temporary cover crop will promote soil stability as the slower growing chaparral species become established. Blando Brome and

Zorro Fescue are suggested. Seeding shall take place the first year after disturbance and within 48 hours of a major rainstorm (greater than 1 inch in a 24-hour period). Soil stabilization, such as straw mulching, jute or Curlex netting, may be necessary on steep (greater than 30%) or windier slopes.

Mitigation measure 3 is a new requirement designed to compensate for the loss of native grassland habitats. The location of potential restoration areas are illustrated on **Figure 11-5.**

(4) **Graded slopes, located outside of the Fire Clearance Zone throughout the Zone III area which are presently devoid of vegetation, shall be revegetated with native species. Species may be selected from the above list of shrubs or as prescribed by the Rancho Simi Recreation and Parks District. The noxious weed, Yellow Star Thistle (Centaurea solstitialis) shall be controlled by the timed removal of the inflorescence just prior to seed maturity, or with a herbicide application. The preferred mitigation approach is mechanical rather than chemical.**

(5) **Use of Private or Public Open Space and adjacent Rancho Simi Recreation and Park District lands by off-road vehicles shall be prohibited. Control fences shall be installed to limit access of ORV's to undeveloped areas. A trailhead(s) shall be established to direct foot traffic into the Public Open Space along designated paths.**

Replacement of native habitat and the control of off-road vehicles and the highly invasive Yellow Star Thistle will mitigate the loss and degradation of habitat to a non-significant level.

Issue 2: Impacts to Rare Plant Populations

A Management Program has been developed to ensure the continued existence of Astragalus brauntonii on-site, and to protect a population of Nolina parryi cismontana within the project boundary. Full adherence to this program shall mitigate the loss of both individual plants and suitable habitat.

To mitigate impacts to rare plant populations, the following measure is recommended:

(6) **A rare plant preserve for Astragalus brauntonii and Nolina parryi cismontana shall be established in the Oak Park Community and, to the extent feasible, the management of the plants in this preserve shall conform with the guidelines outlined in the management plan prepared by the consultants (Appendix D of the EIR). The applicants shall fund and further refine a rare plant management program prior to receiving any grading or building permits for construction in Zone III. The selection of a preserve site and the subsequent management program shall be coordinated with the Fish and Wildlife Service, the Department of Fish and Game, and the Rancho Simi Recreation and Park District. The goals of the selection program shall be to determine an optimal preserve site in the Oak Park Community and to obtain basic information about the biology and soil requirements of this plant. The preserve shall be under the jurisdiction of the Rancho Simi Recreation and Park District.**

Discussion

One possible preserve site (illustrated on **Figure 11-5**) is situated between the proposed Deerhill Park and the Zone III project in an area of designated open space. Other preserve locations may be more satisfactory. The selection of an appropriate and suitable preserve site will require basic research about the biology of effected rare plant populations. Dedication of a location within lands owned by the Rancho Simi Recreation and Park District for the purpose of establishing a rare plant preserve has been deemed acceptable by both the applicant and the Park District.

Issue 3: Impacts to Riparian Habitat and Existing Springs

To mitigate impacts the freshwater seeps and associated riparian systems, the following measures are recommended:

(7) **The existing freshwater springs shall be replaced by creating two artificial springs in the canyon systems east and west of the project (or in other locations acceptable to regulatory agencies and the Rancho Simi Recreation and Parks District. The location of these artificial springs shall be designated by a qualified vertebrate biologist and botanist in consultation with the Rancho Simi Recreation and Park District and concerned Chumash descendents. These springs shall be served by a separately metered water delivery line. This waterline shall belong to and be managed by the Rancho Simi Recreation and Park District. The District shall be obligated to maintain year round flows of appropriate water volumes (similar to existing springs). The created spring systems shall be designed to reproduce the conditions present at the existing natural springs. The springs shall be appropriately revegetated with native plants (Typha sp, Scirpis sp. Salix sp.) and other streamside plants common in the region. The springs shall not be developed within 500 feet of any proposed trail system. Plants located at the existing springs shall be relocated to the new artificial spring locations.**

(8) **The destruction of springs, intermittent drainages, and on-site riparian systems shall be compensated by the establishment of approximately 6 acres of riparian habitat. The restoration program shall be oriented to both enhancement of the Medea Creek-Lindero Creek drainage systems and to smaller drainages adjacent to the Zone III development. Mitigation within the well watered portions of the Medea and Lindero Creek drainages shall require successful establishment of the following species and plant quantities:**

Species	Quantity
Alnus rhombifolia (Alder)	**15**
Acer negundo Subsp. (Box Elder)	**10**
Platanus racemosa (Sycamore)	**20**
Salix lasiolepis (Arroyo Willow)	**30**
Sambucus mexicana (Elderberry)	**20**
Umbellularia californica (Laurel)	**15**

Trees shall at a minimum be 15 gallon container specimens (except for willows) or bare root with a height of 7 feet from the root crown of the top branch. The restoration program in drier areas adjacent to the Zone III project shall be coordinated with the establishment of artificial springs. Depending on site specific conditions, a long term supply of water shall be provided within drier zone restoration areas.

Discussion

Using these mitigation measures as guidelines, a Riparian Restoration and Enhancement Plan shall be developed to fully compensate for the loss of both the riparian corridors and the freshwater seeps that will be removed by development of Zone III. The major features of the proposed restoration are illustrated in **Figure 11-6** and an identification of riparian acreage included in the computation of wetland acreage loss is provided in an inset to this Figure. Sites for the created wetlands and riparian habitat shall be selected

within the protected area of the Rancho Simi and Recreation Park District and all costs associated with riparian restoration shall be the responsibility of the applicant.

The applicant shall submit the Restoration Plan to replace the vegetation and wildlife habitat lost as a result of project development for review and approval by the California Department of Fish and Game, and shall provide no net loss of habitat acreage or value. Grading permits shall not be issued until this plan is agreed to by the State, the Park District, the County, and the applicant.

Wetland creation in Southern California is experimental at best and few projects involving a true wetland "creation" have been implemented. Therefore, the restoration program focus should be on upgrading the existing riparian systems and replacement of springs to be lost as a result of construction. To assure continued evaluation, the Plan shall include detailed monitoring procedures to measure the success of the program and to provide secondary action if failures are encountered. The applicant shall bond with the County to establish and maintain plantings for a period of five years. **The successful restoration of a portion of the Medea Creek-Lindero Canyon drainage and establishment of replacement riparian habitat adjacent to the Zone III boundary will mitigate the loss of the on-site riparian system to the maximum extent feasible.**

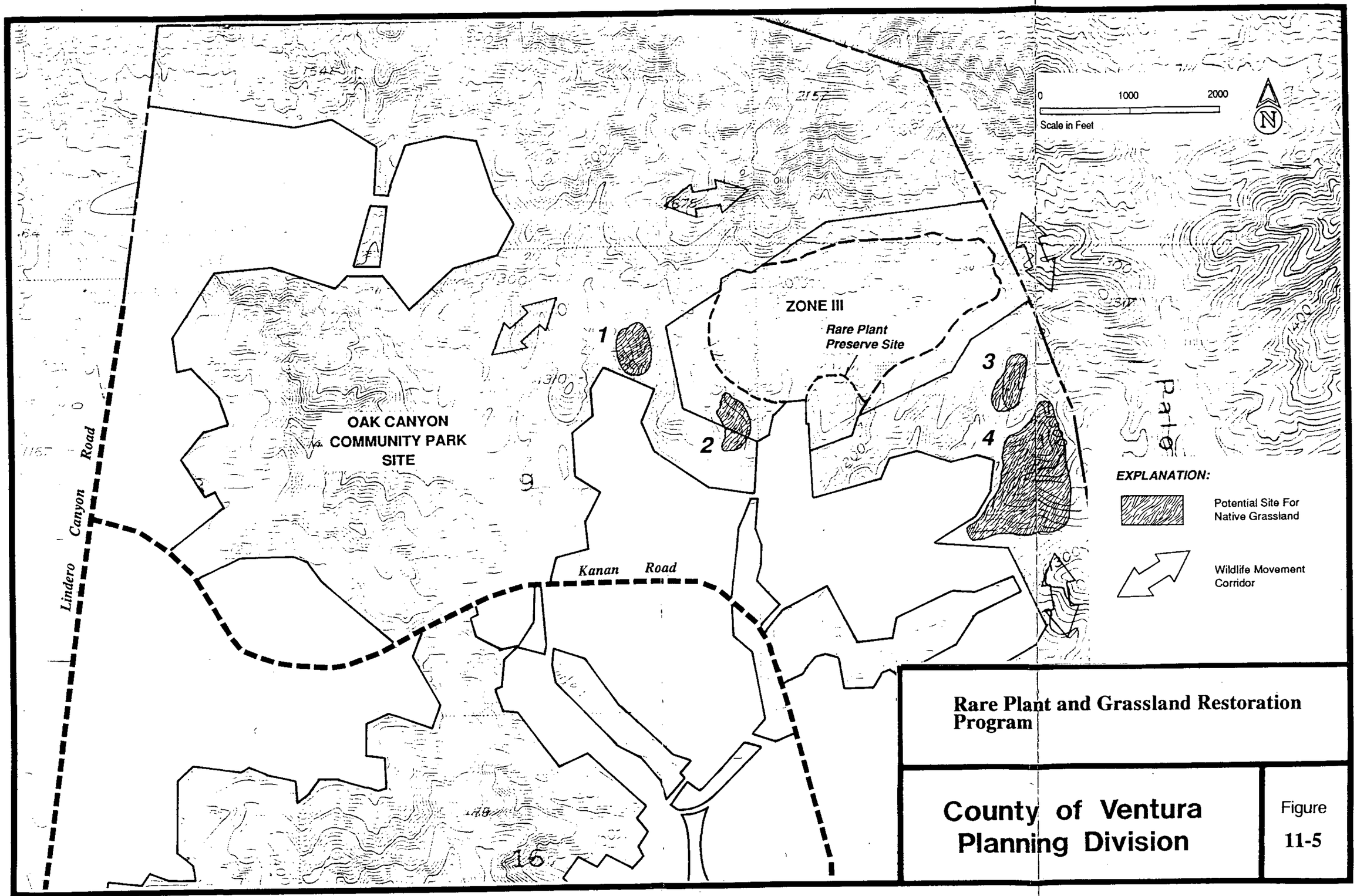
The Freshwater Seep, located in the northern central portion of the property, provide an exceptional resource to wildlife in the area. This site represents the only perennial spring within the Park District (Hunt, 1990). The Restoration Plan shall duplicate these unique resources and the specifics of this plan shall be approved by the County, the State, and the Park District prior to the issuance of grading permits. The Plan must mitigate both wildlife and botanical resource values. To assure continued evaluation of the program, the Plan shall include detailed monitoring procedures to measure the success of the program and to provide secondary action if failures are encountered.

"Game Guzzlers" are now in use within the Rancho Simi Recreation and Park District, and these devices are proven to be effective in drawing wildlife into an area (Hunt, 1990). However, the guzzler is designed to contain water for wildlife consumption, and would not support the unique wetland vegetation that is present around the natural seep. For this and other reasons, the consultant has recommended the creation of artificial springs rather than the use of "game guzzlers".

The number and types of trees to be planted off-site were computed by estimating the number of species that would be present in about a 2 acre non-degraded, well-watered, Santa Monica Mountains wetland. The Medea Creek drainage has relatively low tree species diversity due to a number of conditions including: (1) early historic land use in the region which resulted in some deforestation, (2) decline in regional water tables, (3) the impacts of successive periodic droughts, and (4) the relatively low volume of surface flow in the creek until the addition of urban runoff. Presently, due primarily to the volume of urban runoff discharged into the creek, flow volumes are higher than would have been experienced in the historic past. This condition affords an opportunity to upgrade the Medea Creek-Lindero Canyon riparian corridor by increasing species diversity. The increase in tree species and density of riparian canopy and food resources will contribute to higher densities of vertebrates and invertebrates.

The proposed restoration program has been designed to take advantage of the increased flow in the lower lying reaches of the Medea and Lindero Creek drainages. A portion of the restoration effort shall be directed to these more well watered areas (which are located further from the Zone III site than the drier zone restoration sites adjacent to the project).

The upslope restoration of riparian vegetation in areas north of the well watered portions of the Medea Creek drainage is more experimental than the proposed planting of broad leaf native trees. Providing for riparian vegetation restoration enhancement in drier areas adjacent to the Zone III project will require considerable study and possibly engineering a small, permanent drip system. This area contains soils subject to saturation and landslides and therefore any planting program will need to be carefully planned.

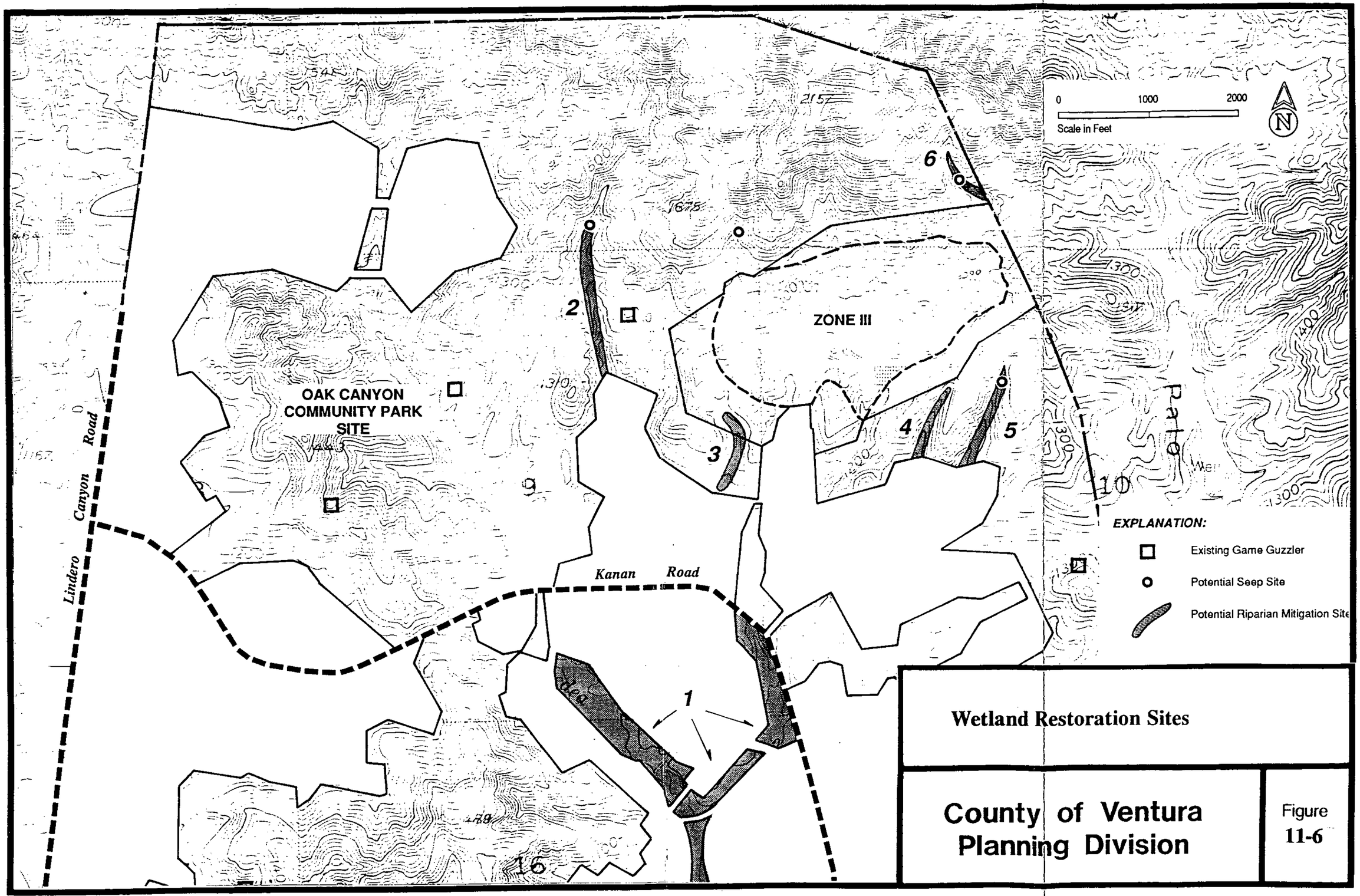


Rare Plant and Grassland Restoration Program

County of Ventura
Planning Division

Figure
11-5

ARBCO GRAPHIC ARTS CENTER 121543



Wetland Restoration Sites

County of Ventura
Planning Division

Figure
11-6

ARBCO GRAPHIC ARTS CENTER 121543

The proposed location of alternative riparian restoration sites that have been identified by the consultants or by the applicants consultants are illustrated in **Figure 11-6.**

Issue 4: Indirect Impacts: Disruption to the Ecology of Surrounding Park Lands and Open Space

Other than providing perimeter fencing and controlled access to surrounding properties, both of which are incorporated into the project design, very little else needs to be done (beyond current management efforts) to mitigate this impact. **Indirect impacts on surrounding lands are considered adverse but insignificant.**

Issue 5: Construction Related Vertebrate Mortality

The development of the project will result in some destruction of small mammals and reptiles. This impact was determined to be adverse but not significant and therefore no mitigation measures are required.

Issue 6: Cumulative Loss of Habitat and Degradation of Existing Wildlife Corridors

The applicant's consultants (Adjarian and Associates, November 1988) have prepared a group of proposals to offset project impacts to wildlife corridors. The applicant's biologist has provided the following recommendations to address this concern:

- Access Road Crossings Over Corridors: According to the proposed project development plan, internal access roads will cross Corridors II and III. Based upon the size, ultimate vegetative condition, and type of wildlife expected to utilize these corridors, it is suggested that: (1) for Corridor II, a six (6) foot height "box" culvert be installed to facilitate wildlife movement under the access road; and (2) for Corridor III, a five (5) foot high "box" culvert be installed for the same purpose. Note that this recommendation should be reviewed by a registered civil engineer to ensure that seasonal rainwater and urban runoff flows will not be impeded in any way by the proposed culverts.

- Corridor Widths: The following ultimate widths for each corridor are proposed to absorb and buffer the impacts of increased human activity associated with the construction and long term use of the site for the proposed development:

    - Corridor I: 150 feet
    - Corridor II: 50 feet
    - Corridor III: 35 feet
    - Corridor IV: 200 feet

- Corridor Access/Recreational Uses: Long term access to Corridors I, II, and III -- along with the "off-site" corridor should be limited to passive/low-intensity recreational use only. Examples of acceptable uses might include hiking, photography, painting, writing, sketching, bird watching, wildlife observation, meditation, regulated botanical or other similar scientific studies, and supervised nature walks conducted by qualified professionals from local colleges and nature groups. Proper care should be taken to ensure that public use of the corridors does not destroy (or degrade) these areas. Even very low intensity recreational use can be destructive if not restricted to appropriate sections within each corridor.

The feasibility and effectiveness of these proposals are questionable in the judgement of the consultants. It is probable all of the corridors in the project boundary will be virtually abandoned in comparison to current levels of use. Off-site corridors may still support some vertebrate activity but it is more likely that corridors to the east and west of the project will be used more intensively. **The creation of two artificial springs in**

separate drainages in the ridge and arroyo system to the west of the project will encourage the use of this drainage as a primary corridor, at least partially replacing the current use of wildlife corridors in the project boundary. Impacts to the wildlife corridors within the project boundary can effectively be mitigated by replacing natural seeps with artificial springs.

If development of the Zone III proceeds as proposed, the entire Zone II area would have degraded wildlife value compared to existing levels of significance. A typical partial mitigation for this loss of habitat and open space would involve purchase of essential habitat and open space at a ratio of at least 1 acre open space to 1 acre developed land. To a considerable degree, **this type of trade-off has already been incorporated into the Oak Park Community enrollment as a result of prior open space dedications.**

The Project Description contains a detailed list of open space dedications and habitat preservation activities undertaken by the applicant during the phased development in the Oak Park Community. Prior dedication of open space for habitat preservation effectively mitigate the cumulative habitat loss impacts resulting from construction within Zone III. Refer to Section 3.8 of the Project Description for a review of previously funded cumulative mitigation measures that have been incorporated into the project.

Issue 7: Impacts to Sensitive Vertebrate Taxa

Impacts to sensitive vertebrate taxa would be partially mitigated by the implementation of measures 1, 4, 6, 7, and 8. In addition, prior dedications of open space and wildlife habitats by the applicant within the Oak Park community have also partially offset the impacts of construction within the Zone III boundary. Specific dedications related to habitat preservation are provided in the Project Description (Section 3.8). Taken together, **these measures effectively mitigate the project's contribution to this problem. Regionally, the effective preservation of wildlife habitat can only be accomplished by limiting future developments in the project vicinity. Preservation of the canyons to the east (canyons to the west are already in open space and are protected from further development) through the prohibition or restriction of further development would effectively encourage the continued use of the region by wildlife.**

Implementation and Enforcement: All the measures that are design related would require that biological enhancement and preservation features be incorporated into the Zone III Development Plan. County staff should require that all biological resource mitigation planning is completed prior to issuance of grading permits. Specific design measures should be included in the Zone III Development Plan or on project Landscape Plans. Implementation of the riparian restoration and native grassland habitat improvement efforts shall be required as an off-site mitigation measure.

Feasibility: All of the measures recommended are feasible and have been implemented by other agencies within the State of California.

Residual Effects: Loss of the active spring on the property (Issue 3) and impacts to rare plants (Issue 2) can only be partially mitigated by the proposed mitigation measures. However, with the adoption of these measures, mitigation to the maximum extent feasible would be accomplished. Cumulative loss of habitat and the degradation of existing wildlife corridors (Issue 6) also can only be partially mitigated. The residual effects associated with other impacts are non-significant.

References

Vertebrates

Adams, L.W. and L.E. Dove. 1989. Wildlife reserves and corridors in the urban environment. A guide to ecological land planning and resource conservation. National Institute for Urban Wildlife., 91pp.

Adjarian, Fred. 1988. Memorandum dated 4 November 1988 regarding: Assessment of Oak Park Corridors.

Garrett, K. and J. Dunn. 1981. Birds of Southern California: Status and Distribution. Los Angeles Audubon Society, 408 pp.

Hall, E.R. and K.R. Kelson 1982. Mammals of North America. 2 vols. Ronald Press, New York, 1083pp.

Ingles, L.G. 1965. Mammals of the Pacific States. Stanford University Press, 506pp.

National Geographic Society. 1984. Field Guide to Birds of North America, 464pp.

Oak Park Wildlife Management Plan. 1985. Revised Draft

Oak Park Community Development Plan. 1975. Summary Report, 93pp.

Reynolds, J., U.S. Natl. Park Service. 1981. Letter to Bob Laughlin, Senior Planner, Ventura County Planning Dept.

Stebbins, R.C. 1985. A Field Guide to Western Reptiles and Amphibians. 2nd ed., 336pp.

Thousand Oaks Planning Department. 1979. Conejo Canyons Study., 215pp.

Ventura County General Plan. 1988. Land Use Appendix, 98pp.

Ventura County General Plan. 1988. Resources Appendix, 144pp.

Botanical Resources

Abrams, Leroy, 1940. Illustrated Flora of the Pacific States. Standford University Press.

Bitman, Roxanne, 1990. Botanist, California Natural Diversity Data Base, Sacramento, Ca. Personal communication.

Burgess, R., 1990. President, California Native Plant Society, Channel Island Chapter. Personal communication.

Bramlet, David, 1990. President, California Native Plant Society, Orange County, Ca. Personal communication.

California Department of Fish and Game, 1990. Natural Diversity Data Base, The Resources Agency, Non-Game Heritage Program, Sacramento, Ca.

California Department of Fish and Game, 1988. Fish and Game Code of California, Section 1603.

California Native Plant Society, 1988. Inventory of Rare and Endangered Vascular Plants of California.

Carroll, Mary, 1986, Draft Report on the Status of Astragalus brauntonii in the Simi Hills.

County of San Buenaventura, 1986. Zone I Specific Plan Update, Oak Park Planned Community.

County of San Buenaventura, 1988. Ventura County General Plan: Goals, Policies and Programs. Adopted May 24,1988, amended June 20, 1989.

County of San Buenaventura, 1988. Ventura County General Plan: Area Plan for the Oak Park Area, adopted May 24,1988, amended June 20, 1989.

Dice, James, 1988. Systematic Study in the Nolina bigelovii-N. parryi Complex. Masters Thesis, San Diego State University.

Dice, James, 1990. Associate Resource Ecologist, California Department of Parks and Recreation, Southern Regional Headquarters, San Diego, Ca. Personal communication.

Fergerson, Nancy, 1990. Environmental Resource Planner, City of Anaheim, Ca. Personal communication.

Holland, R., 1986. Preliminary Description of the Terrestrial Natural Communities of California. Nongame Heritage Program, California Department of Fish and Game, Sacramento, California.

Homrighausen, Art, 1990. Biologist. L.S.A. Consultants, Irvine, Ca. Personal communication.

Hunt, Dmitri, 1990. Rancho Simi Parks and Recreation District, Ventura County, Ca. Personal communication.

Long, Mickey, 1990. Botanist, Los Angeles Museum of Natural History, Los Angeles, Ca. Personal communication.

Marsh, Karlin, 1990. Biological Consultant. Silverado, Ca. Personal communication.

Metropolitan Water District, 1990. Ventura County. Personal communication.

Munz, P., 1974. A Flora of Southern California. University of California Press, Berkeley.

Nature Conservancy, 1986. Element Conservation Plan; Astragalus brauntonii (Special Plant).

Oak Collaborative, 1986. Oak Park Wildlife Management Plan, Revised Draft.

Rutherford, Connie, 1990. Botanist, United States Department of Fish and Wildlife, Ventura, Ca. Personal communication.

Spenger, Connie, 1990. President, Friends of the Tecate Cypress. Personal communication.

State of California Office of Planning and Research, 1986. California Environmental Quality Act (CEQA): Statutes and Guidelines. Office of Planning and Research.

Thomas, Tim, 1990. Botanist, Santa Monica Mountains National Forest, Agura, Ca. Personal communication.

Ventura County Fire Department, 1990. Construction Division, Station 36, Ventura, Ca. Personal communication.

Biology/Ecology of the Region

California Native Plant Society, Channel Islands Chapter, 1988. Letter correspondence dated July 28, 1988 from David L. Magney to Daniel Price, Planning Division, County of Ventura.

City of Thousand Oaks, 1972. General Plan: Open Space and Conservation Elements.

City of Thousand Oaks, 1979. Conejo Canyons Study. Thousand Oaks Planning Department.

City of Thousand Oaks, 1986. Environmental Impact Report, Tentative Tract Map 4114, Orange Builders, Inc.

Conejo Parks and Recreation District, 1975. Master Plan. Republished March, 1986.

Conejo Open Space and Conservation Agency, 1984. Brochure. Published by COSCA, Thousand Oaks, California.

Jennings M., 1987. Annotated Check List of the Amphibians and Reptiles of California. Special Publication No. 3, Southwestern Herpetologists Society.

Natural Diversity Data Base, 1989 data inventory search. State of California, Department of Fish and Game, Sacramento, California.

Remsen, J. Jr., 1978. Bird Species of Special Concern in California. California Department of Fish and Game, Nongame Wildlife Investigations, Wildlife Branch Administrative Report Number 78-1.

State of California Office of Planning and Research, 1986. California Environmental Quality Act (CEQA): Statutes and Guidelines.

Tate J. Jr., 1986. The Blue List for 1986. American Birds Volume 40, No. 2. pp. 227-236.

United States Fish and Wildlife Service, 1985. Endangered and Threatened Wildlife and Plants; Review of Vertebrate Wildlife; Notice of Review. 50 CFR Part 17. Part III.

Ventura County, Board of Supervisors, 1987. Ordinance No. 3680. Adopted November 10, 1987.

Ventura County Resource Management Agency, 1986. General Plan: Conservation and Open Space Elements.

Williams, Daniel F., 1986. Mammalian Species of Special Concern in California. California Department of Fish and Game Wildlife Management Division Administrative Report 86-1.

Personal Communications

Collins, Barbara J., 1989 personal communication. Botanist and Professor of Biology, California Lutheran University Thousand Oaks, California. Interview on May 7, 1989.

Nickles, Douglas V., 1989 personal communication. Management Assistant, City of Thousand Oaks and Conejo Open Space Conservation Agency. Interview on May 12, 1989.

Wetlands Issues

County of Ventura, 1989. Caston Trust General Plan Amendment, Draft EIR.

Frank, William, 1990. Ventura County Flood Control Engineer. Personal Contact.

Haydon, William, 1990. Ventura County Flood Control Engineer. Personal Contact.

United States Department of Agriculture, 1970. Soil Survey, Ventura Area, California. Soil Conservation Service, University of California, Agricultural Experimental Station.

Wetland Training Institute, 1989. Field Guide for Delineating Wetlands: Unified Federal Method. WTI 89-1. 131 pp.