W567

BIOLOGICAL ASSESSMENT
30502 SHELTER CANYON ROAD
GOREN-LIVE OAK SITE, LOT 3
THE OAKS AT TRABUCO, ORANGE COUNTY

UTM: 11-S: 444,500 mE; 3,726,000 mN

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15 July 2021

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SUMMARY

A biological survey of the one-acre development area of the five-acre parcel at 30502 Shelter Canyon Road at The Oaks at Trabuco, Goren property, off Live Oak Canyon Road, revealed a diverse mix of Scrub Oak Chaparral on north-facing slopes with Sage Scrub dominated by Cismontane Nolina and Coastal Sagebrush, along with a disturbed area on south-facing slopes. Seven sensitive animals were noted on region of the site in prior site assessments: Turkey Vulture, Coopers Hawk, Red-shouldered Hawk, Red-tailed Hawk, Coastal Cactus Wren, Coastal Rufous-crowned Sparrow, and Mule Deer.

INTRODUCION

A biological survey of the one-acre building site was performed by Pacific Southwest Biological Services, Inc., (Pacific Southwest) at the request of Mr. Gilbert Leach of Goren Financial Services, Inc., Orange County, California. The purpose of the survey was to identify sensitive biological resources and constraints in the lot grading and construction of a single-family residence within the approved nine-lot subdivision.

METHODS

The botanical portion of the survey was conducted by R. Mitchel Beauchamp on 4 June 2021, from 10:00 to 11:00 with clear skies and a temperature of 76°F. The on-foot survey covered all slope aspects, and soil types of the parcel. Particular attention was given to the Sage Scrub and Chaparral. Vegetation and sensitive plant locations were delineated on a 1" = 100' topographic map.

The zoological survey was performed during the same visit to the site by Beauchamp. All habitat types present within the study area were surveyed for wildlife. Prior survey of the site and surrounding area included a focused survey for the Coastal California Gnatcatcher (*Polioptila californica californica)*. The small size of the parcel made it possible to cover the entire site during the visit. The site was also examined by a prior assessment in 1999 (PSBS 1999).

"Pishing", a technique commonly employed to arouse the interest of passerines, was used to call out birds. Binoculars (8.5 x 44 power) were used to assist in detection and identification.

Prior biological surveys of the immediate region were examined to assess sensitive resources known from the vicinity of the site (Pacific Southwest 1989, 1990a, 1990b, 1991, 1992, 1999).

Scientific nomenclature used in this report is from the following references: vegetation, Holland (1986); flora, Hickman (1993); birds, American Ornithologists' Union (1983, 1989); reptiles and amphibians, Collins (1990); and mammals, Jameson and Peeters (1988). Wildlife habitat delineations generally follow Mayer and Laudenslayer (1988).

LOCATION

The property is situated in the south half of Section 3, Range 7 West, Township 6 South of the San Bernardino Base and Meridian; USGS 7.5' Santiago Peak, California Quadrangle in southern Orange County (Figure 1). The site is accessed from the west with Live Oak Canyon Road providing the western boundary of the property. Surrounding land use is primarily rural homesites or undeveloped. The intersection of Live Oak Canyon Road and Canyon Creek Drive lies just off-site to the northwest. The building site lies at the eastern terminus of Summit Drive.

Figure 1. Regional Location of Site

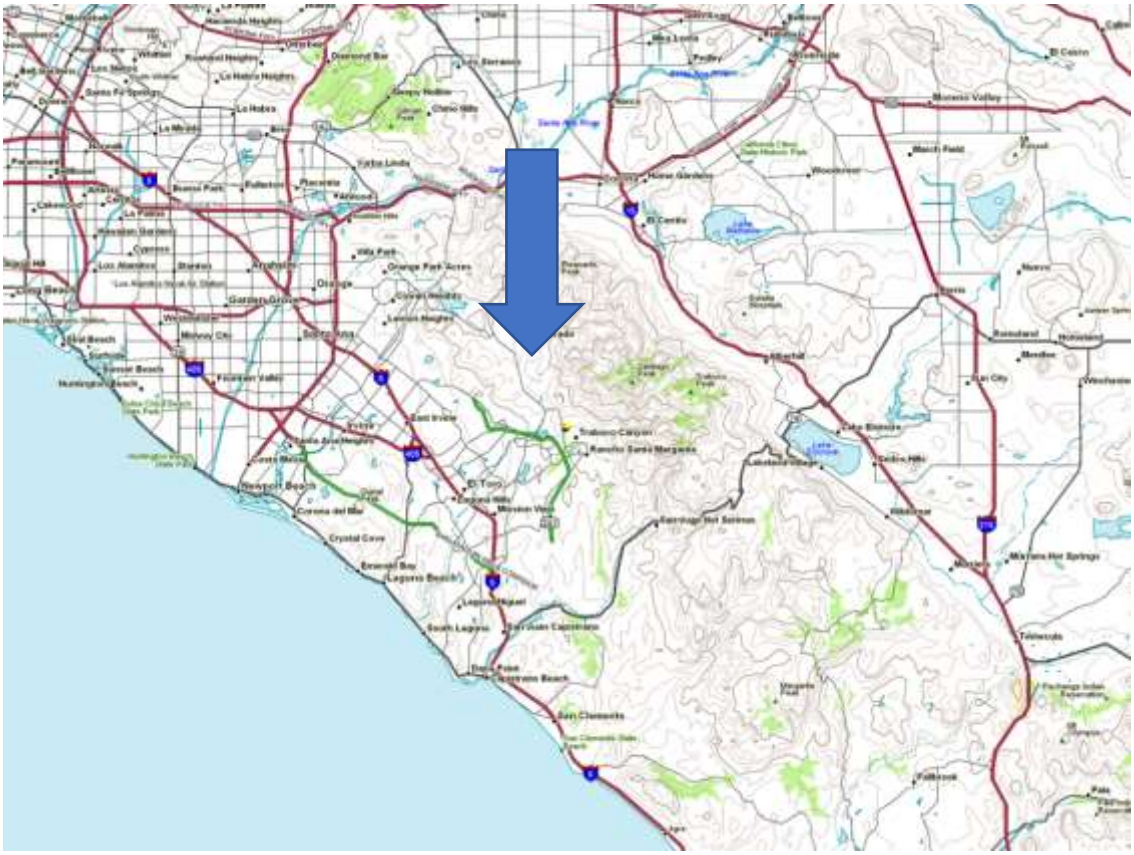
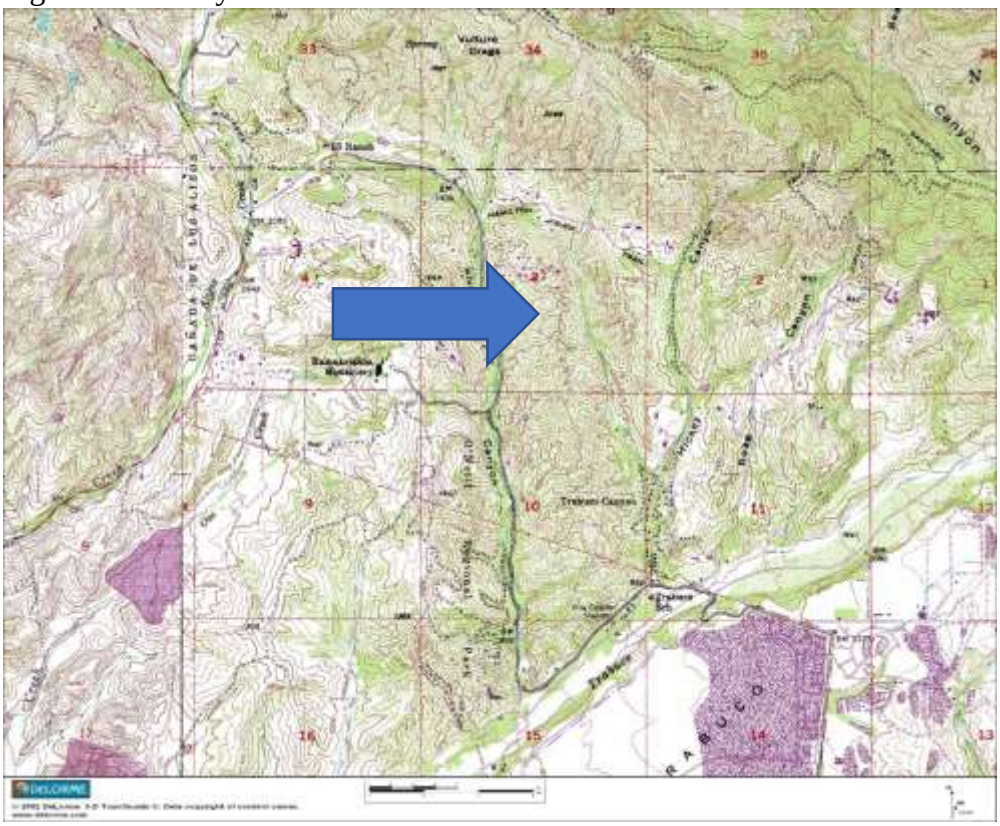


Figure 2. Vicinity Location of Site



GENERAL PHYSIOGRAPHY

The property is positioned at the upper end of Shelter Valley Drive, and consists of the lower end of a single ravine, encompassed by secondary finger ridges. High elevation at the upper end of the canyon is approximately 1290 feet, with a low elevation of 1252 feet at the mouth of the canyon. No jurisdictional wetlands or permanent watercourse occur on-site. The north-facing slope is dominated by Chaparral, while the south-facing slope gives way to Sage Scrub elements.

Soils for the site are mapped as Cieneba sandy loams in the uplands with Botella clay loams along the major drainages (Wachtell 1978). The underlying geology consists of an Oligocene nonmarine formation (Rogers 1973).

BOTANICAL RESOURCES - VEGETATION

Three primary vegetation types were delineated on the site: Disturbed Habitat, Scrub Oak Chaparral, and Diegan Coastal Sage Scrub (Figure 3). The last mentioned has an unusual component of Cismontane Nolina (*Nolina cismontana)* intermixed and includes some ecotonal chaparral elements. The Disturbed Habitat occurs at the lower, western end of the parcel. In general, Scrub Oak Chaparral predominates on all north-facing slopes while Sage Scrub occurs on the drier south- and west-facing slope.

Figure 3. Areal Imagery of Site's Canyon Location

SCRUB OAK CHAPARRAL (21,344 sq ft / 0.5 acre)

Dense concentrations of Scrub Oak (*Quercus berberidifolia*) are clustered on north-facing slopes where water resources tend to be greater through reduced insolation and evaporation. Interspersed with these shrubby oaks is Mountain-Mahogany (*Cercocarpus betuloides*), easily identified during summer by its "feathered achenes," Holly-leaf Redberry (*Rhamnus ilicifolia*), Monkey (*Diplacus aurantiacus*) in the more open locales, Toyon (*Heteromeles arbutifolia*), and Chamise (*Adenostoma fasciculatum*), which occurs in larger numbers near the ridges. Erosion at the upper elevations facilitates Sage Scrub as pioneering elements over Chaparral; at numerous locales an ecotonal habitat prevails.

In many areas the Chaparral has reached a "climax stage," or senescence, with the vegetation almost impenetrable and little evidence of prior burning. Understory in such situations is minimal, but includes occasional Indian Pink (*Silene laciniata*) with its showy red petals and

Filago (*Filago californica*). Sapphire Woolly Star (*Eriastrum sapphirinum* ssp. *dasyanthum*) grows in a few barren openings. Quality of the Chaparral on-site is of a standard typical of similar habitat throughout the Santa Ana foothills.

DIEGAN COASTAL SAGE SCRUB (7,648 sq ft /0.18 acre)

Within the building foot print, the constituents of the Sage Scrub are primarily California Sagebrush (*Artemisia californica*), Mohave Yucca (*Hesperoyucca whipplei*), and as an unusual regional element, Cismontane Nolina. This Nolina occurs in some of the highest concentrations known for this species in the Live Oak Road area. Elsewhere in southern California it is usually quite uncommon.

Coast Prickly Pear (*Opuntia occidentalis*) occurs in sporadic patches with Coast Honeysuckle (*Lonicera subspicata*) scrambling over low-growing shrubs in some areas and Bindweed (*Calystegia macrostegia* ssp. *arida*) mimicking this growth pattern over low herbaceous shrubs and annuals. Among the latter were found Stinging Lupine (*Lupinus hirsutissimus*), Cobweb Thistle (*Cirsium occidentale*), and Parry Phacelia (*Phacelia parryi*); all are beginning to decompose following an early spring bloom.

Bulbous perennials such as Golden Stars (*Bloomeria crocea*) with its bright umbel of yellow flowers, Santa Ana Mountain Mariposa Lily (*Calochortus weedii* var. *intermedius*) with its striking purplish/white petals, and Soap Plant (*Chlorogalum pomeridianum*) are uncommon on-site and typically bloom later than the annual elements.

Subshrubs in the understory include the pungent Odora (*Porophyllum gracile*), a diminutive form of Coast Goldenbush (*Isocoma menziesii* ssp. *vernonioides*) with a dense growth of branches and leaves, as well as Peony (*Paeonia californica*).

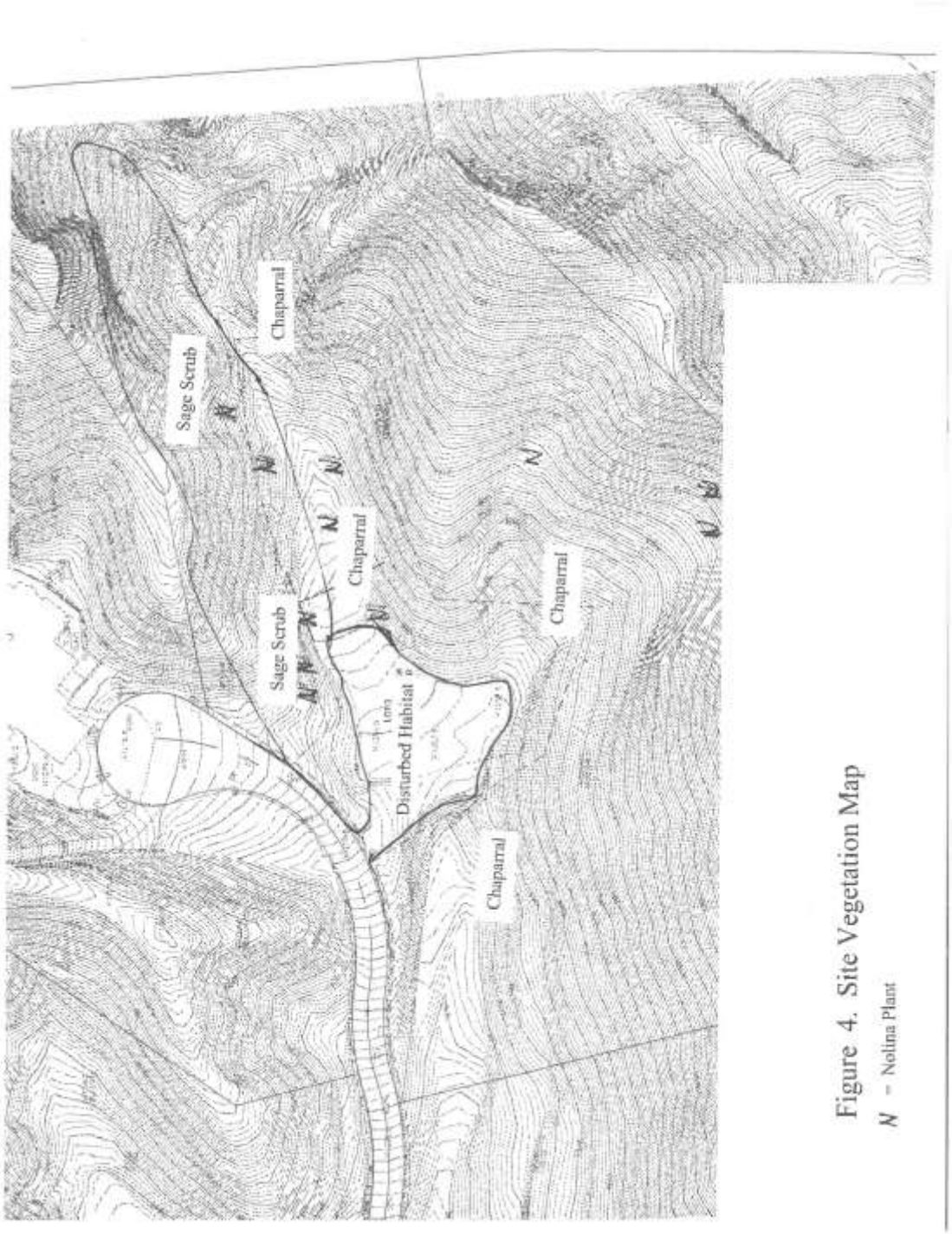
Typically, the Sage Scrub on-site is of relatively high habitat quality, and is more diverse than seen to the southwest in areas such as Chiquita Canyon.

DISTURBED HABITAT (7,470 SQ FT / 0.17 ACRE)

The area of disturbance occurs about the entrance to the site. This area is largely a sandy area.

PSBS #W567

Figure 4. Vegetation and Nolina Locations about Project Site



Flora

One hundred six species of plants were noted on the entire property in 1999, of which twenty-four are non-native, invasive elements. The current listing, with less site habitat diversity, is indicated in **Bold** font on the original listing as Appendix 1. That total is 44, with 12 being non-native, weedy species. As mentioned, the Chaparral is typical of the region, and the Sage Scrub is considered of high quality. The density of the Cismontane Nolina is a significant factor in this estimation of quality of the Sage Scrub. This species has a high density in the Open Space Scenic Preservation Easement areas of the development.

Initially, floras of the region listed this species as *Nolina parryi*, still an appropriate name for plants growing in the desert foothills of Southern California. Plants in the Peninsular Ranges now described as a separate species of a more limited range and are best referred to as *Nolina cismontana.* Approximately 7 flowering specimens of the Nolina occur in Sage Scrub habitat of the area to be developed.

ZOOLOGICAL RESOURCES

GENERAL WILDLIFE HABITAT

Two wildlife habitats are found on this building site in the Goren property: Scrub Oak Chaparral and Diegan Sage Scrub.

CHAPARRAL

Mixed Chaparral covers a majority of the south slope of the site and contains a strong Scrub Oak and Toyon component. Canopy coverage is very dense and of moderate height, with access generally limited to the dirt roads. Rock outcrops are not present; consequently, open pockets within the vegetation are limited to dirt roads and areas of steep slopes where erosion is evident. Due to the density of the foliage, birds are the more easily detected vertebrates, with characteristic species being the Western Scrub Jay (*Aphelocoma coerulescens*), Bewick's Wren (*Thryomanes bewickii*), California Thrasher (*Toxostoma redivivum*), Wrentit (*Chamaea fasciata*), and Spotted Towhee (*Pipilo maculatus*).

COASTAL SAGE SCRUB

This vegetation is composed primarily of shrubs such as Coastal Sagebrush, Flat-top Buckwheat (*Eriogonum fasciculatum*), and Cismontane Nolina mixed with occasional Chaparral elements and annual grasses. These areas display a lower profile canopy and often a more open ground coverage. In general, such habitat is utilized by species also found in Chaparral vegetation. The greater amount of sunlight penetration enhances such areas for basking by reptiles. Two noted regional sensitive bird species are sometimes specifically associated with scrub locales as opposed to Chaparral. These are the Coastal California Gnatcatcher (*Polioptila californica californica*) and Cactus Wren (*Campylorhynchus brunneicapillus*).

Most of the on-site scrub lacks features characteristic of Gnatcatcher habitat (lack of extensive Coastal Sagebrush stands, dominance of *Nolina*, etc.), and the site's elevation generally exceeds that consistent with Gnatcatcher occurrence in Orange County (Atwood 1990). Vegetation marginally suited for the Gnatcatcher is found along a south-facing slope where a small stand of Coastal Sagebrush occurs. Detracting from its suitability is that the density of shrubs at this locale perhaps exceeds that preferred by the species, and the general density of surrounding Chaparral vegetation does not enhance the possibility of Gnatcatcher utilization.

Scattered stands of Prickly Pear Cactus are moderately suited to the presence of the Cactus Wren, and this species has been identified on adjacent, off-site parcels to the north (Pacific Southwest 1990b, 1991). On-site habitat is of comparable quality of that to the north where this species has been recently detected, and in fact the Cactus Wren was observed in each of the two major canyons on the site during the survey.

AMPHIBIANS

No amphibians were observed. Species which may occur on-site include the Pacific Chorus Frog (*Pseudacris regilla*), which may inhabit either the woodlands or dense areas of Chaparral, as well as other habitats. Both the Black-bellied Slender Salamander (*Batrachoseps nigriventris*) and Garden Slender Salamander (*Batrachoseps major*) are known from the region and could occur in any of the on-site habitats. Also, the Ensatina (*Ensatina eschscholtzi*) is frequently found living within the stick nests of the Dusky-footed Woodrat (*Neotoma fuscipes*), which were noted beneath large Chaparral shrubbery.

REPTILES

The Western Fence Lizard (*Sceloporus occidentalis*) was the only reptile observed during the survey (Appendix 2); however, the Side-blotched Lizard (*Uta stansburiana*) was noted in adjacent habitat (Pacific Southwest 1990b, 1991). Other relatively common lizards of the region which may occur on-site are the Western Skink (*Eumeces skiltonianus*) and Southern Alligator Lizard (*Elgaria multicarinata*). The San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*) may also reside on-site but was not observed despite suitable season and weather conditions and the presence of its principal prey item, the Harvester Ant.

During the present site assessment, the Western Whiptail (*Cnemidophorus tigris*), was observed in the sandy canyon bottom.

The San Diego Horned Lizard was not noted during any surveys of the site or of adjacent, similar quality habitats.

Several regionally common snake species may inhabit the site or occasionally move through the property. These include the Gopher Snake (*Pituophis catenifer*), Common Kingsnake (*Lampropeltis getulus*), California Striped Racer (*Masticophis lateralis*), Coachwhip (*Masticophis flagellum*), and Southern Pacific Rattlesnake (*Crotalus viridis helleri*).

BIRDS

Thirty-six species of birds were observed on the property in 1999, with eleven additional species having been observed on-site in the immediate vicinity. Several additional species are expected to occur as winter visitors to the site. More common among these are the Hermit Thrush (*Catharus guttatus*), Ruby-crowned Kinglet (*Regulus calendula*), and Dark-eyed Junco (*Junco hyemalis*). Others, such as the Western Kingbird (*Tyrannus verticalis*), may occur as summer breeding species. Those avian species observed in the June 2021 assessment are indicated in Appendix 2.

Typical scrub/chaparral species which were detected were the California Quail (*Callipepla californica*), Anna's Hummingbird (*Calypte anna*), Western Scrub-Jay, Bushtit (*Psaltriparus minimus*), Bewick's Wren, Wrentit, California Thrasher, Phainopepla (*Phainopepla nitens*), California Towhee (*Pipilo crissalis*), Spotted Towhee, and House Finch (*Carpodacus mexicanus*). Noted on nearby parcels and expected on-site are the Greater Roadrunner (*Geococcyx californianus*), Costa's Hummingbird (*Calypte costae*), and Northern Mockingbird (*Mimus polyglottos*). The Fox Sparrow (*Passerella iliaca*) is a possible winter visitor to this habitat.

The Red-tailed Hawk (*Buteo jamaicensis*), Red-shouldered Hawk (*Buteo lineatus*), and Cooper's Hawk were the raptors observed on the site. The American Kestrel (*Falco sparverius*) has been noted in the immediate vicinity (Pacific Southwest 1990b) and is expected to occasionally forage on the subject property. The Golden Eagle (*Aquila chrysaetos*) is known from the southern Santa Ana Mountains and could forage over the site; however, the dense Chaparral and oaks offer poor foraging potential for this large bird. Also noted flying over the site was the Turkey Vulture (*Cathartes aura*), which may nest in rugged mountainous areas of rock outcrop to the north.

MAMMALS

Six species of mammals were detected on the site and three additional species were noted on nearby property (Appendix 2). Droppings of the Brush Rabbit (*Sylvilagus bachmani*) were common throughout the site and burrows of Botta's Pocket Gopher (*Thomomys bottae*) were most common in softer soils of scrub or woodlands. California Ground Squirrels (*Spermophilus beecheyi*) were observed around rural residences and pastures nearby, but were not detected on-site. Conspicuous stick nests of the Dusky-footed Woodrat were noted in dense Chaparral. Several additional small rodent species are expected to be present on-site; however, their detection generally requires a nocturnal trapping program. As none of these expected species are considered sensitive, a trapping regime was not conducted.

Larger mammals detected included two predators, the Coyote (*Canis latrans*) and the Gray Fox (*Urocyon cinereoargenteus*). Also expected in the area are the Striped Skunk (*Mephitis mephitis*), Virginia Opossum (*Didelphis virginiana*), and possibly Raccoon (*Procyon lotor*). Mule Deer (*Odocoileus hemionus*) tracks were only infrequently observed but were more plentiful on off-site trails to the north and are regularly viewed by area residents (Pacific

Southwest 1991). The Bobcat (*Lynx rufus*) was noted on the properties to the north (Pacific Southwest 1990b, 1991) but no sign of its presence was observed on the subject parcel. The species is nonetheless likely to occasionally move through the property. The most formidable predator of the region is the Mountain Lion (*Felis concolor*), which has been observed by local residents (Pacific Southwest 1991). The subject property is unlikely to serve as a major use area due to the relatively low use of the site by Mule Deer, or as an important movement corridor due to the lack of a defined trail or riparian corridor connecting through to other major blocks of wild lands.

SENSITIVE PLANTS

The only sensitive plant identified on the building site was the Cismontane Nolina (*Nolina cismontana*). Several additional species are known from the region; however, the site lacks features consistent with their presence. Vernal pool species, such as Thread-leaved Brodeia (*Brodiaea filifolia)* lack appropriate habitat on the Goren site. Sticky Dudleya (*Dudleya viscida*) occurs on metavolcanic rock in steep canyon locales such as at San Juan Hot Springs, but it lacks appropriate substrate on-site and has never been recorded this far north. Laguna Beach Dudleya (*Dudleya stolonifera*), seen in the Laguna Hills, is only known from a localized proximity to the coast and has not been collected this far inland. Many-stemmed Dudleya (*Dudleya multicaulis)* has been collected on the Starr Ranch and has the potential for occurring on-site; it grows from a small corm and is usually only detectable during late spring when in flower.

A number of sensitive species occur at higher elevations on Santiago Peak in the Santa Ana Mountains and are not expected to occur in the foothills. These include Braunton's Milkvetch (*Astragalus brauntonii)*, and Santiago Peak Phacelia (*Phacelia suaveolens* ssp. *keckii)*. Catalina Mariposa Lily (*Calochortus catalinae)* prefers grassland locales not well developed on the property. Prostrate Spineflower (*Chorizanthe procumbens* var. *albiflora)* has been recently collected in the region, but was not noted at the Goren site. Recently, a new taxonomic treatment of the genus has merged this entity into synonymy with other varieties, lowering its presumed sensitivity from a botanical standpoint.

SENSTIVIE VERTEBRATES

Seven sensitive vertebrate species were observed on or flying over the property in 1999 but were not observed on the site during the 2021 assessment. These are Turkey Vulture (*Cathartes aura*), Golden Eagle (*Aquila chrysaetos*), Cooper's Hawk (*Accipiter cooperi*), Red-shouldered Hawk (*Buteo lineatus*), Sharp-shinned Hawk (*Accipiter striatus*), Red-tailed Hawk (*Buteo jamaicensis*), Cactus Wren (*Campylorhynchus brunneicapillus couesi*) - coastal population, Coastal Rufous-crowned Sparrow (*Aimophila ruficeps canescens*), San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*), and Mountain Lion (*Felis concolor*).

EXPECTED BIOLOGICAL IMPACTS TABLE 1.SUMMARY OF IMPACTS

VEGETATION TYPE	PROPOSED DEVELOPMENT FOOTPRINT ACREAGE	EXPECTED LOSS (ACRES)	REMAINING IN RESOURCE PRESERVATION AREA
Chaparral	0.65	0.65	3.3
Diegan Sage Scrub	0.18	0.18	0.7
Disturbed Area	0.17	0.17	N/A
TOTAL	1	1.11	4

Significant Impacts

The loss of 018 acre of Diegan Sage Scrub is considered a significant impact due to the regionally declining nature of the vegetation, and its potential to support such species as the Coastal California Gnatcatcher and Coastal Cactus Wren. Habitat of marginal or better suitability is present. Since the 1991 survey, the Coastal California Gnatcatcher has become listed as a federally Threatened Species, and impacts to Diegan Sage Scrub are generally viewed more harshly than before as this habitat becomes a focus of a requisite Habitat Conservation Plan for the species.

Approximately 10% of the sensitive *Nolina cismontana* population within the parcel will be directly impacted by grading and fill for proposed pad.

Non-Significant Impacts

The loss of 0.65 acre of diverse Scrub Oak Chaparral vegetation is not considered significant due to the absence of sensitive species associated with this habitat. Although this loss is considered

an incremental impact at this time, it is noteworthy in light of the regional developments underway and proposed in the Trabuco Hills area. It should also be noted that such incremental losses lead to further habitat fragmentation and decreased value to wildlife both on-site and in surrounding areas.

The site does not contain wetland vegetation and lacks bed and bank characteristics. Due to this lack of jurisdiction, no U.S. Army Corps of Engineers 404 permit, California Department of Fish and Wildlife Section 1603 Streambed Alteration Permit, nor Regional Water Quality Control Board 401 certification are required.

RECOMMENDATIONS TO REDUCE BIOLOGICAL IMPACTS

The recommendations concerning the mitigation of impacts on the entire, multi-lot project in the preceding report have been largely implemented in the present design of this parcel and the Open Space Scenic Preservation Easement allocation.

1. The vast majority of lands located outside of pad sites and fill slopes have been placed into Open Space Scenic Preservation Easements to ensure protection of these areas from clearing of native vegetation and future development. This incorporates concentrations of Diegan Sage Scrub and the heavily eroded eastern ridgeline. A 50-foot buffer of vegetation clearing to reduce fire-fuel loading would be allowed from home sites and associated structures. Selected removal is to be done near oak trees and *Nolina* colonies or individual plants.

2. Although preservation easements may include uses such as hiking and horseback riding trails by local residents, domestic pets should be maintained on leashes or restricted altogether from these areas. Hunting should be prohibited in preservation easements. Similarly, no grazing of horses or livestock should be allowed in these areas.

3. While direct impacts to *Nolina cismontana* are estimated at no greater than 10% of the population in this canyon, additional precautions could preclude secondary or future impacts. A fuel modification plan within the undeveloped native vegetation should have a provision that the easily-identifiable Nolinas not be grubbed or removed (they lack spine-tipped leaves). The Resource Protection Area is assumed to include all native vegetation remaining on the site. Nolinas in the area to be graded are to be salvaged for replanting on-site or offered for horticultural use.

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Appendix 1. Floral Checklist of the Goren-Trabuco Oaks Site.

Bold entries indicate referenced building site

HABITAT C = Scrub Oak Chaparral D = Diegan Sage Scrub W=Woodland

	Habitats
CRYPTOGAMS	
SPIKE-MOSSES	
Selaginellaceae-Spike-Moss Family	
Selaginella bigelovii Underw. Common Spike-Moss	C
GYMNOSPERMS	
Pinaceae	
**Pinus halepensis* Aleppo Pine	D
DICOTYLEDONS	
Aizoaceae - Carpet-weed Family	
**Aptenia cordifolia* (L.) Schwant	W
Anacardiaceae - Sumac Family	
***Malosma laurina* (Nutt.) Nutt. ex Abrams Laurel-Leaf Sumac**	**D**
***Rhus integrifolia* (Nutt.) Benth. & Hook. Lemonade Berry**	**D**
***Toxicodendron radicans* ssp. *diversilobum* (T. & G.) Thorne Poison-Oak**	**C/W**
Apiaceae - Carrot Family	
Apiastrum angustifolium Nutt. Mock Parsley	W
***Daucus pusillus* Michx. Rattlesnake Weed**	**D**
**Foeniculum vulgare* Mill. Fennel	W
***Yabea macrocarpa* (Hook. & Arn.) Koso-Polj.**	**C**
Asclepiadaceae - Milkweed Family	
Asclepias eriocarpa Benth. Indian Milkweed	W
Asteraceae - Sunflower Family	
**Lactuca serriola* L. Wild Lettuce	C
Acourtia microcephala DC. Sacapellote, Purpleheads	C
Ambrosia psilostachya DC. var. *californica* (Rydb.) Blake Western Ragweed	W
***Artemisia californica* Less. California Sagebrush**	**D**
***Artemisia douglasiana* Bess. in Hook. Mugwort**	**W**
***Artemisia dracunculus* L. Dragon Sagewort**	**C**
***Baccharis pilularis* ssp. *consanguinea* (DC.) C.B. Wolf Coyote Brush**	**C/W**
***Baccharis salicifolia* (R. & P.) Pers. Mule-fat**	**C/W**
***Brickelia californica* (T. & G.) Gray**	
**** Carduus pycnocephalus* L. Italian Thistle**	**C, W**
**** Centaurea melitensis* L. Tocalote**	**D**
Chaenactis artemisiaefolia (Harv. & Gray) Gray Pincushion	D
Cirsium occidentale (Nutt.)Jeps. Cobweb Thistle	D
Encelia californica Nutt. California Encelia	D
Erigeron foliosus var. *foliosus* Leaf Daisy	D
***Eriophyllum confertiflorum* (DC.) Gray var. *confertiflorum* Golden-Yarrow**	**C,D**

Appendix 1. Floral Checklist of the Goren-Trabuco Oaks Site (continued)

Asteraceae- Daisy Family (continued)		
Filago californica Nutt. California Filago	C,D	
**Filago gallica* L. Narrow-leaf Filago	D	
Gnaphalium beneolens Davids. Fragrant Everlasting	D	
Gnaphalium (Pseudognaphalium) californicum DC. California Everlasting		C
Gnaphalium microcephalum Nutt. White Everlasting	D	
***Hazardia squarrosa* ssp. *grindelioides* (DC.) Clarke Sawtooth Goldenbush**	**D,S**	
**Hedypnois cretica* (L.) Willd. Crete Hedypnois	D	
Hemizonia fasciculata (DC.) Torrey & Gray Fascicled Tarplant	D	
***Heterotheca grandiflora* Nutt. Telegraph Weed**	**D**	
**Hypochoeris glabra* L. Smooth Cat's-ear	D	
**Lactuca serriola* L. Wild Lettuce	D	
Isocoma menziesii var. *vernonioides* (Nutt.)Nesom Coastal Goldenbush	D	
Lessingia filaginifolia (Hook. & Arn.) M.A. Lane var. *filaginifolia* Cudweed Aster		C
****Pulicaria paludosa*** Spanish Sunflower	**D**	
Porophyllum gracile Benth. Odora	D	
Solidago californica Nutt. California Goldenrod	W	
****Sonchus asper L. Sow-Thistle***	**D**	
****Sonchus oleraceus* L. Common Sow-Thistle**	**D**	
Stebbinoseris heterocarpa (Nutt.) Chambers	C	
Stephanomeria diegensis Gottlieb San Diego Wreath-Plant	D	
Stephanomeria virgata Benth. ssp. *virgata* Virgate Wreath-plant	D	
Stylocline gnaphalioides Nutt. Everlasting Nest Straw	D	
Boraginaceae - Borage Family		
Cryptantha intermedia (Gray)Greene Nievitas	D	
Brassicaceae - Mustard Family		
****Hirschfeldia incana* (L.) Lagr.-Fossat** Short-pod Mustard	**D**	
**Sisymbrium irio* L. London Rocket	D	
Cactaceae - Cactus Family		
Opuntia littoralis (Engelm.)Ckll. var. *littoralis* Coast Prickly-Pear	D	
***Opuntia occidentalis* Engelm. & Bigel. Western Prickly-Pear, Thicket Tuna**	**D**	
***Opuntia vaseyi* (J. Coulter) Britt & Rose**	**D**	
Caprifoliaceae - Honeysuckle Family		
***Lonicera subspicata* var. *denudata* Rehd. San Diego Honeysuckle**	**D**	
Caryophyllaceae - Pink Family		
Silene laciniata ssp. *major* Hitchc. & Maguire Southern Pink	D	
Chenopodiaceae - Goosefoot Family		
**Chenopodium ambrosioides* L. Mexican-Tea	W	
Convolvulaceae - Morning-Glory Family		
Calystegia macrostegia ssp. *arida* (Greene)Brumm. Finger-leaf Morning-Glory	D	
***Cuscuta californica* H. & A. Witch's Hair**	**D**	

Appendix 1. Floral Checklist of the Goren-Trabuco Oaks Site (continued)

Crassulaceae - Stonecrop Family		
Dudleya pulverulenta (Nutt.)Britt. & Rose Chalk-lettuce	D	
Cucurbitaceae - Gourd Family		
***Marah macrocarpus* (Greene)Greene Manroot, Wild-Cucumber**		**C**
Euphorbiaceae - Spurge Family		
Eremocarpus setigerus (Hook.)Benth. Doveweed	D	
Fabaceae - Pea Family		
Lathyrus laetiflorus ssp. *alefeldii* (White)Brads. Sweetpea	D	
Lotus purshianus (Benth.)Clem. & Clem. Spanish-Clover	D	
***Lotus scoparius* (Nutt. in T. & G.) Ottley ssp. *scoparius* (*Acmispon glaber*) Deerweed**	D	
Lupinus hirsutissimus Benth. Stinging Lupine	D	
**Medicago polymorpha* L. California Bur-Clover	D	
Trifolium tridentatum Lindl. var. *tridentatum* Tomcat Clover	C	
Fagaceae - Oak Family		
***Quercus agrifolia* Neé var. *agrifolia* Coast Live Oak**	**W**	
***Quercus berberidifolia* Liebm. Scrub Oak**	**C**	
Geraniaceae - Geranium Family		
****Erodium cicutarium* (L.) L'Hér. Red-stem Filaree**		**D**
Hydrophyllaceae - Waterleaf Family		
Eucrypta chrysanthemifolia (Benth.) Greene var. *chrysanthemifolia*	D	
Phacelia parryi Torr.	D	
Phacelia suffrutescens (Parry) Const.	D	
Lamiaceae - Mint Family		
Salvia apiana Jeps. White Sage	D	
***Salvia mellifera* Greene Black Sage**	**C,D**	
Myrtaceae - Myrtle Family		
**Eucalyptus* sp.	W	
Nyctaginaceae - Four-O'Clock Family		
***Mirabilis californica* Gray Wishbone Plant**		**D**
Onaghraceae – Evening-primrose Family		
***Epilobium canum* (Greene) Raven California Fuchsia**	**C**	
Oxalidaceae - Wood-Sorrel Family		
Oxalis albicans ssp. *californica* (Abrams)Eiten California Wood-Sorrel	D	
Paeoniaceae - Peony Family		
Paeonia californica Nutt. in T. & G. California Peony	C	
Plantaginaceae - Plantain Family		
**Plantago lanceolata* L. English Plantain	W	
Platanaceae - Sycamore Family		
Platanus racemosa Nutt. Western Sycamore	W	
Polemoniaceae		
Eriastrum sapphirinum ssp. *dasyanthum* (Brand)Mason Woolly-Star	C	
Leptodactylon californicum H. & A. Prickly Phlox	C,D	

Appendix 1. Floral Checklist of the Goren-Trabuco Oaks Site (continued)

Polygonaceae - Buckwheat Family		
Chorizanthe staticoides Benth. ssp. *staticoides* Turkish Rugging		D
***Eriogonum fasciculatum* Benth. Flat-top Buckwheat**		**D**
****Rumex crispus* L. Curly Dock**		**W**
Rhamnaceae - Buckthorn Family		
Ceanothus crassifolius Torr. Thick-leaf Ceanothus		C
***Rhamnus (Endotropis) ilicifolia* Kell. Hollyleaf Redberry**		**C**
Rosaceae - Rose Family		
Adenostoma fasciculatum H. & A. Common Chamise	C	
Cercocarpus betuloides Nutt. ex T. & G. Mountain-Mahogany	C	
***Heteromeles arbutifolia* (Ait.) M. Roem. Hollywood, Toyon**	**C,D**	
Rubiaceae - Madder Family		
Galium angustifolium Nutt., T. & G. ssp. *angustifolium* Narrow-leaf Bedstraw	D	
Scrophulariaceae - Figwort Family		
Cordylanthus rigidus Nutt. ex Benth. Dark-tip Bird's-Beak	C,D	
***Diplacus aurantiacus* ssp. *australis* (McMinn) R.M. Beeks ex Thorne**	**C**	
***Keckiella cordifolia* (Benth.) Straw Climbing Penstemon**	**C**	
Solanaceae - Nightshade Family		
****Nicotiana glauca* Grah. Tree Tobacco**		**D**
MONOCOTYLEDONS Habitat		
Agavaceae - Agave Family		
***Nolina cismontana* Dice.**	**D**	
***Yucca (Hesperoyucca) whipplei* Torr. Our Lord's Candle**	**C,D**	
Alliaceae - Onion Family		
Bloomeria crocea (Torr.)Cov. ssp. *crocea* Common Golden-Stars	D	
Dichelostemma pulchellum (Salisb.) Heller Wild-Hyacinth	D	
Iridaceae - Iris Family		
Sisyrinchium bellum Wats. Blue-eyed-Grass	D	
Juncaceae - Rush Family		
Juncus dubius Engelm. Mariposa Rush	W	
Liliaceae - Lily Family		
Calochortus weedii Wood var. *intermedius* Weed's Mariposa-Lily	D	
Chlorogalum parviflorum Wats. Small-Flower Soap-Plant	D	
Chlorogalum pomeridianum (DC.) Kunth Wavy-Leaf Soap-Plant	D	
Poaceae - Grass Family		
Agropyron parishii var. *laeve* Scribn. & Sm. California Wheatgrass	C	
****Avena barbata* L. Slender Oat**	**C,D**	
Bothriochloa barbinodis (Lag.)Herter Plumed Beardgrass	D	
****Bromus diandrus* Roth. Ripgut Grass**	**C,D**	
**Bromus mollis* L. Soft Chess	C,D	
**Bromus rubens* L. Red Brome	C,D	
**Cynodon dactylon* (L.) Pers. Bermuda Grass	D	
**Festuca myuros* L.	C,D	
**Hordeum murinum* ssp. *glaucum* (Steud.)Tzvel. Glaucous Barley	D	
**Lamarckia aurea* (L.) Moench Goldentop	D	

Appendix 1. Floral Checklist of the Goren-Trabuco Oaks Site (continued)

Poaceae – Grass Family (continued)

***Leymus condensatus* (Presl) A. Love Giant Wild Rye**	**D,W**
****Lolium perenne* L. English Ryegrass**	**D**
Melica imperfecta Trin. Coast Range Melic	D,C
Muhlenbergia rigens Deergrass	**C,W**
Nassella lepida (A.S. Hitchcock) Barkworth Foothill Needlegrass	D
****Piptatherum miliaceum* (L.) Cosson. Smilo Grass**	**W**
**Polypogon monspeliensis* (L.) Desf. Annual Beardgrass	W

* - Denotes non-native plant taxa

Appendix B. Observed Fauna Species List

Common Name	Scientific Name
BUTTERFLIES	
Nymphalidae (Brush-footed Butterflies)	
Painted Lady	*Vanessa cardui*
Pieridae (Whites, Sulfurs, Marbles, and Orange-tips)	
Common White	*Pontia protodice*
Sara Orange-tip	*Anthocharis sara*
REPTILES	
Phrynosomatidae	
Western Fence Lizard	*Sceloporus occidentalis*
Side-blotched Lizard	*Uta stansburiana*
Western Whiptail	*Cnemidophorus tigris*
Colubridae (Colubrids)	
Gopher Snake	*Pituophis catenifer*
Viperidae (Vipers)	
Southern Pacific Rattlesnake	*Crotalus viridis helleri*
BIRDS	
Odontophoridae (New World Quail)	
California Quail	*Callipepla californica*
Cathartidae (Vultures)	
Turkey Vulture	*Cathartes aura*
Accipitridae (Hawks, Eagles, Harriers, Kites)	
Red-shouldered Hawk	*Buteo lineatus*
Red-tailed Hawk	*Buteo jamaicensis*
Columbidae (Pigeons and Doves)	
Mourning Dove	*Zenaida macroura*
Trochilidae (Hummingbirds)	
Anna's Hummingbird	*Calypte anna*
Picidae (Woodpeckers)	
Acorn Woodpecker	*Melanerpes formicivorus*
Nuttall's Woodpecker	*Picoides nuttallii*

Appendix B. Observed Fauna Species List (continued)

Tyrannidae (Tyrant Flycatchers)	
Black Phoebe	*Sayornis nigricans*
Corvidae (Jays, Crows, Ravens, Magpies)	
Western Scrub-Jay	*Aphelocoma californica*
Common Raven	*Corvus corax*
Paridae (Chickadees & Titmice)	
Oak Titmouse	*Baeolophus inornatus*
Aegithalidae (Bushtits)	
Bushtit	*Psaltriparus minimus*
Regulidae (Kinglets)	
Ruby-crowned Kinglet	*Regulus calendula*
Troglodytidae (Wrens)	
Bewick's Wren	*Thryomanes bewickii*
House Wren	*Troglodytes aedon*
Turdidae (Thrushes)	
Hermit Thrush	*Catharus guttatus*
American Robin	*Turdus migratorius*
Timaliidae (Wrentits)	
Wrentit*	*Chamaea fasciata*
Mimidae (Mockingbirds and Thrashers)	
California Thrasher	*Toxostoma redivivum*
Parulidae (Wood Warblers)	
Yellow-rumped Warbler	*Dendroica coronata*
Emberizidae (Towhees, Sparrows)	
Spotted Towhee	*Pipilo maculatus*
California Towhee	*Pipilo crissalis*
Rufous-crowned Sparrow	*Aimophila ruficeps canescens*
White-crowned Sparrow	*Zonotrichia leucophrys*
Dark-eyed Junco	*Junco hyemalis*

Appendix B. Observed Fauna Species List (continued)

Fringillidae (Finches)	
House Finch	*Carpodacus mexicanus*
Lesser Goldfinch	*Carduelis psaltria*
MAMMALS	
Geomyidae (Pocket Gophers)	
Botta's Pocket Gopher	*Thomomys bottae*
Leporidae (Rabbits and Hares)	
Brush Rabbit	*Sylvilagus bachmani*
Sciuridae (Squirrels, Chipmunks, and Marmots)	
California Ground Squirrel	*Spermophilus beecheyi*
Muridae (Rats, mice, and voles)	
Dusky-footed Woodrat	*Neotoma fuscipes*
Canidae (Foxes, Wolves, and Relatives)	
Coyote	*Canis latrans - Scat*
Gray Fox	*Urocyon cineroargenteus – Scat*
Felidae (Cats)	
Mountain Lion	*Felis concolor*
Bobcat	*Lynx rufus*
Cervidae (Deer, Elk, and Relatives)	
Mule Deer	*Odocoileus hemionus*

W567 Trabuco Oaks Lot # 3, 30502 Shelter Canyon Road

Lower, W end of site with view to the S

View to E along S side of site

Dense Chaparral on S side of canyon site

View of canyon bottom to E and to W

Sage Scrub and Nolina on N side of canyon

Sage Scrub and Nolina on N side of canyon


Upper end of Disturbed area of canyon


Mid area of Disturbed area

Chaparral and Sage Scrub ecotone at upper end of canyon