

**PHASE I STUDY FOR THE
DUDLEYA DENSIFLORA POPULATION
SIGNIFICANT ECOLOGICAL AREA NO. 45**

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PHASE I REPORT FOR
DUDLEYA DENSIFLORA POPULATION
SIGNIFICANT ECOLOGICAL AREA
(SEA No. 45)

This report describes the current biological condition of the Dudleya densiflora SEA No. 45. It includes descriptions of plant and wildlife communities based upon field surveys and review of other reports from the region. The report also includes information on ownership patterns within the SEA and an evaluation of the original intent of the SEA and current uses. A number of management measures and boundary changes for the SEA are suggested. All of the efforts were designed to provide a framework for preservation of the Dudleya densiflora SEA No. 45, and to furnish those proposing actions that would affect the SEA with a baseline analysis to guide their individual biological assessments and mitigations.

I. INTRODUCTION

The Dudleya densiflora SEA No. 45 is located in the San Gabriel Mountains in east-central Los Angeles County, on a north-facing slope in San Gabriel Canyon immediately south of the Angeles National Forest boundary and north of the City of Azusa (see Exhibit 1, Regional Location). The site is located in the northeast quarter of section 23 and the northwest corner of section 24, R10W T1N on the Azusa 7.5-minute USGS quadrangle map. The SEA occupies a steep slope on the south side of a sharp bend in the San Gabriel River, just upstream from where the river emerges from the San Gabriel Mountains. The northern boundary runs along the base of the slope where a dirt road and a paved parking lot separate the SEA from the river. The SEA boundary runs along a north-south trending ridge on the western edge of the site and the Angeles National Forest boundary on the eastern end of the site. The southern boundary runs along Glendora Ridge in the western half of the SEA and drops to approximately the midpoint of the slope in the eastern half. The elevation of the SEA ranges from 920 feet in the north to 1960 feet in the south with an overall slope angle of approximately 60 percent. Aerial photographs and USGS topographic mapping of SEA No. 45 are available at the Los Angeles County Regional Planning Department. Exhibit 2 outlines the SEA boundaries.

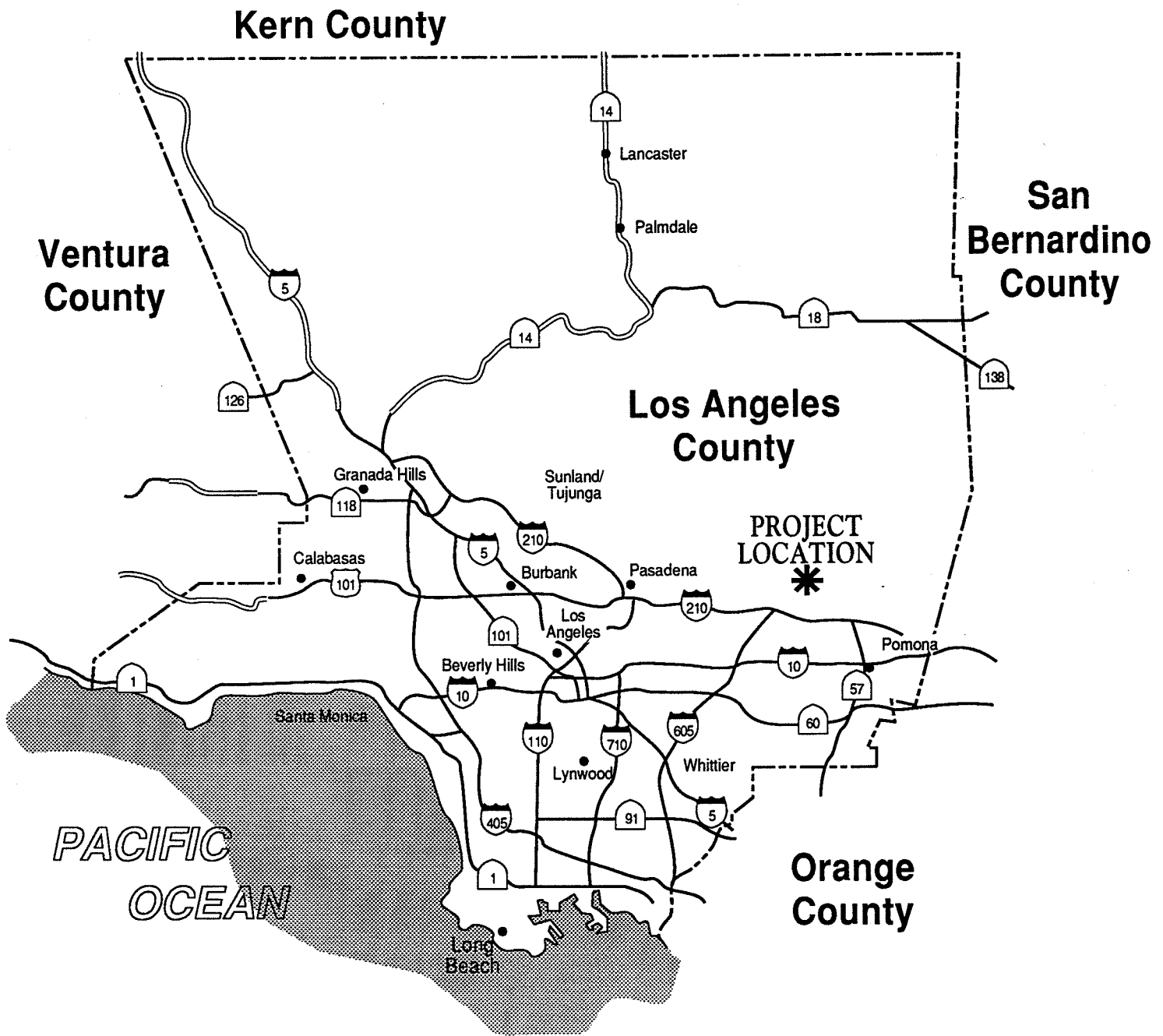


Exhibit **1**

**Dudleya densiflora SEA No. 45
Regional Vicinity Map**





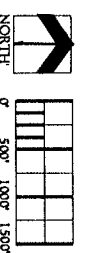
LEGEND



Significant Ecological Area

Exhibit 2

Dudleya densiflora SEA No. 45



The site was designated as a Significant Ecological Area (SEA) based on the presence of the San Gabriel Mountains dudleya (Dudleya densiflora). The distribution of the San Gabriel Mountains dudleya is extremely restricted, with known populations occurring only in San Gabriel, Fish, and Roberts canyons. Extant populations of the San Gabriel Mountains dudleya in Fish and Roberts canyons are protected within the Angeles National Forest, but populations in these two canyons beyond the National Forest boundaries have been extirpated by mining. The two populations in San Gabriel Canyon are on privately owned land. A census of the San Gabriel Mountains dudleya conducted in 1989 counted 750 plants in Fish Canyon, 750 plants in Roberts Canyon, and 250 plants within SEA No. 45 in San Gabriel Canyon (Mistretta 1989). These counts are considered low due to difficult accessibility to the population sites. The second recorded population of San Gabriel Mountains dudleya in San Gabriel Canyon is near San Gabriel Dam and was counted at 30 individuals in 1985 (CNDDDB 1991).

II. METHODS

The existing biological resources of the Dudleya densiflora SEA No. 45 are described below based on results of field surveys conducted by MBA on July 19, 1991, supplemented by review of pertinent documentation and regional distribution data. Field surveys were conducted on foot. Where direct access was precluded by the rugged terrain, the SEA was surveyed with binoculars and review of aerial photograph. Floral taxonomy is based on Munz (1974). Plant community designations are derived from Holland (1986) and the California Natural Diversity Data Base codes (CNDDDB) are indicated after the community name. Plant species names, where not available from Munz (1974), are taken from Raven et al. (1986), Abrams (1923, 1944), and Abrams and Ferris (1951, 1960). References used for wildlife taxonomy include Jennings (1983) for amphibians and reptiles, the American Ornithologists' Union (1983 and supplemental) for birds, and Jones et al. (1982) for mammals. General wildlife distributions were determined from the California Wildlife Habitat Relationships System (CWHRS 1991), Bell (1978), Jennings (1983), Stebbins (1985), Garrett and Dunn (1981), Hall and Kelson (1981), Burt and Grossenheider (1976), Jones et al. (1982), and Ingels (1965).

Sources used for the determination of sensitive biological resources are as follows:

- **Plants.** U.S. Fish and Wildlife Service (USFWS 1989 and 1990), California Department of Fish and Game (CDFG 1988 and 1989), California Natural Diversity Data Base (CNDDDB 1991), USDAFS (1989), and California Native Plant Society (CNPS--Smith and Berg 1988)
- **Wildlife.** USFWS (1989), CNDDDB (1990), CDFG (1988 and 1990), USDAFS (1989), and Remsen (1978).

III. OWNERSHIP PATTERNS AND CURRENT USE

Land ownership patterns were obtained from the County Tax Assessor's Roll. Parcel numbers compiled from the Tax Assessor's Roll were forwarded to Quality Mapping Services for compilation of lot lines. The lot line data was mapped at a scale of 1-inch equals 1,000 feet.

The land within the Dudleya densiflora SEA No. 45 is currently owned by six separate holders of six parcels which are wholly or partially within the SEA. With the exception of parcel 8-1 which is owned by the Pasadena Water Department, all are privately held. The majority of the San Gabriel Mountains dudleya population of the SEA is within parcel 4-2. The parcel immediately to the east was formerly a part of the SEA and is now a part of the Angeles National Forest. The names of the current landowners are given in the list of parcel holders (Appendix A). The locations of their holdings are shown on the ownership map (Land Ownership Dudleya Densiflora Significant Ecological Area No. 45) available at the Los Angeles County Regional Planning Department.

The majority of the site remains in a natural state. Currently, development of the site is limited to several mobile homes and a restaurant in the northeast part of the site at the base of the slope. A gated, unpaved road runs along the northern boundary of the site at the base of the slope which supports the San Gabriel Mountains dudleya. A powerplant conduit runs along the slope approximately through the middle of the SEA. None of the present land uses currently appears to be adversely affecting the San Gabriel Mountains dudleya population. Potentially, road or conduit maintenance, which damages the slope face, could adversely affect the dudleya.

Despite its proximity to areas of the National Forest subjected to intense recreational use, SEA No. 45 is relatively unused because of the extreme steepness and dense shrub cover of the slopes.

IV. EXISTING BIOLOGICAL RESOURCES

The biological resources of the Dudleya densiflora SEA No. 45 are described below, based on results of field surveys conducted by MBA on July 19, 1991, and supplemented by review of pertinent, existing documentation. Plant communities were mapped based on Holland (1986) and are available at the Los Angeles County Regional Planning Department. The descriptions of the plant and wildlife communities below are written to give a general overview of the species to be encountered and the distribution of the resources in the SEA, not a comprehensive species account. Complete plant and wildlife species lists generated from the review of literature and field surveys are given in the floral/faunal compendia (Appendix B). Numbers in parentheses after each plant community refer to element numbers in the California Natural Diversity Database.

PLANT COMMUNITIES

Coast Live Oak Woodland (71160)

Coast live oak woodland occurs in scattered patches, primarily on the upper slopes of the site and along the larger drainages. The largest woodland is just below the ridge at the southern boundary of the SEA. This community is characterized by mature coast live oaks (Quercus agrifolia) with an understory of shrubs such as toyon (Heteromeles arbutifolia) and redberry (Rhamnus ilicifolia) on the upper slopes and poison oak (Toxicodendron diversiloba) in the narrow drainages. The oak woodland intergrades substantially with mixed chaparral. California black walnut (Juglans californica) occurs in moderate numbers within some oak woodland and mixed chaparral, primarily in the western part of the SEA.

This plant community is commonly represented in canyons along the southern face of the San Gabriel Mountains at lower elevations. Coast live oaks are regulated under the Los Angeles County Oak Tree Ordinance 82-0168.

Mixed Chaparral (37000)

The majority of the site supports mixed chaparral. This community is characterized by a dense cover of shrubs with little to no understory. Commonly occurring species include laurel sumac (Malosma laurina), mountain mahogany (Cercocarpus betuloides), toyon, redberry, southern honeysuckle (Lonicera subspicata), heart-leaved penstemon (Keckiella cordifolia), and chamise (Adenostoma fasciculatum). Rock outcrops within the chaparral lack the shrub cover characteristic of the surrounding vegetation, but do support San Gabriel Mountains dudleya, lance-leaved dudleya (Dudleya lanceolata), Spanish bayonet (Yucca whipplei), and occasional small shrubs such as California buckwheat (Eriogonum fasciculatum), coastal sagebrush (Artemisia californica), and white sage (Salvia apiana). At the base of the hill, the chaparral gives way to weedy, annual vegetation on the unstable roadcuts. San Gabriel Canyon is characterized by the northern mixed chaparral community. This plant community is common throughout California and is not considered sensitive. Chaparral is the dominant vegetation type within the Angeles National Forest at lower elevations.

Mulefat Scrub (63310)

A small strip of mulefat scrub exists at the northern boundary of the SEA along the roadside at the base of the slope and in small patches in the channels of side canyons. On the site, this community is characterized by a sparse cover of mulefat (Baccharis salicifolia) and ruderal annuals such as annual burweed (Ambrosia acanthicarpa), tocalote (Centaurea melitensis), and cocklebur (Xanthium strumarium). A small amount of standing water from a spring at the base of the slope supports water-cress (Nasturtium officinale) and sedges (Carex sp.). Extensive areas of mulefat scrub exist just outside the SEA along the riverside.

WILDLIFE

Amphibians and Reptiles

Due to the close proximity of perennial water in the San Gabriel River, the dense chaparral and oak woodland likely support healthy populations of amphibians, especially on the lower parts of the slope.

Those expected to occur within the SEA include western toad (Bufo boreas), western spadefoot toad (Scaphiopus hammondi), Pacific slender salamander (Batrachoseps pacificus), black-bellied salamander (Batrachoseps nigriventris), Pacific treefrog (Hyla regilla), and arboreal salamander (Aneides lugubris).

A variety of reptiles are expected in the mixed chaparral and oak woodland, as well as along the roads that skirt the periphery of the site. Common species likely include side-blotched lizard (Uta stansburiana), southern alligator lizard (Gerrhonotus multicarinatus), western fence lizard (Sceloporus occidentalis), western whiptail (Cnemidophorus tigris), western skink (Eumeces skiltonianus), ringneck snake (Diadophis punctatus), gopher snake (Pituophis melanoleucus), western rattlesnake (Crotalus viridis), rosy boa (Lichanura trivirgata), common kingsnake (Lampropeltis getulus), California whipsnake (Masticophis lateralis), and western patch-nosed snake (Salvadora hexalepis).

Birds

The common bird species associated with the mixed chaparral and oak woodland habitats of the SEA include California quail (Callipepla californica), mourning dove (Zenaidura macroura), greater roadrunner (Geococcyx californianus), common poorwill (Phalaenoptilus nuttallii), Anna's hummingbird (Calypte anna), northern flicker (Colaptes auratus), American crow (Corvus brachyrhynchos), common raven (Corvus corax), bushtit (Psaltriparus minimus), Bewick's wren (Thryomanes bewickii), wrentit (Chamaea fasciata), northern mockingbird (Mimus polyglottos), California thrasher (Toxostoma redivivum), California and rufous-sided towhees (Pipilo crissalis and P. erythrophthalmus), rufous-crowned sparrow (Aimophila ruficeps), house finch (Carpodacus mexicanus), acorn woodpecker (Melanerpes formicivorus), Nuttall's woodpecker (Picoides nuttallii), white-breasted nuthatch (Sitta carolinensis), and plain titmouse (Parus inornatus).

Birds that do not nest on the site, but that may forage or be present on a transient basis in the SEA include red-tailed hawk (Buteo jamaicensis), American kestrel (Falco sparverius), lesser nighthawk (Chordeiles acutipennis), white-throated swift (Aeronautes saxatalis), horned lark (Eremophila alpestris), loggerhead shrike (Lanius ludovicianus), lark sparrow (Chondestes grammacus), sage sparrow (Amphispiza belli), and lesser goldfinch (Carduelis psaltria).

Mammals

Because of the relatively undisturbed state, poor accessibility, and proximity to perennial water and extensive natural areas, the SEA is expected to provide good quality habitat for small mammals. Species expected to be common on the site include: western grey squirrel (Sciurus griseus), brush rabbit (Sylvilagus bachmani), California ground squirrel (Spermophilus beecheyi), little pocket mouse (Perognathus longimembris), California pocket mouse (Perognathus californicus), agile kangaroo rat (Dipodomys agilis), western harvest mouse (Rheithrodontomys megalotis), California mouse (Peromyscus californicus), deer mouse (Peromyscus maniculatis), dusky-footed woodrat (Neotoma fuscipes), coyote (Canis latrans), gray fox (Urocyon cinereoargenteus), raccoon (Procyon lotor), striped skunk (Mephitis mephitis), bobcat (Felis rufus), and mule deer (Odocoileus hemionus). There are also several bat species which are identified in the faunal compendium (Appendix A) which may occur in the SEA primarily during foraging bouts from other areas.

SENSITIVE SPECIES

This section describes the plant and wildlife species present, or potentially present in the Dudleya densiflora SEA that have been afforded special recognition by federal, state, and local resources conservation agencies due to their declining or limited population sizes. The potential for sensitive plant and animal species occurring in the SEA was first determined through review of the CNDDDB data for the Azusa USGS quadrangle. This was supplemented by review of the following sources:

- **Plants.** USFWS (1990), CDFG (1990), CNDDDB (1991), Smith and Berg (1988);
- **Wildlife.** California Wildlife Habitat Relationships System (CWHRS 1991), USFWS (1990), CDFG (1990), CNDDDB (1991), Williams (1986), Remsen (1978).

Sensitive Plant Species

The San Gabriel Mountains dudleya (Dudleya densiflora) is a federal Category 1 candidate for listing as threatened or endangered, indicating the USFWS has on file substantial information on biological vulnerability and threat(s) to support listing, a USDA Forest Service Sensitive Species, and

on the California Native Plant Society's (CNPS) List 1B, indicating that the species meets the definition of Section 1901, Chapter 10 of the California Department of Fish and Game Code and is eligible for state listing. This species is among the 159 plants which the U.S. Fish and Wildlife Service (USFWS) has agreed to propose for listing by March 1996 as the result of a law suit brought by CNPS.

The species occurs on rocky cliffs and slopes between 650 and 2000 feet elevation. Distribution and population information for this species are provided in the introduction to this report. All future proposed projects within the SEA should include directed surveys for this plant.

Nevin's brickellia (Brickellia nevinii) is on the CNPS List 4, which indicates limited distribution in California and an apparently low vulnerability to threat at this time. This species occurs on slopes in chaparral and coastal sage scrub in Kern, Santa Barbara, Los Angeles, Orange, and Riverside counties. No Nevin's brickellia was observed within the SEA during MBA's survey. However, several plants were observed along the fire road on the ridge immediately above the SEA. Potentially suitable habitat for this species occurs within the SEA. All future proposed projects within the SEA should include directed surveys for this plant.

Sensitive Wildlife Species

The San Diego horned lizard (Phrynosoma coronatum blainvillei) is a USFWS Category 2 candidate and CDFG Species of Special Concern. The Category 2 designation is applied to taxa for which USFWS does not possess sufficient threat or distribution data to support federal listing. Species of special concern are taxa considered to be potentially threatened. It was formerly common throughout Southern California west of the deserts, but has declined dramatically as suitable habitat has been destroyed by development and as a result of over-collecting for the pet trade (McGurty 1980). The horned lizard is found in open, sandy areas and washes within chaparral and coastal sage scrub habit. It is associated with areas where its preferred prey, harvester ants of the genus Pogonomyrmex, can be obtained. Individuals of the species are often located by first identifying harvester ant colonies.

The terrain within SEA No. 45 is generally too steep to support San Diego horned lizard. However, harvester ants were observed on the ridges and roads adjacent to the SEA. These areas may support the species. Proposed projects on the ridges adjacent to and within the SEA and along roads at the periphery of the SEA should include directed surveys for this species during late spring (April to June).

The **greater mastiff bat** (*Eumops perotis californicus*) is a USFWS Category 2 candidate and a CDFG Species of Special Concern. Its range extends from Butte County south through the southern California coastal mountains and portions of the southeastern desert region. The species favors rugged, rocky areas at low elevations in the coastal basins where there are suitable crevices for roosting. The mastiff bat has very specific roosting structure needs, such as crevices that open downward and are at least 5 cm. wide and 30 cm. deep. They must be high as well, as the bat needs two to three meters of drop space to launch itself into flight.

The rocky cliffs of SEA No. 45 provide potential roosting sites for the greater mastiff bat and considerable foraging areas are available around the SEA. Proposed projects in the rocky cliff areas should include directed surveys for this species. Nocturnal surveys for bat activity should be completed.

V. DEVELOPMENT PRESSURE ANALYSIS

The extreme topography of the site inherently limits potential development within SEA No 45. Areas supporting San Gabriel Mountains dudleya are comprised of nearly vertical granite cliffs, primarily on privately held land. Readily developable areas appear to be restricted to the ridge along the southern SEA boundary and the base of the slope along the northwest SEA boundary. Development that involves extensive grading of the southern ridge could adversely affect the dudleya. However, the majority of the dudleya is on the lower half of the slope and would not likely be directly removed by development.

The Los Angeles County General Plan (1988) defines compatible use to include England and Nelson's (1976) recommendations. In addition, the General Plan states that compatible uses may also

include low density residential development, minor commercial uses serving local residents, public and semi-public uses essential to the maintenance of public health and safety, agricultural uses, and natural resources extraction (gas, oil, etc.) The General Plan recognizes that measures necessary to preserve and enhance SEAs will vary depending on the nature of the resource values present and the degree of threat implied by potentially incompatible development.

VI. RECOMMENDATIONS FOR FUTURE MANAGEMENT OF SEA NO. 45

ORIGINAL INTENT OF SEA DESIGNATION AND CURRENT USES

The original reason for establishing the Dudleya densiflora SEA No. 45 was to preserve the San Gabriel Mountains dudleya population and its habitat. Current uses of the site are limited and largely peripheral to the population, and need not adversely affect the SEA, providing reasonable care is taken during road and conduit maintenance. A fire in 1981 reportedly destroyed many San Gabriel Mountains dudleyas (CNDDDB 1991) and fire may continue to be an unpredictable threat. Collecting of the plant may also pose a threat to the dudleya.

In the original SEA description for Dudleya densiflora SEA No. 45, England and Nelson (1976) identified compatible uses as "regulated scientific study". This continues to be the case. All conduit and road maintenance activities continue to require the supervision of a biologist familiar with the species to assure that no direct or indirect impacts occur on existing populations.

Proposed projects outside the SEA along the Glendora Ridge Road should be evaluated by SEATAC to ensure that sufficient erosion protection devices are incorporated into the project planning to preclude direct and indirect erosion or deposition within the SEA.

SUGGESTIONS FOR BOUNDARY RECONFIGURATION

The parcel identified as 10-1 that lies between the National Forest and the southeastern part of SEA No. 45 may have been mistakenly deleted from the SEA with the deletion of the western part of the

original SEA that lies within the National Forest. Restoring this parcel to the SEA would place this San Gabriel Mountains dudleya population entirely within SEA No. 45 boundaries.

Alternatively, acquisition by the USDA Forest Service of parcels adjacent to the Angeles National Forest would place this San Gabriel Mountains dudleya population under USDA Forest Service protection and would include this population in management plans developed for this species within the Angeles National Forest. This plant is designated as a sensitive species by the USDA Forest Service. As such the plant would be fully protected within the Angeles National Forest boundaries.

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APPENDIX A

**LIST OF PARCEL OWNERS WITHIN
THE DUDLEYA DENSIFLORA POPULATION
SIGNIFICANT ECOLOGICAL AREA NO. 45**

Q.M.S. 91-277-2 DUDLEY A DENSIFLORA

PAGE NUMBER:

- 1-1 8684-027-001 NATE S. CHEN 30130 AVENIDA CELESTIAL RANCHO PALOS VERDES, CA 90272

- 1-2 8684-027-002 NATE S. CHEN 30130 AVENIDA CELESTIAL RANCHO PALOS VERDES, CA 90272

- 2-1 8684-027-003 DAVID CHRISTIANSEN 752 W. 5TH STREET SAN PEDRO, CA 90731

- 3-1 8684-027-004 CHARLES P. GATTI 9300 SAN GABRIEL AVE. AZUSA, CA 91702

- 4-1 8684-027-005 EDWIN W. WARD P.O. BOX 266 SIERRA MADRE, CA 91024

- 5-1 8684-027-007 THOMAS A. TAYLOR 627 S. WABASH #5 GLENDORA, CA 91740

- 6-1 8684-027-008 SAN GABRIEL RIVER WATER CMTE. P.O. BOX 334 AZUSA, CA 91702

- 3-2 8684-027-010 CHARLES P. GATTI 9300 SAN GABRIEL CNYN. RD. AZUSA, CA 91702

- 7-1 8684-027-012 FISHERMANS RIVER RANCHPROP. INC. P.O. BOX 950 PASADENA, CA 91107

- 8-1 8684-027-270 PASADENA WATER DEPT. 100 N. GARFIELD #323 PASADENA, CA 91109

- 9-1 8684-028-009 PAUL I. GELERIS P.O. BOX 799 GLENDORA, CA 91740

- 4-2 8684-028-023 EDWIN W. WARD P.O. BOX 266 SIERRA MADRE, CA 91024

- 10-1 8684-028-024 WALD E. WARD 273 E. HIGHLAND AVE. SIERRA MADRE, CA 91024

- 11-1 8684-028-025 ARMAND ANTUNEZ 323 E. SIERRA MADRE BLVD. GLENDORA, CA 91740

- 12-1 8684-028-036 GEORGE & JEAN DEUKMEJIAN DEUKMEJIAN FAMILY TR. 553 W. PALM DRIVE
GLENDORA, CA 91740

- 13-1 8684-028-037 CHURCH OF THE OPEN DOOR P.O. BOX 7700 GLENDORA, CA 91740

- 14-1 8684-028-300 U.S. GOVERNMENT c/o: GNRL. SVCS. ADM. 300 N. LOS ANGELES ST. LOS
ANGELES, CA 90012

- 15-1 8684-028-904 COUNTY OF LOS ANGELES FLOOD CONTROL DIST. 2250 ALCAZAR ST. LOS
ANGELES, CA 90033

- 16-1 8684-028-905 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

- 16-2 8684-028-906 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

- 16-3 8684-028-907 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

- 15-2 8684-028-908 COUNTY OF LOS ANGELES FLOOD CONTROL DIST. 2250 ALCAZAR ST. LOS
ANGELES, CA 90033

- 16-4 8684-028-909 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

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- 16-5 8684-028-910 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

- 16-6 8684-028-911 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

- 15-3 8684-028-912 COUNTY OF LOS ANGELES FLOOD CONTROL DIST. 2250 ALCAZAR ST. LOS ANGELES, CA 90033

- 16-7 8684-028-913 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

- 16-8 8684-028-914 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

- 16-9 8684-028-915 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

- 16-10 8684-028-916 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

- 16-11 8684-028-917 CITY OF GLENDORA CITY HALL 116 E. FOOTHILL BLVD. GLENDORA, CA 91740

- 17-1 8684-024-033 MONROVIA NURSERY CO. 18331 E. FOOTHILL BLVD. AZUSA, CA 91702

APPENDIX B

**FLORAL AND FAUNAL COMPENDIA
FOR THE DUDLEYA DENSIFLORA
SIGNIFICANT ECOLOGICAL AREA NO. 45**

INTRODUCTION TO FLORAL AND FAUNAL SURVEY

Floral components encountered during the survey were recorded in terms of relative abundance and host habitat type. Expected site use by wildlife is derived from survey information combined with documented habitat preferences of regional wildlife species that, whether or not recorded during the survey, are considered likely to include the project area within their range.

Habitat designations used in this report are according to the classification system of Holland (1986). Floral taxonomy used in this report follows that of Roberts (1989), Raven et al. (1986), and Beauchamp (1986). Common plant names, where not available from Roberts or Beauchamp, are taken from Munz (1984) and Abrams (1923). Vertebrates identified in the field by sight, calls, tracks, scat, or other signs are cited according to the nomenclature of Jennings (1983) for amphibians and reptiles, AOU (1983, 1985, 1987, 1989) for birds, and Jones et al. (1982) for mammals.

FLORAL COMPENDIUM¹

LEGEND

HABITAT²

OW - Coast Live Oak
CH - Chaparral
MFS - Mulefat Scrub

ABUNDANCE³

- a - abundant--ubiquitous throughout the noted community; occurs in high numbers or in large, pure stands
- c - common--a dominant species in the noted community; occurs in relatively high numbers
- f - frequent--occurs in moderate numbers, but not a dominant element of the noted community
- o - occasional--occurs sporadically in the noted community; generally not an obvious or conspicuous component
- i - infrequent--occurs rarely, or only in a small portion of the noted community; often not apparent unless searched for

STATUS

- * Non-native

1 This is not intended as an exhaustive listing of the vegetation occurring on the site; some annual herbs or very uncommon species may not have been detected by the field survey.

2 Indicates habitat type (plant community) in which species most commonly occurs; species may occur in limited numbers or restricted localities in other communities.

3 This is simply a gross indication of relative frequency of occurrence on the site. Quantitative sampling methods were not employed to arrive at these determinations.

VASCULAR PLANTS

LYCOPODIAE

SELAGINELLACEAE - SPIKE-MOSS FAMILY

CH OW MFS

Selaginella bigelovii
Bigelow's spike-moss

o - -

FILICAE

ADIANTACEAE - LIP FERN FAMILY

Adiantum capillus-veneris
Venus-hair fern

i - i

DENNSTAEDTIACEAE - BRACKEN FERN FAMILY

Pteridium aquilinum
western bracken

i - i

CONIFERAE

PINACEAE - PINE FAMILY

Pseudotsuga macrocarpa
big-cone spruce

i - -

ANGIOSPERMAE (DICOTYLEDONES)

ACERACEAE - MAPLE FAMILY

Acer macrophyllum
big-leaf maple

o - i

AMARANTHACEAE - AMARANTH FAMILY

* Amaranthus albus
tumbleweed

i - i

ANACARDIACEAE - SUMAC FAMILY

Toxicodendron diversilobum
poison-oak

CH OW MFS

o f o

APIACEAE - CARROT FAMILY

* Conium maculatum
poison-hemlock

i o o

* Foeniculum vulgare
sweet fennel

i i i

ASTERACEAE - SUNFLOWER FAMILY

Acourtia microcephala
sacapellote

o i -

Ambrosia acanthicarpa
annual burweed

i - o

Ambrosia psilostachya
western ragweed

i o o

Artemisia californica
coastal sagebrush

o i -

Artemisia douglasiana
California mugwort

i i i

Artemisia dracunculus
tarragon

i - i

Baccharis salicifolia
mulefat

i - a

* Bidens pilosa
beggar-ticks

- - o

Brickellia californica
California brickellbush

o - -

* Centaurea melitensis
tochalote

o o o

* Cirsium vulgare
bull thistle

i i -

* Conyza canadensis
horseweed

i - o

Corethrogyne filaginifolia
cudweed aster

o o i

Gnaphalium bicolor
bicolored cudweed

i i i

Gnaphalium californicum
California everlasting

o i i

ASTERACEAE - SUNFLOWER FAMILY (continued)

	<u>CH</u>	<u>OW</u>	<u>MFS</u>
<u>Hazardia squarrosa</u> saw-toothed goldenbush	o	o	o
<u>Helianthus annuus</u> common sunflower	-	-	o
<u>Heterotheca grandiflora</u> telegraph weed	o	-	o
* <u>Lactuca serriola</u> prickly lettuce	i	i	o
<u>Lepidospartum squamatum</u> scale-broom	i	-	o
<u>Malacothrix saxatilis</u> cliff malacothrix	o	i	i
* <u>Picris echioides</u> bristly ox-tongue	-	-	o
<u>Senecio douglasii</u> shrubby butterweed	o	i	-
<u>Solidago californica</u> California goldenrod	i	i	o
* <u>Sonchus asper</u> prickly sow-thistle	-	i	o
<u>Stephanomeria chicoriacea</u> Tejon milk-aster	o	-	-
<u>Stephanomeria virgata</u> twiggy wreathplant	i	-	i
* <u>Xanthium strumarium</u> cocklebur	i	-	o

BETULACEAE - BIRCH FAMILY

<u>Alnus rhombifolia</u> white alder	-	i	i
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BORAGINACEAE - BORAGE FAMILY

<u>Amsinckia intermedia</u> common fiddleneck	o	o	-
--	---	---	---

BRASSICACEAE - MUSTARD FAMILY

	<u>CH</u>	<u>OW</u>	<u>MFS</u>
* <u>Brassica geniculata</u> short-podded mustard	o	o	i
* <u>Brassica nigra</u> black mustard	i	i	i
<u>Erysimum capitatum</u> Douglas's wallflower	i	-	-
<u>Lepidium nitidum</u> shining peppergrass	i	-	i
* <u>Lobularia maritima</u> sweet-alyssum	i	i	o
* <u>Nasturtium officinale</u> water-cress	-	-	o
* <u>Sisymbrium irio</u> London-rocket	i	i	o

CAPRIFOLIACEAE - HONEYSUCKLE FAMILY

<u>Lonicera subspicata</u> southern honeysuckle	o	o	o
<u>Sambucus mexicana</u> Mexican elderberry	o	o	-

CARYOPHYLLACEAE - PINK FAMILY

<u>Silene laciniata</u> fringed-Indian pink	o	o	-
* <u>Stellaria media</u> common chickweed	i	o	-

CHENOPODIACEAE - GOOSEFOOT FAMILY

* <u>Chenopodium album</u> lamb's-quarters	i	-	o
* <u>Salsola australis</u> Russian-thistle	i	-	i

CONVOLVULACEAE - MORNING-GLORY FAMILY

<u>Cuscuta californica</u> California dodder	o	-	-
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CRASSULACEAE - STONECROP FAMILY

	<u>CH</u>	<u>OW</u>	<u>MFS</u>
<u>Crassula conata</u> dwarf stonecrop	i	-	i
<u>Dudleya densiflora</u> San Gabriel Mountains dudleya	o	-	-
<u>Dudleya lanceolata</u> lance-leaved dudleya	i	-	-

CUCURBITACEAE - GOURD FAMILY

<u>Marah macrocarpus</u> wild cucumber	o	o	-
---	---	---	---

ERICACEAE - HEATH FAMILY

<u>Arctostaphylos glandulosa</u> Eastwood's manzanita	o	-	-
--	---	---	---

EUPHORBIACEAE - SPURGE FAMILY

<u>Chamaesyce albomarginata</u> rattlesnake spurge	o	-	i
---	---	---	---

FABACEAE - PEA FAMILY

<u>Amorpha californica</u> California false indigo	-	i	-
<u>Lathyrus laetiflorus</u> wild sweet pea	o	o	-
<u>Lotus scoparius</u> deerweed	o	i	o
<u>Lupinus sp.</u> lupine	-	i	-
* <u>Medicago polymorpha</u> bur-clover	-	o	-
* <u>Melilotus indicus</u> yellow sweet-clover	-	o	-

FAGACEAE - BEECH FAMILY

Quercus agrifolia
coast live oak

Quercus dumosa
California scrub oak

CH OW MFS

i a -

f o -

GERANIACEAE - GERANIUM FAMILY

* Erodium cicutarium
red-stemmed filaree

f o o

HYDROPHYLLACEAE - WATERLEAF FAMILY

Eriodictyon trichocalyx
hairy yerba santa

Phacelia cicutaria
caterpillar phacelia

Phacelia ramosissima
branching phacelia

o - i

o o i

o o -

JUGLANDACEAE - WALNUT FAMILY

Juglans californica
California black walnut

- o -

LAMIACEAE - MINT FAMILY

* Marrubium vulgare
horehound

Salvia apiana
white sage

Salvia mellifera
black sage

Stachys albens
white hedge-nettle

o o o

o - -

o - -

- - o

LAURACEAE - LAUREL FAMILY

Umbellularia californica
California laurel

- o -

MALVACEAE - MALLOW FAMILY

* Malva parviflora
cheeseweed

CH OW MFS

- - i

ONAGRACEAE - EVENING-PRIMROSE FAMILY

Clarkia purpurea
winecup clarkia

o o -

Clarkia unguiculata
elegant clarkia

o o -

Epilobium canum
California fuchsia

o - -

PAPAVERACEAE - POPPY FAMILY

Eschscholzia californica
California poppy

i i -

PLATANACEAE - SYCAMORE FAMILY

Platanus racemosa
California sycamore

- o -

POLEMONIACEAE - PHLOX FAMILY

Leptodactylon californicum
prickly-phlox

o - -

POLYGONACEAE - BUCKWHEAT FAMILY

Eriogonum elongatum
long-stemmed buckwheat

o - -

Eriogonum fasciculatum
California buckwheat

f i o

* Rumex crispus
curly dock

- - i

PORTULACACEAE - PURSLANE FAMILY

CH OW MFS

Claytonia perfoliata
miner's-lettuce

i o -

PRIMULACEAE - PRIMROSE FAMILY

* Anagallis arvensis
scarlet pimpernel

i i i

RANUNCULACEAE - CROWFOOT FAMILY

Clematis lasiantha
chaparral virgin's bower

i - -

Delphinium cardinale
scarlet larkspur

i - -

RHAMNACEAE - BUCKTHORN FAMILY

Ceanothus cuneatus
buck brush

f o -

Ceanothus leucodermis
chaparral whitethorn

f o -

Rhamnus californica
California coffeeberry

i o -

ROSACEAE - ROSE FAMILY

Adenostoma fasciculatum
chamise

c o -

Cercocarpus betuloides
birch-leaf mountain-mahogany

c o -

Heteromeles arbutifolia
toyon

f o -

RUBIACEAE - MADDER FAMILY

Galium angustifolium
narrow-leaved bedstraw

o - -

* Galium aparine
goose grass

- o -

SALICACEAE - WILLOW FAMILY

	<u>CH</u>	<u>OW</u>	<u>MFS</u>
<u>Populus fremontii</u> Fremont's cottonwood	-	-	i
<u>Salix lasiolepis</u> arroyo willow	-	-	i

SAXIFRAGACEAE - SAXIFRAGE FAMILY

<u>Ribes malvaceum</u> pink-flowered currant	o	o	-
---	---	---	---

SCROPHULARIACEAE - FIGWORT FAMILY

<u>Keckiella cordifolia</u> heart-leaved penstemon	o	i	-
<u>Mimulus cardinalis</u> scarlet monkey-flower	o	-	-
<u>Mimulus guttatus</u> common monkey-flower	-	-	i
<u>Penstemon heterophyllus</u> foothill penstemon	o	-	-

SOLANACEAE - NIGHTSHADE FAMILY

* <u>Datura stramonium</u> annual jimsonweed	-	-	i
* <u>Nicotiana glauca</u> tree tobacco	-	-	o
<u>Solanum douglasii</u> Douglas' nightshade	i	o	i

URTICACEAE - NETTLE FAMILY

<u>Urtica dioica</u> giant creek nettle	-	-	i
--	---	---	---

VISCACEAE - MISTLETOE FAMILY

<u>Phoradendron villosum</u> oak mistletoe	-	o	-
---	---	---	---

ANGIOSPERMAE (MONOCOTYLEDONES)

AGAVACEAE - AGAVE FAMILY

Yucca whipplei
Spanish bayonet

<u>CH</u>	<u>OW</u>	<u>MFS</u>
o	-	-

ALLIACEAE - ONION FAMILY

Dichelostemma pulchellum
blue dicks

o	o	-
---	---	---

CYPERACEAE - SEDGE FAMILY

Carex sp.
sedge

-	-	i
---	---	---

POACEAE - GRASS FAMILY

- * Avena barbata
slender oat
- * Bromus diandrus
ripgut grass
- * Bromus rubens
foxtail chess
- * Echinochloa crus-galli
barnyard grass
- Elymus condensatus
giant wild rye
- Elymus glaucus
western wild rye
- * Lolium multiflorum
Italian ryegrass
- Melica imperfecta
coast range melic
- * Oryzopsis miliacea
millet ricegrass
- * Paspalum dilatatum
dallis grass
- * Polypogon monspeliensis
rabbit's-foot grass
- Stipa coronata
giant needlegrass
- * Vulpia myuros
rat-tail fescue

f	f	o
o	o	f
o	o	o
-	-	i
o	o	-
i	o	-
-	-	i
o	o	-
-	-	i
-	-	i
o	-	-
i	i	i

FAUNAL COMPENDIUM¹

LEGEND

ABUNDANCE²

- c - common--observed or expected throughout the site in relatively high numbers
- f - fairly common--observed or expected in moderate numbers over most of the site
- u - uncommon--observed or expected in low numbers over a portion or all of the site
- o - occasional--observed or expected only sporadically on the site
- s - scarce--observed or expected rarely on the site

STATUS

- + Presence noted by direct sighting, call identification or observation of tracks, scat or other signs.
- * Non-native

SEASONALITY (Birds Only)³

- R - resident or found in vicinity year round
- S - present in summer only
- W - present in winter only
- V - visitor from nearby areas
- T - transient

¹ List includes species observed or expected to occur on or in the immediate vicinity of the site.
² This is simply a gross indication of relative frequency of occurrence on the site; quantitative sampling methods were not employed to arrive at these determinations.
³ This is simply a gross indication of relative frequency of occurrence on the site; quantitative sampling methods were not employed to arrive at these determinations.

TERRESTRIAL VERTEBRATES

AMPHIBIANS

PLETHODONTIDAE - LUNGLESS SALAMANDERS

Abundance

<u>Aneides lugubris</u> arboreal salamander	s
<u>Batrachoseps nigriventris</u> black-bellied slender salamander	f
<u>Batrachoseps pacificus</u> Pacific slender salamander	f
<u>Ensatina eschscholtzi</u> ensatina	s

BUFONIDAE - TRUE TOADS

<u>Bufo boreas</u> western toad	f
------------------------------------	---

HYLIDAE - TREEFROGS

<u>Hyla cadaverina</u> California treefrog	o
<u>Hyla regilla</u> Pacific treefrog	u

REPTILES

GEKKONIDAE - GECKOS

<u>Coleonyx variegatus</u> banded gecko	s
--	---

IGUANIDAE - IGUANID LIZARDS

<u>Phrynosoma coronatum</u> coast horned lizard	o
<u>Sceloporus occidentalis</u> western fence lizard	c

IGUANIDAE - IGUANID LIZARDS (continued)

Abundance

Uta stansburiana
side-blotched lizard

c

SCINCIDAE - SKINKS

Eumeces gilberti
Gilbert's skink

o

Eumeces skiltonianus
western skink

u

TEIIDAE - WHIPTAIL LIZARDS

Cnemidophorus tigris
western whiptail

u

ANGUIDAE - ALLIGATOR LIZARDS

Gerrhonotus multicarinatus
southern alligator lizard

f

ANNIELLIDAE - CALIFORNIA LEGLESS LIZARDS

Anniella pulchra
California legless lizard

s

LEPTOTYPHLOPIDAE - SLENDER BLIND SNAKES

Leptotyphlops humilis
western blind snake

s

COLUBRIDAE - COLUBRID SNAKES

Arizona elegans
glossy snake

o

Coluber constrictor
racer

u

Diadophis punctatus
ringneck snake

u

COLUBRIDAE - COLUBRID SNAKES (continued)

Abundance

<u>Hypsiglena torquata</u> night snake	o
<u>Lampropeltis getulus</u> common kingsnake	u
<u>Lampropeltis zonata</u> California mountain kingsnake	o
<u>Masticophis flagellum</u> coachwhip	o
<u>Masticophis lateralis</u> California whipsnake	u
<u>Pituophis melanoleucus</u> gopher snake	c
<u>Rhinocheilus lecontei</u> long-nosed snake	o
<u>Salvadora hexalepis</u> western patch-nosed snake	o
<u>Tantilla planiceps</u> western black-headed snake	u
<u>Trimorphodon biscutatus</u> lyre snake	s

VIPERIDAE - VIPERS

<u>Crotalus viridis</u> western rattlesnake	f
--	---

BIRDS

CATHARTIDAE - NEW WORLD VULTURES

<u>Cathartes aura</u> turkey vulture	f,R
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ACCIPITRIDAE - HAWKS

<u>Accipiter striatus</u> sharp-shinned hawk	u,W
<u>Accipiter cooperii</u> Cooper's hawk	u,w/o,S
<u>Buteo lineatus</u> red-shouldered hawk	o,R

ACCIPITRIDAE - HAWKS (continued)Abundance

Buteo jamaicensis
red-tailed hawk

c,R

Aquila chrysaetos
golden eagle

s,V

FALCONIDAE - FALCONS

Falco sparverius
American kestrel

f,R

PHASIANIDAE - PHEASANTS & QUAILS

Callipepla californica
California quail

c,R

COLUMBIDAE - PIGEONS & DOVES

Columba fasciata
band-tailed pigeon

u,R

Zenaida macroura
mourning dove

c,R

CUCULIDAE - CUCKOOS & ROADRUNNERS

Geococcyx californianus
greater roadrunner

f,R

STRIGIDAE - TRUE OWLS

Otus kennicottii
western screech-owl

o,R

Bubo virginianus
great horned owl

f,R

CAPRIMULGIDAE - GOATSUCKERS

Phalaenoptilus nuttallii
common poorwill

o,S

APODIDAE - SWIFTSAbundanceChaetura vauxi

Vaux's swift

o,T

Aeronautes saxatalis

white-throated swift

f,R

TROCHILIDAE - HUMMINGBIRDSArchilochus alexandri

black-chinned hummingbird

f,S

Calypte anna

Anna's hummingbird

c,R

Selasphorus rufus

rufous hummingbird

o,T

PICIDAE - WOODPECKERSMelanerpes formicivorus

acorn woodpecker

f,R

Sphyrapicus ruber

red-breasted sapsucker

o,T

Picoides nuttallii

Nuttall's woodpecker

u,R

Picoides pubescens

downy woodpecker

u,R

Colaptes auratus

northern flicker

f,R

TYRANNIDAE - TYRANT FLYCATCHERSContopus borealis

olive-sided flycatcher

u,S

Contopus sordidulus

western wood-pewee

o,S

Empidonax hammondii

Hammond's flycatcher

o,T

Empidonax wrightii

gray flycatcher

o,T

Empidonax difficilis

Pacific-slope flycatcher

f,S/c,T

Sayornis nigricans

black phoebe

u,R

Myiarchus cinerascens

ash-throated flycatcher

f,S

HIRUNDINIDAE - SWALLOWSAbundance

<u>Tachycineta bicolor</u> tree swallow	u,T
<u>Tachycineta thalassina</u> violet-green swallow	f,S
<u>Stelgidopteryx serripennis</u> northern rough-winged swallow	c,S
<u>Hirundo pyrrhonota</u> cliff swallow	c,S
<u>Hirundo rustica</u> barn swallow	u,T/f,S

CORVIDAE - JAYS & CROWS

<u>Aphelocoma coerulescens</u> scrub jay	c,R
<u>Corvus brachyrhynchos</u> American crow	c,R
<u>Corvus corax</u> common raven	c,R

PARIDAE - TITMICE

<u>Parus gambeli</u> mountain chickadee	o,V
<u>Parus inornatus</u> plain titmouse	u,R

AEGITHALIDAE - BUSHTITS

<u>Psaltriparus minimus</u> bushtit	f,R
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SITTIDAE - NUTHATCHES

<u>Sitta carolinensis</u> white-breasted nuthatch	o,R
--	-----

CERTHIIDAE - CREEPERSAbundanceCerthia americana
brown creeper

o,R

TROGLODYTIDAE - WRENSSalpinctes obsoletus
rock wren

u,R

Catherpes mexicanus
canyon wren

u,R

Thryomanes bewickii
Bewick's wren

f,R

Troglodytes aedon
house wren

f,S/c,W

MUSCICAPIDAE - KINGLETS, GNATCATCHERS, THRUSHES & BABBLERSRegulus calendula
ruby-crowned kinglet

c,W

Polioptila caerulea
blue-gray gnatcatcher

f,S

Sialia mexicana
western bluebird

f,R/c,W

Catharus ustulatus
Swainson's thrush

o,T/o,S

Catharus guttatus
hermit thrush

f,W

Turdus migratorius
American robin

u,R

Chamaea fasciata
wrentit

f,R

MIMIDAE - THRASHERSMimus polyglottos
northern mockingbird

c,R

Toxostoma redivivum
California thrasher

c,R

BOMBYCILLIDAE - WAXWINGSAbundanceBombycilla cedrorum
cedar waxwing

u,W

PTILOGONATIDAE - SILKY-FLYCATCHERSPhainopepla nitens
phainopepla

f,S

STURNIDAE - STARLINGS* Sturnus vulgaris
European starling

c,R

VIREONIDAE - VIREOSVireo solitarius
solitary vireo

o,T

Vireo huttoni
Hutton's vireo

o,R

Vireo gilvus
warbling vireo

f,T

EMBERIZIDAE - WOOD WARBLERS, TANAGERS, BUNTINGS & BLACKBIRDSVermivora celata
orange-crowned warbler

f,T/f,S

Vermivora ruficapilla
Nashville warbler

u,T

Dendroica petechia
yellow warbler

o,T

Dendroica coronata
yellow-rumped warbler

s,W/f,T

Dendroica nigrescens
black-throated gray warbler

f,T

Dendroica townsendi
Townsend's warbler

u,T

Dendroica occidentalis
hermit warbler

u,T

Oporornis tolmiei
MacGillivray's warbler

o,T

**EMBERIZIDAE - WOOD WARBLERS, TANAGERS, BUNTINGS
& BLACKBIRDS (continued)**

	<u>Abundance</u>
<u>Geothlypis trichas</u> common yellowthroat	f,T
<u>Wilsonia pusilla</u> Wilson's warbler	c,T
<u>Piranga ludoviciana</u> western tanager	o,T/u,S
<u>Pheucticus melanocephalus</u> black-headed grosbeak	f,S
<u>Passerina amoena</u> lazuli bunting	u,S
<u>Pipilo erythrophthalmus</u> rufous-sided towhee	c,R
<u>Pipilo crissalis</u> California towhee	c,R
<u>Aimophila ruficeps</u> rufous-crowned sparrow	u,R
<u>Spizella passerina</u> chipping sparrow	f,T/u,R
<u>Chondestes grammacus</u> lark sparrow	f,R
<u>Amphispiza belli</u> sage sparrow	u,R
<u>Passerculus sandwichensis</u> savannah sparrow	u,W
<u>Passerella iliaca</u> fox sparrow	u,W
<u>Melospiza melodia</u> song sparrow	u,R
<u>Melospiza lincolnii</u> Lincoln's sparrow	u,W
<u>Zonotrichia atricapilla</u> golden-crowned sparrow	c,W
<u>Zonotrichia leucophrys</u> white-crowned sparrow	c,W
<u>Junco hyemalis</u> dark-eyed junco	f,W
<u>Molothrus ater</u> brown-headed cowbird	u,R
<u>Icterus galbula</u> northern oriole	u,S

FRINGILLIDAE - FINCHES

Abundance

<u>Carpodacus purpureus</u> purple finch	o,V
<u>Carpodacus mexicanus</u> house finch	c,R
<u>Carduelis pinus</u> pine siskin	o,V
<u>Carduelis psaltria</u> lesser goldfinch	f,R
<u>Carduelis lawrencei</u> Lawrence's goldfinch	o,T
<u>Carduelis tristis</u> American goldfinch	f,W/u,R

MAMMALS

DIDELPHIDAE - NEW WORLD OPOSSUMS

* <u>Didelphis virginiana</u> Virginia opossum	u
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VESPERTILIONIDAE - EVENING BATS¹

<u>Myotis yumanensis</u> Yuma myotis
<u>Myotis evotis</u> long-eared myotis
<u>Myotis thysanodes</u> fringed myotis
<u>Myotis californicus</u> California myotis
<u>Myotis leibii</u> small-footed myotis
<u>Pipistrellus hesperus</u> western pipistrelle
<u>Eptesicus fuscus</u> big brown bat
<u>Lasiurus borealis</u> red bat
<u>Lasiurus cinereus</u> hoary bat
<u>Plecotus townsendii</u> Townsend's big-eared bat

VESPERTILIONIDAE - EVENING BATS (continued)

Abundance

Antrozous pallidus
pallid bat

MOLOSSIDAE - FREE-TAILED BATS¹

Tadarida brasiliensis
Brazilian free-tailed bat

Eumops perotis
western mastiff bat

LEPORIDAE - HARES & RABBITS

Sylvilagus bachmani u
brush rabbit

Sylvilagus audubonii f
desert cottontail

Lepus californicus f
black-tailed jackrabbit

SCIURIDAE - SQUIRRELS

Tamias merriami f
Merriam's chipmunk

Spermophilus beecheyi c
California ground squirrel

HETEROMYIDAE - POCKET MICE & KANGAROO RATS

Perognathus longimembris u
little pocket mouse

Perognathus californicus f
California pocket mouse

Dipodomys agilis f
agile kangaroo rat

¹ The site is within the range of a number of bat species in several families, but it is unlikely that all are present. As their distribution varies according to season, and as the precise habitat requirements of each species are not well known, it is difficult to determine which species are present on the property.

CRICETIDAE - NEW WORLD RATS & MICE

Abundance

<u>Reithrodontomys megalotis</u> western harvest mouse	c
<u>Peromyscus eremicus</u> cactus mouse	u
<u>Peromyscus californicus</u> California mouse	f
<u>Peromyscus maniculatus</u> deer mouse	c
<u>Peromyscus boylii</u> brush mouse	u
<u>Onychomys torridus</u> southern grasshopper mouse	s
<u>Neotoma lepida</u> desert woodrat	u
<u>Neotoma fuscipes</u> dusky-footed woodrat	f

MURIDAE - OLD WORLD RATS & MICE

* <u>Mus musculus</u> house mouse	c
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CANIDAE - WOLVES & FOXES

<u>Canis latrans</u> coyote	f
* <u>Canis familiaris</u> domestic dog	o
<u>Urocyon cinereoargenteus</u> gray fox	o

PROCYONIDAE - RACCOONS

<u>Bassariscus astutus</u> ringtail	s
<u>Procyon lotor</u> raccoon	f

MUSTELIDAE - WEASELS, SKUNKS & OTTERS

Abundance

Mustela frenata

long-tailed weasel

s

Spilogale gracilis

western spotted skunk

u

Mephitis mephitis

striped skunk

f

FELIDAE - CATS

Felis concolor

mountain lion

s

Felis rufus

bobcat

o

CERVIDAE - DEERS

Odocoileus hemionus

mule deer

f