David Magney Environmental Consulting

BIOTA REPORT FOR THE DUGGAN PROPERTY EXPLORATORY WATER WELLS AND PIPELINE, 302 E. CARLISLE ROAD, THOUSAND OAKS, CALIFORNIA



Prepared for: COUNTY OF LOS ANGELES

On behalf of:

PATRICIA DUGGAN, STONEHAVEN RANCH

September 2023, Updated January and March 2025

Mission Statement To provide quality environmental consulting services with integrity that protect and enhance the human and natural environment

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David Magney Environmental Consulting

Biota Report for the Duggan Property Water Pipeline, 302 E. Carlisle Road, Thousand Oaks, California

(APNs 4472-002-006, 4472-002-011, 4472-003-043, 4472-003-044, and 4472-003-048)

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County of Los Angeles

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SECTION I. INTRODUCTION

BACKGROUND

David Magney Environmental Consulting (DMEC) was contracted to conduct this biological resources assessment and impacts analysis for the Duggan proposed exploratory water well project and water line at the request of Patricia Duggan. Ms. Duggan's existing water well provides insufficient quantities of water to meet her domestic needs and she has been required to truck water to her property per an agreement with the Las Virgenes Municipal Water District.

The exploratory well was successful in finding sufficient water to supply the needs of Stonehaven Ranch, which now needs a water line installed to transport the water from the well to a water storage tank near the ranch facilities near the bottom of the canyon.

PROJECT LOCATION

The project site is located in the Santa Monica Mountains in western Los Angeles County as shown on Figure 1, General Project Site Location Map. The Duggan property (project site) is located in the Triunfo community at 302 E. Carlisle Road, Thousand Oaks, California but the project parcels (APNs 4472-002-006, 4472-002-011, 4472-003-043, 4472-003-044, and 4472-003-048) are located in southwestern Los Angeles County. The project site is northwest of the Decker Canyon Road/State Route 23/Mulholland Highway. Figure 2, Topographic Map of Project Site, shows the Duggan parcels that the proposed water line would cross, the water well occurs at the southern end of the water line that is shown by the magenta-colored dashed line.

The site is in the Point Dume Quadrangle (USGS 7.5-minute Series) at the approximate geographic coordinates of 34.10443°N latitude and 118.86474°W longitude, located in the SW¹/₄SW¹/₄ Section 3 T1S R19W, San Bernardino Base Line. The well site is situated on an east-west-trending ridge bounded by Carlisle Canyon on the north side and Trancus Canyon on the south side, with the well site and waterline on the Carlisle Canyon side of the ridge.

The Duggan property is in the Carlisle Canyon watershed at an elevation of approximately 1,850 feet (564 meters) above mean sea level to 1,090 feet (332 m). The Duggan parcels total approximately 240.085 acres in size, consisting of five variously-shaped square parcels, as illustrated in Figure 2 and Figure 3, Aerial Photo of the Project Site. The project site in on the inland (north) side of the Santa Monica Mountains, outside the Coastal Zone.

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Figure 2. Topographic Map of Project Site

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The Woolsey Fire burned the eastern portions of parcels 043, 044, 006, 011, and all of parcel 015 in late 2018, which is visible on the aerial photograph dated 3 January 2019 that is the base for Figure 4, Project Site Burned Area, showing the general alignment of the proposed water line, which would follow a fire road from the top of the ridge and connect with a firebreak road near the bottom of the canyon.

Figure 5, Project Site Assessment Area Vegetation and Proposed Footprint, shows the proposed project site footprint with the natural vegetation delineated within the Assessment Area, which is a 136.64-acre area of the five Duggan parcels with the water line route basically in the center. The footprint of the water tank at the wellhead site and the proposed water line is quite small even if the length of the water line is 1.034 miles long, as described below.

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Figure 4. Project Site Burned Area



PROJECT PURPOSE AND SCOPE

The proposed project involves installing a 5,000-gallon water tank and put at the new water well at the top of the ridge to the south and constructing a water line, mostly above ground, to an existing water storage tank to supply Ms. Duggan's residential needs for her home at 302 E. Carlisle Road. The parcel on which the water well would is located is approximately 41.126 acres in size. The total footprint of the proposed water tank is approximately 322 square feet, located entirely within the previously disturbed ranch road.







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Figure 6. Proposed Water Tank

The water line would be constructed of galvanized steel and supported on metal stands set in concrete footings. The support footings will be set in 18-inch diameter holes approximately 30-inches deep as illustrated on Figure 7, Proposed Water Line and Supports. The water line would follow along the edge of an existing fire road, with up to three underground crossings. The supports will be spaced approximately 15 to 20 feet apart.

The water line will be approximately 1.034 miles/5,460 feet long. Based on the expected support spacing of 18 feet, there will be approximately 303 support footings installed. The disturbance for the footing will be approximately 0.028 acre/1,212 square feet. This calculation assumes there will be 303 2'x 2' holes dug for the footings. It is estimated that the waterline will need buried to cross the road in three locations. Only ruderal vegetation would be disturbed for the underground road crossings. The photograph below shows one location where the waterline will need to cross the road.











SECTION II. EXISTING CONDITIONS

DMEC biologist David Magney conducted surveys of the project site on 18 September 2021, 17 February 2022, and 17 and 18 April 2022. The property was surveyed by walking over the site and the immediate surrounding areas and recording observations of plants, wildlife, and habitats, with locations tracked by GPS. Focused protocol-level surveys for special-status and listed species were not conducted; however, the surveys were timed to detect all special-status species known to occur in the region. The flora, fauna, and habitats observed are described in the following sections.

SITE HISTORY

The project site parcels have mostly not been developed except for a ranch road (dirt) and firebreaks and ranch facilities such as greenhouse, water storage tanks, house, guest house, and driveway/ranch roads. Otherwise, the parcels are in their natural state. The house, barn, greenhouse, and other ranch facilities were developed in the 1990s, with some structures and roads predating this.

The ranch roads on the steep slopes also served as a firebreak and contained the spread of the Woolsey Fire along the north/northwestern edge of the road just northwest of the proposed well site, with a small portion (southernmost) of the site burned on 9 November 2018. No other portions of the proposed water line were burned in the Woolsey Fire.

FLORA

A total of one hundred eighteen (118) vascular plant species were observed onsite. Of these, ninety-four (96, or 81.3%) of the vascular plants are native species and twenty-two (22, or 18.6%) are nonnative or exotic species. The proportions of native and nonnative taxa onsite are significantly better to the 75% native:25% nonnative for other regions of California and for the entire flora of California (Hickman 1993), a result of the undisturbed nature of much of the project site.

Eight (8) of the 22 exotic species observed are listed by the California Invasive Plant Council (Cal-IPC) (2006, 2007) as invasive and a threat to wildlands, including those on Cal-IPC's inventory as High¹, Moderate², or Limited³. The 118 vascular plants that were observed are listed below in Table 1, Plant Species of the Duggan Property.

 $C: DMEC \ box{Ventura} \ box{Duggan} \ LACounty \ Parcels \ box{Duggan} \ water \ Wells \ \ Pipeline-Biota \ Report-DMEC \ 2025 vl. 1. docx \ box{ACounty} \ \ box{ACounty} \ \ box{Pipeline-Biota} \ \ box{Pipeline-Biota}$

¹ High = species that have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically. (<u>http://www.cal-ipc.org/ip/inventory/index.php#categories</u>)

² Moderate – species that have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread. (http://www.cal-ipc.org/ip/inventory/index.php#categories)

³ Limited – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic. (https://www.cal-ipc.org/plants/inventory/about-the-inventory/)



Table 1.	Plant	Species	of the	Duggan	Property
	1 Iunit	species	or the	2 u55 un	roperty

Scientific Name ⁴	Common Name	Habit ⁵	Family ⁶
Achillea millefolium var. millefolium	Common White Yarrow	PH	Asteraceae
Acmispon glaber var. glaber	Deerweed	S	Fabaceae
Adenostoma fasciculatum var. fasciculatum	Chamise	S	Rosaceae
Adenostoma sparsifolium	Red Shanks	S	Rosaceae
Adiantum jordanii	California Maidenhair Fern	PF	Pteridaceae
Agoseris grandiflora var. grandiflora ⁷	Bigflower Mountain Dandelion	PH	Asteraceae
Amsinckia intermedia	Rancher's Fire	AH	Boraginaceae
Amsinckia menziesii	Common Fiddleneck	AH	Boraginaceae
Artemisia californica	California Sagebrush	S	Asteraceae
Asclepias fascicularis	Narrowleaf Milkweed	AH	Asclepidaceae
Avena barbata * ^M	Slender Wild Oat	AG	Poaceae
Baccharis pilularis ssp. consanguinea	Coyote Brush	S	Asteraceae
Baccharis salicifolia ssp. salicifolia	Mulefat	S	Asteraceae
Brickellia californica	California Brickellbush	S	Asteraceae
Bromus carinatus var. carinatus	California Brome	PG	Poaceae
Bromus diandrus ssp. diandrus * ^M	Ripgut Brome	AG	Poaceae
Bromus hordeaceus ssp. hordeaceus * ^L	Soft Chess	AG	Poaceae
Bromus madritensis ssp. rubens * ^H	Red Brome	AG	Poaceae
Calystegia macrostegia var. intermedia	Chaparral Morning-glory	PV	Convolvulaceae
Calystegia purpurata ssp. purpurata	Climbing Morning-glory	PV	Convolvulaceae
<i>Camissonia</i> sp. ⁸	a Sun-cup	AH	Onagraceae
Capsella bursa-pastoris*	Shepherd's Purse	AH	Apiaceae
<i>Carduus pycnocephalus ssp. pycnocephalus</i> * ^M	Italian Thistle	AH	Asteraceae
Ceanothus cuneatus var. cuneatus	Buck Brush	S	Rhamnaceae
Ceanothus megacarpus var. megacarpus	Bigpod Ceanothus	S	Rhamnaceae
Ceanothus spinosus	Greenbark Ceanothus	S	Rhamnaceae
Centaurea melitensis * ^M	Tocalote	AH	Asteraceae
Cercocarpus betuloides var. betuloides	Birchleaf Mountain Mahogany	S	Rosaceae
<i>Cercocarpus betuloides</i> var. <i>blancheae</i> ⁹	Island Mountain Mahogany	S	Rosaceae
Chlorogalum pomeridianum var. pomeridianum	Soap Lily	PG	Agavaceae
Clarkia epilobioides	Willow-herb Godetia	AH	Onagraceae
Clarkia purpurea ssp. quadrivulnera	Four-spot Purple Clarkia	AH	Onagraceae
Clarkia unguiculata	Elegant Farewell-to-Spring	AH	Onagraceae
Claytonia exigua ssp. exigua	Small Miner's Lettuce	AH	Montiaceae
Claytonia perfoliata ssp. mexicana	Mexican Miner's Lettuce	AH	Montiaceae
Claytonia perfoliata ssp. perfoliata	Miner's Lettuce	AH	Montiaceae
Cordylanthus rigidus ssp. setiger	Dark-tipped Rigid Bird's-beak	AH	Orobanchaceae
Corethrogyne filaginifolia var. filaginifolia	California Cudweed-aster	PH	Asteraceae

⁴ * = Introduced plant species that have become naturalized. + = escaped ornamental species. Superscript H = Highly Invasive, M = Moderately Invasive, L = Limited Invasive (California Invasive Plant Council [Cal-IPC] 2006, 2007) as invasive and a threat to wildlands, ranked as a High, Moderate, or Limited threat. Plants in **Bold** typeface are special-status species (CNPS 2001, 2021). Scientific names of the plant species follow *The Jepson Manual* 2nd Edition (Baldwin et al. 2012) and Flora of North America Committee (1993+). Brackets [] indicate updated nomenclature, with old name in brackets.

⁵ Habit definitions: AG = annual graminoid; AH = annual herb; AV = annual vine; PG = perennial graminoid; PH = perennial herb; PV = perennial vine; S = shrub; T = tree.

⁶ Family taxonomy follows Flora of North America Committee (1993+).

⁷ Voucher collection made: *D.L. Magney 33-22* UCSB

⁸ Voucher collection made: D.L. Magney 29-22 UCSB

⁹ Voucher collection made: D.L. Magney 32-22 UCSB



Scientific Name ⁴	Common Name	Habit ⁵	Family ⁶
Cryptantha cf intermedia	Common Forget-Me-Not	AH	Boraginaceae
Delphinium cardinale	Scarlet Larkspur	PH	Ranunculaceae
Delphinium cf patens ssp. hepaticoideum	Spreading Larkspur	PH	Ranunculaceae
Deinandra fasciculata	Fascicled Tarplant	AH	Asteraceae
Diplacus [Mimulus] brevipes	Lemon Monkeyflower	AH	Phrymaceae
Diplacus [Mimulus] longiflorus	Sticky Bush Monkeyflower	S	Phrymaceae
Drymocallis glandulosa ssp. wrangelliana ¹⁰	Wrangell's Cinquefoil	PH	Rosaceae
Ehrendorferia chrysantha	Golden Eardrops	PH	Fumariaceae
Ehrendorferia ochroleuca	White Eardrops	PH	Fumariaceae
Elymus condensatus	Giant Wild Rye	PG	Poaceae
Ericameria pinifolia	Pinebush	S	Asteraceae
Eriogonum fasciculatum var. foliolosum	Leafy California Buckwheat	S	Polygonaceae
Eriogonum fasciculatum var. polifolium	California Buckwheat	S	Polygonaceae
Eriophyllum confertiflorum var. confertiflorum	Golden Yarrow	S	Asteraceae
Erodium botrys*	Broadleaf Filaree	AH	Geraniaceae
Erodium cicutarium*	Redstem Filaree	AH	Geraniaceae
Eucrypta chrysanthemifolia	Common Eucrypta	AH	Hydrophyllaceae
Eulobus californicus	Mustard Primrose	AH	Onagraceae
Frangula californica ssp. californica	California Coffeeberry	S	Rhamnaceae
Galium angustifolium ssp. angustifolium	Chaparral Bedstraw	S	Rubiaceae
Galium aparine	Goosegrass	AH	Rubiaceae
<i>Gilia achilleifolia</i> ssp. achilleifolia ¹¹	Blue Field Gilia	AH	Polemoniaceae
Hazardia squarrosa var. obtusa	Obtuse Sawtooth Goldenbush	S	Asteraceae
Hesperoyucca whipplei var. whipplei	Our Lord's Candle	S	Agavaceae
Heteromeles arbutifolia	Toyon	S	Rosaceae
Hirschfeldia incana ^{*M}	Summer Mustard	BH	Brassicaceae
Hypochaeris glabra*	Smooth Cat's Ear	AH	Asteraceae
Juglans californica	Southern California Black Walnut	S/T	Juglandaceae
Keckiella cordifolia	Heartleaf Penstemon	S	Plantaginaceae
Lepechinia fragrans ¹²	Fragrant Pitcher Sage	S	Lamiaceae
Lonicera subspicata var. denudata	Southern Honeysuckle	PV	Caprifoliaceae
Lupinus albifrons var. albifrons	Silver Bush Lupine	S	Fabaceae
Lupinus bicolor ¹³	Miniature Lupine	AH	Fabaceae
Lysimachia arvensis*	Scarlet Pimpernel	AH	Myrsinaceae
Malacothamnus fasciculatus var. fasciculatus	Chaparral Bushmallow	S	Malvaceae
Malacothrix saxatalis var. tenuifolia	Tenuate-leaved Cliff-aster	PH	Asteraceae
Malosma laurina	Laurelleaf Sumac	S	Anacardiaceae
Marah macrocarpa	Big-fruited Man-root	PV	Cucurbitaceae
Medicago polymorpha* ^L	Bur-clover	AH	Fabaceae
Melica imperfecta	Coast Melic Grass	PG	Poaceae
Optolon miliacea* ^L	Smilo Grass	PG	Poaceae
Pellaea andromedifolia	Coffee Fern	PF	Pteridaceae
Pentagramma triangularis var. triangularis	Goldenback Fern	PF	Pteridaceae
Phacelia cicutaria var. hispida	Hispid Caterpillar Phacelia	AH	Hydrophyllaceae
Phacelia ramosissima ssp. ramosissima	Branching Phacelia	PH	Hydrophyllaceae
Phacelia viscida var. viscida	Sticky Phacelia	AH	Hydrophyllaceae

 ¹⁰ Voucher collection made: *D.L. Magney 30-22* UCSB
 ¹¹ Voucher collection made: *D.L. Magney 37-22* UCSB
 ¹² Voucher collection made: *D.L. Magney 36-22* UCSB
 ¹³ Voucher collection made: *D.L. Magney 34-22* UCSB



Scientific Name ⁴	Common Name	Habit ⁵	Family ⁶
Pholistoma auritum	Fiesta Flower	AH	Hydrophyllaceae
Plantago lanceolata*	Narrowleaf Plantain	PH	Plantaginaceae
Platanus racemosa var. racemosa	Western Sycamore	Т	Platanaceae
Populus trichocarpa	Black Cottonwood	Т	Salicaceae
Prunus ilicifolia var. ilicifolia	Hollyleaf Cherry	S	Rosaceae
Pseudognaphalium bioletti	Bicolored Everlasting	PH	Asteraceae
Pseudognaphalium californicum	Green Everlasting	PH	Asteraceae
Pseudognaphalium microcephalum ¹⁴	White Everlasting	BH	Asteraceae
Quercus agrifolia var. agrifolia	Coast Live Oak	Т	Fagaceae
Quercus berberidifolia	California Scrub Oak	S	Fagaceae
Rafinesquia californica	California Chicory	AH	Asteraceae
Rhamnus ilicifolia	Hollyleaf Redberry	S	Rhamnaceae
Rhus ovata	Sugar Bush	S	Anacardiaceae
Ribes malvaceum var. malvaceum	Chaparral Currant	S	Grossulariaceae
Rumex crispus*	Curly Dock	PH	Polygonaceae
Salvia columbariae	Chia	AH	Lamiaceae
Salvia mellifera	Black Sage	S	Lamiaceae
Sambucus nigra ssp. caerulea	Blue Elderberry	S	Adoxaceae
Sanicula crassicaulis	Pacific Snakeroot	PH	Apiaceae
Senecio vulgare*	Common Groundsel	AH	Asteraceae
Silene gallica*	Windmill Pink	AH	Caryophyllaceae
Silene laciniata ssp. laciniata	Indian Pink	PH	Caryophyllaceae
Solanum xanti	Chaparral Nightshade	S	Solanaceae
Sonchus oleraceus*	Common Sow-thistle	AH	Asteraceae
Stellaria media*	Chickweed	AH	Caryophyllaceae
Tauschia arguta	Southern Tauschia	PH	Apiaceae
Thysanocarpus laciniatus var. laciniatus	Lace Pod	AH	Brassicaceae
Toxicodendron diversilobum	Western Poison Oak	PV	Anacardiaceae
Trichostema lanatum	Woolly Bluecurls	S	Lamiaceae
Venegasia carpesioides	Canyon Sunflower	PH	Asteraceae
Vicia villosa ssp. varia *	Winter Vetch	AV	Fabaceae
Vulpia microstachys var. microstachys	Desert Fescue	AG	Poaceae
Vulpia myuros*	Rattail Fescue	AG	Poaceae
Yabea microcarpa ¹⁵	Yabea	AH	Apiaceae

Three tree species occurs onsite, *Platanus racemosa* var. *racemosa* (Western Sycamore), *Populus trichocarpa* (Black Cottonwood), and *Quercus agrifolia* (Coast Live Oak), which are considered a protected species under Los Angeles County General Plan policy (as well as other native tree species). Only *Q. agrifolia* was found along the proposed water line route. *Quercus agrifolia* is a common and widespread native tree species occurring along most of the California coast. No trees occurred at the proposed water well or water tank site. *Quercus agrifolia* trees do occur along a 125-foot long portion of the northern/lower end of the water line.

The vegetation at the well sites is ruderal in nature due to the periodic grading to maintain the ranch road. The dominant vegetation adjacent to the ranch road is Chamise Chaparral, dominated by *Adenostoma fasciculatum*, *Cercocarpus betuloides* var. *betuloides* (and var. *blancheae*), and *Prunus ilicifolia*, and Red Shanks Chaparral, dominated by *Adenostoma sparsifolium*.

¹⁴ Voucher collection made: *D.L. Magney 35-22* UCSB, identification verified by Guy Nesom (2022).

¹⁵ Voucher collection made: D.L. Magney 31-22 UCSB



FAUNA

A total of twenty-seven (47) wildlife species were **observed** onsite during the spring and late summer field surveys, or **known** or **reported**, including five reptiles, ten birds, six mammals, and twenty-eight (28) invertebrates (4 arachnids and 24 insects). Two special-status wildlife species was observed onsite, *Trimerotropis occidentiloides* (Santa Monica Grasshopper) and *Aspidoscelis tigris* (Western Whiptail). Additionally, suitable habitat is present for *Neotoma lepida intermedia* (San Diego Desert Woodrat) and *Helminthoglypta traskii* ssp. *traskii* (Peninsular or Trask Shoulderband Snail). The 47 total species observed, known, or report are listed below in Table 2, Wildlife Species of the Duggan Property, as well as another 67 vertebrate and invertebrate species that are expected to occur onsite or in the immediate area of the project site based on reported observations from onsite or nearby, including iNaturalist.org.

Scientific Name ¹⁶	Common Name	Order/Family	Evidence ¹⁷		
VERTEBRATES					
Amphibians – Class Amphibia					
Batrachoseps nigriventris	Black-bellied Slender Salamander	Order Caudata: Family Plethodontidae	Expected		
Taricha torosa	California Newt	Order Caudata: Family Salamandridae	Reported ¹⁸		
Pseudacris cadaverina	California Tree Frog	Order Anura: Family Hylidae	Reported ¹⁹		
	Reptiles – Cl	lass Reptilia			
Anniella stebbinsi	San Diegan Legless Lizard	Order Squamata: Family Anguidae	Expected ²⁰		
Elgaria multicarinatus	Southern Alligator Lizard	Order Squamata: Family Anguidae	Observed		
Phrynosoma blainvillii	Blainville's Horned Lizard	Order Squamata: Family Phrynosomatidae	Expected ²¹		
Sceloporus occidentalis	Western Fence Lizard	Order Squamata: Family Phrynosomatidae	Expected		
Uta stansburya elegans	California Side-blotched Lizard	Order Squamata: Family Phrynosomatidae	Observed		
Aspidoscelis tigris stejnegeri	Western Whiptail	Order Squamata: Family Teiidae	Observed		
Pituophis catenifer annectens	San Diego Gopher Snake	Order Squamata: Family Colubridae	Known ²²		
Crotalus oreganus helleri	Southern Pacific Rattlesnake	Order Squamata: Family Viperidae	Expected ²³		
Masticophis lateralis	Striped Racer	Order Squqmata: Family Colubridae	Observed		
Hypsiglena ochrorhynchus	Coast Night Snake	Order Squamata: Family Colubridae	Expected		
	Birds – C	lass Aves			
Calypte anna	Anna's Hummingbird	Order Apodiformes: Family Trochilidae	Observed		

Table 2. Wildlife Species of the Duggan Property

¹⁶ An asterisk (*) indicates introduced, non-native species. **Bold type** scientific and common names indicates special-status species.

¹⁷ Evidence: Observed (animal seen, heard, or sign [e.g. tracks, scat, feathers, nest]); Expected (observed nearby [Triunfo Pass area] by DMEC or others in similar habitat offsite).

¹⁸ Observed NW of the project site by Max Roberts, April 2021, iNaturalist.org

¹⁹ Observed along Etz Meloy Motorway by Max Roberts, June 2021, iNaturalist.org

²⁰ Observed along ridge E of project site by Kellie Uyeda, July 2012, iNaturalist.org

²¹ Observed along ridge just W of project site by "pinesnake", April 2019, iNaturalist.org

²² Observed along Stonehaven Ranch trail between ridgetop and canyon bottom by Brandon Troth, March 2021, iNaturalist.org

²³ Observed on ridge E of SR23 and S of Mulholland Highway by "frostioe", May 2021, iNaturalist.org



Scientific Name ¹⁶	Common Name	ommon Name Order/Family	
Selasphorus sasin	Allen's Hummingbird Order Apodiformes: Family Trochilidae		Expected
Zenaida macroura	Mourning Dove	Order Columbiformes: Family Columbidae	Observed
Buteo jamaicensis	Red-tailed Hawk	Order Falconiformes: Family Accipitridae	Expected
Accipiter cooperi	operi Cooper's Hawk Order Falconiformes: Family Accipitridae		Expected ²⁴
Cathartes aura	Turkey Vulture	Order Falconiformes: Family Cathartidae	Observed
Falco sparverius	American Kestrel	Order Falconiformes: Family Falconidae	Expected
Callipepla californica	California Quail	Order Galliformes: Family Phasianidae	Observed
Aphelocoma californica	Western Scrub Jay	Order Passeriformes: Family Corvidae	Observed
Corvus brachyrhynchos	American Crow	Order Passeriformes: Family Corvidae	Expected
Corvus corax	Common Raven	Order Passeriformes: Family Corvidae	Observed
Junco hyemalis	Dark-eyed Junco	Order Passeriformes: Family Emberizidae	Expected
Pipilo crissalis	California Towhee	Order Passeriformes: Family Emberizidae	Observed
Pipilo maculatus	Spotted Towhee	Order Passeriformes: Family Emberizidae	Observed
Chondestes rammacus	Lark Sparrow	Order Passeriformes: Family Passerellidae	Reported ²⁵
Carpodacus mexicanus	House Finch	Order Passeriformes: Family Fringillidae	Expected
Chamaea fasciata	Wrentit	Order Passeriformes: Family Muscicapidae	Observed
Picoides nuttallii	tallii Nuttall's Woodpecker Order Piciformes: Family Picidae		Expected
Spinus psaltria	Lesser Goldfinch	Order Passeriformes: Family Fringillidae	Expected ²⁶
	Mammals – Cl	ass Mammalia	
Didelphis virginiana ssp.	Virginia Opossum	Order Marsunialia: Family Didelphidae	Expected
virginiana	virginia Opossuin		Ехресней
Odocoileus hemionus	Mule Deer	Order Artiodactyla: Family Cervidae	Observed ²⁷
Procyon lotor	Raccoon	Order Carnivora: Family Procyonidae	Expected
Canis latrans	Coyote	Order Carnivora: Family Canidae	Observed ²⁸
Vulpes vulpes	Red Fox	Order Carnivora: Family Canidae	Observed ²⁹
Mephitis mephitis	Striped Skunk	Order Carnivora: Family Mephitidae	Reported ³⁰
Felix concolor	Mountain Lion	Order Carnivora: Family Felidae	Reported
Sylvilagus audubonii ssp.	San Diego Desert	Order Lagomorpha: Family Leporidae	Observed ³¹
sanctidiegi	Cottontail Rabbit		
Sylvilagus bachmani ssp.	Brown Brush Rabbit	Order Lagomorpha: Family Leporidae	Expected ³²
Vicetamias morriami sen			
merriami	Merriam's Chipmunk	Order Rodentia: Family Sciuridae	Expected ³³
Otospermophilus beecheyi ssp. beecheyi	California Ground Squirrel	Order Rodentia: Family Sciuridae	Expected
Sciurus griseus ssp. anthonyi	Anthony's Western Gray Squirrel	Order Rodentia: Family Sciuridae	Expected ³⁴
Dipodomys agilis ssp. agilis	Agile Kangaroo Rat	Order Rodentia: Family Heteromyidae	Expected ³⁵

²⁴ Observed along Etz Meloy Motorway W of project site by Phil Calvert, 13 July 2021, iNaturalist.org

³⁴ Ibid.

²⁵ Observed SE of project site by edanstark, 21 July 2023, iNaturalist.org

²⁶ Observed on ridge to the west by "tmeltwi", July 2021, iNaturalist.org

²⁷ Tracks observed all along ranch road on 18 & 19 September 2021.

²⁸ Scat observed at each well site on 18 & 19 September 2021. Observed on ridge to the west by "zumbalady", 31 May 2021, iNaturalist.org

²⁹ Scat observed at each well site on 18 & 19 September 2021

³⁰ Observed north of project site by edanstark, 22 November 2022, iNaturalist.org

³¹ Observed along ranch road near well sites on 18 September 2021. Observed on ridge to the east by Stephanie Seman, May 2021, iNaturalist.org

³² Reported as occurring in the Santa Monica Mountains (Blood 2021).

³³ Ibid.



Scientific Name ¹⁶	Common Name	Order/Family	Evidence ¹⁷
<i>Chaetodips californicus</i> ssp. <i>dispar</i>	Coastal California Pocket Mouse	Order Rodentia: Family Heteromyidae	Expected ³⁶
<i>Thomomys bottae</i> ssp. <i>bottae</i>	Botta's Pocket Gopher	Order Rodentia: Family Geomyidae	Observed
Microtus californicus ssp. stephensi	Stephen's California Vole	Order Rodentia: Family Cricetidae	Expected ³⁷
Peromyscus boylii ssp. rowleyi	Rowley's Brush Deermouse	Order Rodentia: Family Cricetidae	Expected ³⁸
Peromyscus californicus ssp. insignis	Southern California Deermouse	Order Rodentia: Family Cricetidae	Expected ³⁹
Peromyscus maculatus ssp. gambelii	North American Deermouse	Order Rodentia: Family Cricetidae	Expected ⁴⁰
Peromyscus truei ssp. montipinoris	Pinyon Deermouse	Order Rodentia: Family Cricetidae	Expected ⁴¹
Reithrodontomys megalotis ssp. limicola	Western Harvest Mouse	Order Rodentia: Family Cricetidae	Expected ⁴²
Neotoma bryanti ssp. intermedia [N. lepida ssp. intermedia]	San Diego Bryant's Woodrat	Order Rodentia: Family Cricetidae	Expected
Neotoma macrotis ssp. macrotis	Big-eared Woodrat	Order Rodentia: Family Cricetidae	Expected
INVERTEBRATES			
	INVERTE	BRATES	
	INVERTE Mollusks – Cla	BRATES ss Gastropoda	
Helix aspersa *	<i>INVERTE</i> <i>Mollusks – Cla</i> European Garden Snail	EBRATES ss Gastropoda Family: Helicidae	Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii	<i>INVERTE</i> <i>Mollusks – Cla</i> European Garden Snail Peninsular or Trask Shoulderband Snail	EBRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae	Expected Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Clas	EBRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta	Expected Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii Lumbricus sp.	<i>INVERTE</i> <i>Mollusks – Cla</i> European Garden Snail Peninsular or Trask Shoulderband Snail <i>Annelids – Clas</i> Nightcrawler Earthworm	EBRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae	Expected Expected Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii Lumbricus sp.	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Clas Nightcrawler Earthworm Crustaceans – C	EBRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Class Crustacea	Expected Expected Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii Lumbricus sp. Armadillium vulgare	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Clas Nightcrawler Earthworm Crustaceans – C Common Pill Bug	EBRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Class Crustacea Order Isopoda	Expected Expected Expected Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii Lumbricus sp. Armadillium vulgare Porcellio laevis	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Clas Nightcrawler Earthworm Crustaceans – C Common Pill Bug Dooryard Sow Bug	BRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Mass Crustacea Order Isopoda Order Isopoda	Expected Expected Expected Expected Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii Lumbricus sp. Armadillium vulgare Porcellio laevis	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Clas Nightcrawler Earthworm Crustaceans – C Common Pill Bug Dooryard Sow Bug Arachnids – Cl	BRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Class Crustacea Order Isopoda Order Isopoda ass Arachnida	Expected Expected Expected Expected Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii Lumbricus sp. Armadillium vulgare Porcellio laevis Pholcus sp.	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Clas Nightcrawler Earthworm Crustaceans – C Common Pill Bug Dooryard Sow Bug Arachnids – Cl Pholcid Spider	BRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Class Crustacea Order Isopoda Order Isopoda Order Araneae: Family Pholcidae	Expected Expected Expected Expected Expected Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii Lumbricus sp. Armadillium vulgare Porcellio laevis Pholcus sp. Agelenopsis sp.	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Cla Nightcrawler Earthworm Crustaceans – C Common Pill Bug Dooryard Sow Bug Arachnids – Cl Pholcid Spider Grass Spider	BRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Class Crustacea Order Isopoda Order Isopoda Grass Arachnida Order Araneae: Family Pholcidae Order Araneae: Family Agelenidae	Expected Expected Expected Expected Expected Expected Expected Expected
Helix aspersa *Helminthoglypta traskiissp. traskiiLumbricus sp.Armadillium vulgarePorcellio laevisPholcus sp.Agelenopsis sp.Bothriocyrtum californicum	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Clas Nightcrawler Earthworm Crustaceans – C Common Pill Bug Dooryard Sow Bug Arachnids – Cl Pholcid Spider Grass Spider California Trapdoor Spider	BRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Class Crustacea Order Isopoda Order Isopoda Order Araneae: Family Pholcidae Order Araneae: Family Agelenidae Order Araneae: Family Ctenizidae	Expected Expected Expected Expected Expected Expected Expected Expected Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii Lumbricus sp. Armadillium vulgare Porcellio laevis Pholcus sp. Agelenopsis sp. Bothriocyrtum californicum Dysdera crocata	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Clas Nightcrawler Earthworm Crustaceans – C Common Pill Bug Dooryard Sow Bug Machinids – Cl Pholcid Spider Grass Spider California Trapdoor Spider Sow Bug Killer	BRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Xass Crustacea Order Isopoda Order Isopoda Order Araneae: Family Pholcidae Order Araneae: Family Agelenidae Order Araneae: Family Ctenizidae Order Araneae: Family Dysderidae	Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected
Helix aspersa * Helminthoglypta traskii ssp. traskii Lumbricus sp. Armadillium vulgare Porcellio laevis Pholcus sp. Agelenopsis sp. Bothriocyrtum californicum Dysdera crocata Lycosa tarantula	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Cla Nightcrawler Earthworm Crustaceans – C Common Pill Bug Dooryard Sow Bug Arachnids – Cl Pholcid Spider Grass Spider California Trapdoor Spider Sow Bug Killer Wolf Spider	BRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Class Crustacea Order Isopoda Order Isopoda Order Araneae: Family Pholcidae Order Araneae: Family Agelenidae Order Araneae: Family Ctenizidae Order Araneae: Family Dysderidae Order Araneae: Family Lycosidae	Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected
Helix aspersa *Helminthoglypta traskiissp. traskiiLumbricus sp.Armadillium vulgarePorcellio laevisPholcus sp.Agelenopsis sp.Bothriocyrtum californicumDysdera crocataLycosa tarantulaMimetus sp.	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Clas Nightcrawler Earthworm Crustaceans – C Common Pill Bug Dooryard Sow Bug Dooryard Sow Bug Arachnids – Cl Pholcid Spider Grass Spider California Trapdoor Spider Sow Bug Killer Wolf Spider Pirate Spider	BRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Class Crustacea Order Isopoda Order Isopoda Order Araneae: Family Pholcidae Order Araneae: Family Agelenidae Order Araneae: Family Dysderidae Order Araneae: Family Lycosidae Order Araneae: Family Mimetidae	Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected
Helix aspersa *Helminthoglypta traskiissp. traskiiLumbricus sp.Armadillium vulgarePorcellio laevisPholcus sp.Agelenopsis sp.Bothriocyrtum californicumDysdera crocataLycosa tarantulaMimetus sp.Oxyopes sp.	INVERTE Mollusks – Cla European Garden Snail Peninsular or Trask Shoulderband Snail Annelids – Clas Nightcrawler Earthworm Crustaceans – C Common Pill Bug Dooryard Sow Bug Dooryard Sow Bug Arachnids – Cl Pholcid Spider Grass Spider California Trapdoor Spider Sow Bug Killer Wolf Spider Pirate Spider a Lynx Spider	BRATES ss Gastropoda Family: Helicidae Family Helminthoglyptidae ss Oligochaeta Family Lumbricidae Class Crustacea Order Isopoda Order Isopoda Order Araneae: Family Pholcidae Order Araneae: Family Agelenidae Order Araneae: Family Dysderidae Order Araneae: Family Mimetidae Order Araneae: Family Oxyopidae	Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected Expected

³⁵ Ibid.
 ³⁶ Ibid.
 ³⁷ Ibid.
 ³⁸ Ibid.
 ³⁹ Ibid.
 ⁴⁰ Ibid.
 ⁴¹ Ibid.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Observed on *Eriogonum fasciculatum* at Well Site #2 on 19 September 2021



Scientific Name ¹⁶	Common Name	Order/Family	Evidence ¹⁷
	Tarantula		
unknown	a Funnel Web Spider	Order Araneae: Family Agelenidae	Observed
Leuronchus pacificus	Pacific Harvestman	Order Opiliones: Family Sclerosomatidae	Expected
Paruroctonus silvestrii	California Common Scorpion	Order Scorpiones: Family Vaejovidae	Observed
Ixodes pacificus	Western Black-legged Tick	Order Ixodida: Family Ixodidae	Observed
	Insects – Cl	lass Insecta	
Dasytinae subfamily	Soft-winged Flower Beetle	Order Coleoptera: Family Melyiidae	Observed
Eleodes sp.	Stink Beetle	Order Coleoptera: Family Tenebrionidae	Expected
Cratidus osculans	Wooly Darkling Beetle	Order Coleoptera: Family Tenebrionidae	Expected
Hippodamia convergens	Convergent Ladybird Beetle	Order Coleoptera: Family Coccinellidae	Expected
Hololeptini sp.	a Blister Beetle	Order Coleoptera: Family Histeridae	Expected
Trimerotropis sp.	Band-winged Grasshopper	Order Orthoptera: Family Oedipodinae	Observed ⁴⁴
Trimerotropis occidentiloides	Santa Monica Grasshopper	Order Orthoptera: Family Oedipodinae	Observed ⁴⁵
Copestylum fraudulentum	Copycat Drone Fly	Order Diptera: Family Syrphidae, Subfamily Eristalinae	Observed ⁴⁶
Villa? sp.	Banded Bee Flies	Order Diptera: Family Bombyliidae	Observed ⁴⁷
Villa? sp.	a Banded Bee Fly	Order Diptera: Family Bombyliidae	Observed ⁴⁸
Musca domestica	House Fly	Order Diptera: Family Muscoidea	Observed ⁴⁹
Heteropogon sp.	a Robber Fly	Order Diptera: Family Asilidae	Observed ⁵⁰
Cuterebra fontinella	Mouse Bot Fly	Order Diptera: Family Oestridae	Observed ⁵¹
Lucilia sericata	Common Green Bottle Fly	Order Diptera: Family Calliphoridae	Expected
Rhopalomyla californica	Coyote Brush Bud Gall Midge	Order Diptera: Family Cecidomyiidae	Expected
unknown	Flower Wasp	Order Hymenoptera: Family Bethylidae	Observed
Apis mellifera	European Honey Bee	Order Hymenoptera: Family Apidae	Observed
Diadasia ochracea	Ochraceous Chimney Bee	Order Hymenoptera: Family Apidae	Expected
Agopostemon texanus	Texas Striped Sweat Bee	Order Hymenoptera: Family Halictidae	Expected
Ceratina arizonensis	Arizona Small Carpenter Bee	Order Hymenoptera: Family Xylocopinae	Expected
Osmia coloradoensis	Colorado Mason Bee	Order Hymenoptera: Family Megachilidae	Expected
Chelostoma cf californicum	California Scissor Bee	Order Hymenoptera: Family Megachilidae	Reported ⁵²
Diadasia biturberculata	Bindweed Turret Bee	Order Hymenoptera: Family Apidae	Expected ⁵³
Anthophora californica	California Digger Bee	Order Hymenoptera: Family Apidae	Expected ⁵⁴

⁴⁴ Observed on bare ground of dirt road at Well Site #7 on 19 September 2021

⁴⁵ Observed on bare ground of dirt road at Well Site on 19 September 2021

⁴⁶ Observed on bare ground of dirt road at Well Site on 19 September 2021
⁴⁶ Observed on *Corethrogyne filaginifolia* at Well Site #10 on 19 September 2021
⁴⁷ Observed on bare ground of dirt road at Well Site #10 on 19 September 2021
⁴⁸ Observed on bare ground of dirt road at Well Site #10 on 19 September 2021
⁴⁹ Observed on *Corethrogyne filaginifolia* at Well Site #10 on 19 September 2021.
⁵⁰ Observed along ranch road at Well Site #3 on 19 September 2021.
⁵¹ Observed along ranch road at Well Site #1 on 19 September 2021.
⁵² Observed along ranch road at Well Site #1 on 19 September 2021.

⁵² Observed along Etz Meloy Motorway SW of the project site by Sherrie Felton, 27 April 2021, iNaturalist.org

⁵³ Observed along Etz Meloy Motorway SW of the project site by Sherrie Felton, 2 April 2021, iNaturalist.org

⁵⁴ Observed along Etz Meloy Motorway SW of the project site by Sherrie Felton, 20 April 2021, iNaturalist.org



Scientific Name ¹⁶	Common Name Order/Family		Evidence ¹⁷
Pogonomyrmex barbatus	Red Harvester Ant	Order Hymenoptera: Family Formicidae	Observed
Messor sp.	Black Harvester Ant	Order Hymenoptera: Family Formicidae	Observed
Camponotus sp.	red &black Carpenter Ant	Order Hymenoptera: Family Formicidae	Observed
Heliopetes ericetorum	Northern White-Skipper	Order Lepidoptera: Family Hesperiidae	Observed ⁵⁵
Ochlodes agricola	Rural Skipper	Order Lepidoptera: Family Hesperiidae	Expected
Ochlodes sylvanoides	Woodland Skipper	Order Lepidoptera: Family Hesperiidae	Expected
Adelpha californica	California Sister Butterfly	Order Lepidoptera: Family Nyphalidae	Expected
Calephelis nemesis californica	California Fatal Metalmark	Order Lepidoptera: Family Riodinidae	Observed
Euphydryas chalcedona	Variable Checkerspot Butterfly	Order Lepidoptera: Family Nyphalidae	Observed
Vanessa cardui	Painted Lady	Order Lepidoptera: Family Nyphalidae	Expected
Junonia grisea	Gray Buckeye Butterfly	Order Lepidoptera: Family Nyphalidae	Expected
Icaricia lupini monticola	Clemence's Blue Butterfly	Order Lepidoptera: Family Lycaenidae	Observed ⁵⁶
Brephidium exilis	Pygmy Blue Butterfly	Order Lepidoptera: Family Lycaenidae	Observed
Glaucopsyche lygdamus	Silvery Blue Butterfly	Order Lepidoptera: Family Lycaenidae	Reported ⁵⁷
Satyrium saepium	Headgerow Hairstreak	Order Lepidoptera: Family Lycaenidae	Observed
Papilio rutulus Western Tiger Swallowtail		Order Lepidoptera: Family Papilionidae	Expected
Anthocharis sara	Sara Orangetip Butterfly	Order Lepidoptera: Family Pieridae	Observed
Pieris rapae	Cabbage Butterfly	Order Lepidoptera: Family Pieridae	Expected
Colias eurytheme	Sulphur Butterfly	Order Lepidoptera: Family Pieridae	Observed
Rhamphura ochristriata	Flower Moth	Order Lepidoptera: Family Scythrididae	Expected
Stenopelmatus fuscus	Striped Jerusalem Cricket	Order Orthoptera: Family Stenopelmatidae	Expected
Bagrada hilaris	Bagrada Bug	Order Heteroptera: Subfamily Pentatominae	Expected
Malanopleurus fuscosus	Seed Bug	Order Hymenoptera: Family Lagaeidae	Observed ⁵⁸
Allacrotelsa spinulata	Spinulate Silverfish	Order Zygentoma: Family Lepismatidae	Expected

Below are photographs of some of the wildlife species observed onsite.



Center: Coyote and Fox scat

Right: Seed Bug

⁵⁵ Observed at Well Site #5 on 18 September 2021.
⁵⁶ Observed at Well Site #9 on 19 September 2021.
⁵⁷ Observed along Etz Meloy Motorway SW of the project site by Sherrie Felton, 2 April 2021, iNaturalist.org
⁵⁸ Observed at Well Site #10 on 19 September 2021.

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Left: Heteropogon Robber Fly



Center: Northern White-Skipper



Right: House Fly



Left: Mouse Bot Fly



Center: Banded Robber Fly



Right: Bromeliad Bee Fly



Left: Lynx Spider



Center: Flower Wasp



Right: Soft-winged Flower Beetle



California Fatal Metalmark (Calephelis nemesis californica)



HABITATS

Habitats of the assessment area (totaling 136.64 acres) were delineated using standard image interpretation techniques to digitize polygons of areas with like signatures and supported by ground-truthed observation points along the proposed water line and ranch roads. The vegetated land cover types were classified into vegetation alliances according to the CNPS *Manual of California Vegetation*, 2nd Edition (Sawyer et al. 2009). Generic plant community names were also applied. Each were grouped into three basic types, herbaceous, shrublands, and woodlands. Non-vegetated land cover types consisted of developed areas (buildings) and roads (paved or dirt).

The assessment area on which the water well and 1-mile-plus long water line would occur on contains eleven (11) vegetation types consisting of eighteen (18) vegetation alliances and three non-vegetated types. These consist of ten (10) chaparral alliances, two (2) scrub alliances, three (3) herbaceous alliances, two (2) riparian woodland alliance, one oak woodland alliance, and ruderal habitats. The developed land cover types include the Duggan house and large barn/workshop and dirt and paved roads.

The drilling site occurs within the bed of a dirt road and the edge of chaparral and ruderal vegetation types. A total of nineteen (19) habitat types were identified on or immediately adjacent to the Duggan property well site and water line, plus developed areas (house, barn, water tanks, paved and dirt roads).

Herbaceous Alliances and Associations:

Avena Herbaceous Alliance

Corethrogyne filaginifolia Herbaceous Alliance *Selaginella bigelovii* Herbaceous Alliance (Lithomorphic Herbaceous/Rock Outcrop) Ruderal Herbaceous Alliance (Ruderal or Disturbed)

Shrubland Alliances and Associations:

Adenostoma fasciculatum Shrubland Alliance (Chamise Chaparral)

- Adenostoma fasciculatum-Ceanothus cuneatus Shrubland Association
- Adenostoma fasciculatum-Heteromeles arbutifolia Shrubland Association
- Adenostoma sparsifolium Shrubland Alliance (Red Shanks Chaparral)
 - Adenostoma sparsifolium-Adenostoma fasciculatum Shrubland Association

• Adenostoma sparsifolium-Ceanothus cuneatus Shrubland Association Baccharis salicifolia Riparian Shrubland Alliance (Mulefat Scrub)

- Ceanothus ssp. Shrubland Alliance (Wedgeleaf Ceanothus Chaparral)
 - Ceanothus cuneatus Shrubland Association
 - *Ceanothus megacarpus* Shrubland Alliance (Bigpod Ceanothus Chaparral)
 - Ceanothus spinosus Shrubland Alliance (Greenbark Ceanothus Chaparral)
 - Ceanothus spinosus -C. cuneatus Shrubland Association
 - Ceanothus spinosus-Heteromeles arbutifolia Shrubland Association (Mesic Chaparral)

Cercocarpus betuloides Shrubland Alliance (Mountain Mahogany Chaparral)

Eriogonum fasciculatum Shrubland Alliance (California Buckwheat Scrub)

Ruderal Chaparral (mostly cleared for fire breaks and fuelbreaks)

Woodland Alliances and Associations:

Platanus racemosa Woodland Alliance (Sycamore Riparian Woodland)

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Populus trichocarpa Woodland Alliance (Black Cottonwood Riparian Woodland)

Populus trichocarpa-Quercus agrifolia Woodland Association

Quercus agrifolia Woodland Alliance (Coast Live Oak Woodland)

Non-vegetated land cover types: Roads (dirt and paved) Developed

- House
- Barn/Workshop
- Water tanks.

These are listed in Table 3, Existing Habitats and Land Cover on the Duggan Property and Expected Impacts. Table 3 provides the area in acres for each habitat and land cover and the acreage of each habitat that is considered sensitive (S1-S3) under the Santa Monica Mountains North Area Plan. In addition, the estimated acreage of expected project impacts on the site, within SMMNA sensitive habitats on the site, and off of the project site is listed. Each habitat and land cover type is described below. The natural vegetation and land cover types present onsite were mapped and are shown on Figure 4 above and includes additional plant communities besides the three listed in Table 3.

Existing Habitats and Land Cover Observed	Habitat Sensitivity Ranking (S1-5)	Total Onsite Acres	Onsite Sensitive Habitat Acres	Onsite Impact Acres	Onsite Sensitive Impact Acres	Total Impact Acres
Herbaceous	S2-S3	1.258	0.00	0.00	0.00	0.00
Buckwheat Scrub	S2	0.068	0.00	0.00	0.00	0.00
Chamise Chaparral	S2	17.831	17.831	0.00	0.00	0.00
Red Shanks Chaparral	S2	45.934	45.934	0.00	0.00	0.00
Ceanothus Chaparral	S2	11.975	11.975	0.00	0.00	0.00
Mesic Chaparral	S2	29.166	29.166	0.00	0.00	0.00
Ruderal Chaparral	S2	1.028	0.00	0.00	0.00	0.00
Mulefat Scrub	S1	0.291	0.291	0.00	0.00	0.00
Riparian Woodland	S1	1.168	1.168	0.00	0.00	0.00
Coast Live Oak Woodland	S1	13.364	13.364	0.0009	0.0009	0.0009
Rock Outcrop	S1	0.114	0.00	0.00	0.00	0.00
Ruderal (firebreak & fuelbreak)	\$3	6.268	0.00	< 0.001	0.00	0.001
Road (paved and dirt)	S4	9.194	0.00	< 0.001	0.00	0.00
Developed	S4	0.365	0.00	0.00	0.00	0.00
Acreage Totals		138.024	119.729	0.0019	0.0009	0.0019

Table 3. Existing Habitats and Land Cover on the Duggan Property and Expected Impacts

Herbaceous Habitats

Herbaceous habitats are those plant communities that are dominated by herbaceous perennials and forbs and nonvascular plants that generally have a low stature. Often called grasslands because a dominant component is often that of perennial and/or annual grasses. The Duggan project assessment area contains four different herbaceous plant communities: Wild Oats Grassland

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(Avena barbata Herbaceous Alliance), California Aster Herblands (Corethrogyne filaginifolia Herbaceous Alliance), Rock Outcrop (Selaginella bigelovii Herbaceous Alliance, and Ruderal Herbaceous Alliance. Wild Oats Grassland and California Aster Herblands occupy approximately 1.258 acres of the project assessment area.

Wild Oats Grassland

Wild Oats Grassland (*Avena barbata* Herbaceous Alliance) is an herbaceous plant community consisting of annual grasses and forbs dominated by Slender Wild Oats (*Avena barbata*), an nonnative grass of the Mediterranean region. Only a small portion of this plant community occurs along the proposed waterline route. This habitat has an S3 sensitive rating.

Rock Outcrop

Rock Outcrop habitats occur scattered throughout the region and are characterized by sandstone or volcanic rock outcrops with sparse herbaceous cover consisting of vascular and nonvascular plants (lichens and bryophytes). Rock Outcrop habitats within the project assessment area are classified as *Selaginella bigelovii* Herbaceous Alliance (G4/S3) with *S. bigelovii* representing the dominant vascular plant and occupies approximately 0.114 acre of the project assessment area. This habitat has an S1 sensitivity rating. Other vascular plants found in this habitat onsite includes Goldenback Fern (*Pentagramma triangularis*). This habitat also supports numerous species of lichens and bryophytes. The photographs below all show various aspects of Rock Outcrop habitats on the Duggan property.



Left: lichens covering volcanic outcrop. Center: mosses covering sandstone rock outcrop. Right: Pentagramma triangularis *in cracks of sandstone rock outcrop along waterline route.*

California Scrub Habitats

California Scrub habitats is a general type of vegetation that is dominated by evergreen and deciduous shrubs with small to large, thick, leathery, to soft and grayish-green leaves. The shrubs of scrublands are relatively low and open (sometimes dense), and are pre-adapted to periodic wildfires by stump sprouting or by germination from a dormant seed bank. These shrubs are also adapted to drought by deep extensive root systems, while their small thick leaf structure, gray color, waxy or hairy coating, or drought deciduousness prevents permanent damage from moisture loss (Zedler et al. 1997). Many typical chaparral species also grow intermixed as associates with scrubland species. Scrublands typically occurs on moderate to steep slopes with



dry, rocky, shallow soils, becoming more abundant with higher elevations where temperatures are lower and moisture supplies are more ample.

Scrublands, as a general category, is a dominant vegetation type onsite and in the region, occupying approximately 104.974 acres of the five Duggan assessment area. Scrublands onsite consist of Coastal Sage Scrub and Chaparral plant communities. These communities are generally considered S2 sensitive habitats in the Santa Monica Mountains. Shrubland habitats onsite include: Buckwheat Scrub, Chamise Chaparral, Red Shanks Chaparral, Ceanothus Chaparral, and Mesic Chaparral. A ruderal form of Chamise Chaparral occurs in areas associated with a fuel break. Approximately 20.1 acres of the project site was burned in the Woolsey Fire of 2018, as shown on Figure 4 above.

Buckwheat Scrub

Buckwheat Scrub is a low growing form of Coastal Sage Scrub dominated by California Wild Buckwheat (*Eriogonum fasciculatum* var. *foliolosum* – G4/S4 – G5/S5). It occupies approximately 0.068 acre of southerly exposed slopes within the project assessment area. It does not occur along the proposed waterline route.

Chamise Chaparral

Chamise Chaparral is a member of the California Chaparral macro group and Californian Xeric Chaparral group, specially referred to as the *Adenostoma fasciculatum* Shrubland Alliance. *Adenostoma fasciculatum* Shrubland Alliance is a common and widespread chaparral community occurring throughout coastal California and the Sierra Nevada, but not in the desert or Great Valley regions of the state and has a rarity ranking status of G5/S5. It has an S2 sensitivity rating for the SMMNA.

Chamise Chaparral is dominated by *Adenostoma fasciculatum* and associated with *Cercocarpus betuloides* and *Heteromeles arbutifolia* as co-dominants on the Duggan property. Chamise Chaparral occupies approximately 17.831 acres of the assessment area. No portion of Chamise Chaparral is expected to be adversely impacted by the proposed project.

Red Shanks Chaparral

Red Shanks Chaparral is a member of the California Chaparral macro group and Californian Xeric Chaparral group, specially referred to as the *Adenostoma sparsifolium* Shrubland Alliance. *Adenostoma sparsifolium* Shrubland Alliance is a relatively rare and localized chaparral

community occurring in the Santa Monica Mountains, Inner South Coast Ranges of southern San Luis Obispo County and northern Santa Barbara County, the southern flank of the San Gabriel Mountains, and the Peninsular Ranges in Riverside and San Diego Counties. It has a state rarity ranking of G4/S4 to G3/S3. It is endemic to the southern portion of the California Floristic Province. It has an S2 sensitivity rating for the SMMNA.



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Red Shanks Chaparral is dominated by *Adenostoma sparsifolium* and associated with *Adenostoma fasciculatum, Cercocarpus betuloides,* and *Heteromeles arbutifolia* as co-dominants on the Duggan property. Red Shanks Chaparral occupies approximately 45.934 acres of the project site assessment area. No portion of Red Shanks Chaparral is expected to be adversely impacted by the proposed project.

California Mesic Chaparral

California Mesic Chaparral is a shrubland dominated by evergreen, sclerophyllus-leaved medium to tall shrubs that is a group of chaparral that is part of the California Chaparral macro group (CNPS 2021⁵⁹). Chaparral plant series typically exhibit a continuous distribution, often in close association with areas inhabited by Coastal Sage Scrub habitats. Due to stand variations, Chaparral is often considered part of a collection of species-specific plant series (Sawyer and Keeler-Wolf 1995).

California Mesic Chaparral on the Duggan project site consists of a large patch dominated by Greenbark Ceanothus (*Ceanothus spinosus*), a glossy-green-leaved tall, evergreen shrub with

bark, forming the Ceanothus green spinosus Shrubland Association (part of the Prunus ilicifolia-Heteromeles arbutifolia-Ceanothus spinosus Shrubland Alliance). California Mesic Chaparral occupies the north-facing slope of the ridge north of and beyond the exploratory drilling sites. It occupies approximately 29.166 acres of the project assessment area. This alliance does not have a rarity ranking; however, it most resembles closely the Ceanothus (oliganthus, tomentosus) Alliance which has a G3/S3 status. Based on the extent



and somewhat isolated condition of this chaparral type, it is considered as meeting the definition of S2 sensitive habitat.



Ceanothus Chaparral

Ceanothus Chaparral is a member of the California Chaparral macro group and Californian Xeric Chaparral group, specially referred to as the *Ceanothus megacarpus* Shrubland Alliance. *Ceanothus megacarpus* Shrubland Alliance is a common and widespread chaparral community occurring throughout coastal southern California. It has a rarity ranking of G4/S4 in California. It has an S2 sensitivity rating for the SMMNA.

⁵⁹ Online version of A Manual of California Vegetation (<u>https://vegetation.cnps.org/alliance/525</u>).

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Ceanothus Chaparral is dominated by *Ceanothus megacarpus* and associated with *Cercocarpus betuloides, Malosma laurina, Quercus berberidifolia, Rhamnus ilicifolia,* and *Heteromeles arbutifolia* as co-dominants on the Duggan property. Ceanothus Chaparral occupies approximately 11.975 acres of the project assessment area. No portion of Ceanothus Chaparral is expected to be adversely impacted by the proposed water line project.

Mulefat Scrub



Mulefat Scrub (*Baccharis salicifolia* Shrubland Alliance – G5/S5) is a riparian wetland plant community restricted to streambeds with intermittent or ephemeral surface flows and rocky substrates. It is characterized by the evergreen shrub Mulefat (*Baccharis salicifolia*). Mulefat Scrub occupies approximately 0.291 acre of the project assessment area but will not be affected by the proposed project. Since Mulefat Scrub is a riparian wetland habitat, it has an S1 habitat designation for this area or the Santa Monica Mountains.

Woodland Habitats

Woodland habitats are plant communities dominated by trees, either evergreen or winterdeciduous. Woodland habitats within the project assessment area consist of Coast Live Oak Woodland and Riparian Woodland plant communities.

Coast Live Oak Woodland

Coast Live Oak Woodland (*Ouercus agrifolia* Woodland Alliance – S3 to S5) consists of a closed to open canopy of large evergreen trees dominated by Coast Live Oak (Quercus agrifolia). It has an S1 sensitivity rating for the SMMNA. Coast Live Oak Woodland is a common woodland community of coastal central and southern California. It has either an herbaceous or scrub understory. Coast Live Oak Woodland occupies approximately 13.364 acres of the project assessment area, primarily in the bottoms of the canyons. Since native trees such as *O. agrifolia* are regulated by Los Angeles County and Oak Woodlands are protected by the California Oak Woodlands Conservation Act, this plant community is considered a sensitive community regardless of its rarity ranking of G3/S3 to G5/S5 depending on its understory component (CDFW 2023). While the proposed waterline will pass through approximately 125 feet of Coast Live Oak Woodland, with pipeline support posts placed every 20 feet, up to seven (7) 18-inch diameter holes 30 inches deep will be dug and backfilled with concrete. The total area permanently impacted is estimated at about 400 square feet. The impact to it would be considered less than significant since no trees would be impacted due to the minor amounts of soil disturbance required to install the waterline support footings. Soil disturbance at each footing is estimated to be approximately 57 square inches to a depth of approximately 30 inches (see technical drawing in Figure 7 above). While the exact number of footing required in this area is unknown, it is assumed to be 7 footings, one every 20 feet, for a total permanent soil disturbance of approximately 400 square inches/0.11 square feet or 0.0091 acre.

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Coast Live Oak Woodland along proposed waterline route near north end.

Riparian Woodland

Riparian Woodland habitats consist of largely large broad-leaved winter-deciduous trees and shrubs restricted to streams and spring areas. Two types of riparian woodlands occur within the project assessment area: Cottonwood-Willow Riparian Woodland (*Populus trichocarpa/Salix lasiolepis* Woodland Alliance – State S3, LA S1) and Western Sycamore Riparian Woodland (*Platanus racemosa* Woodland Alliance – State S3). It has an S1 sensitivity rating for the SMMNA. Riparian woodlands occupy approximately 1.168 acres of the project assessment area with none being affected by the proposed waterline project.



Sycamore Riparian Woodland.

Ruderal Habitats

Ruderal habitats are plant communities dominated and characterized by herbaceous plants that readily colonize habitats that are disturbed by human actions or activities, such as roads, fuel breaks, farming, and similar sites. They typically consist of grasses and graminoids and wildflowers and herbs, both annual and perennial in duration, depending on the type, that are adapted to colonizing disturbed substrates. Ruderal habitat at the Duggan project site consists entirely of Ruderal Chaparral, which has been disturbed in the recent past by human activities associated with maintaining fire breaks and dirt roads. Ruderal habitats are generally considered to have an S3 sensitivity rating.

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Ruderal Chaparral

Ruderal Chaparral consists of annual and herbaceous perennial grasses and herbs dominated by invasive exotic plants that has been disturbed by human actions in the recent past (last 20 years), particularly by *Erodium botrys, E. cicutarium, Hirschfeldia incana, Bromus diandrus, Eremocarpus setiger*, and *Avena barbata*, and low-growing shrubs such as *Isocoma menziesii, Eriogonum fasciculatum* var. *polifolium, Corethrogyne filaginifolia*. This plant community occurs on the edges of the roads and cleared areas of the Duggan project site. This plant community does not meet the definition as a sensitive habitat. However, this type of habitat can support special-status plant species such as Lyon's Pentachaeta (*Pentachaeta lyonii*). The photograph here shows an example of this ruderal habitat.



Left: Ruderal habitat of ranch road and exploratory drilling site. Right: California Aster (Corethrogyne filaginifolia)

Ruderal Chaparral occupies approximately 1.028 acres of the project assessment area. No portion of Ceanothus Chaparral is expected to be adversely impacted by the proposed water line project.

Ruderal (Firebreak and Fuelbreak)

Ruderal habitats within the project assessment area consist of areas cleared of natural vegetation for firebreak and fuelbreak purposes. They occur along ridgelines and around buildings and occupy approximately 6.268 acres of the assessment area. The natural vegetation of these areas, primarily chaparral, is mowed or cleared on an annual basis. A small portion, less than 0.001 acre, of the proposed waterline will occur on or cross ruderal areas as indicated on Figure 5. It has an S3 sensitivity rating for the SMMNA.



SECTION III. SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources consist of natural vegetation or habitats that are rare or support rare or sensitive species and special-status species of plants or wildlife, and sensitive environmental habitats. Each of these categories of sensitive biological resources is described in detail below and include: Significant Ecological Areas, Significant Environmental Resource Areas (SERA), Special-status Plants, and Special-status Wildlife.

SIGNIFICANT ECOLOGICAL AREAS

Significant Ecological Areas (SEAs) are areas within Los Angeles County that are considered to have ecological habitats that are worth of protection. The project site is located within the Santa Monica Mountains SEA, which covers most of the canyons and ridges of the Santa Monica Mountains from the Ventura County line east to Sullivan Canyon and covers approximately 99,431 acres.

"Sensitive plant communities within the proposed SEA include: coastal sage scrub, native grassland, valley oak woodland, walnut woodland, southern willow scrub, southern cottonwood-willow riparian forest, sycamore-alder woodland, oak riparian forest, freshwater marsh, and salt marsh. The SEA includes a large number federally and state listed or otherwise sensitive plant and animal species occurring or potentially occurring within the SEA such as: Braunton's Milk-vetch, Lyon's Pentachaeta, Santa Monica Mountains Dudleya, Marcescent Dudleya, Southern California Steelhead Trout, Tidewater Goby, Western Yellow-billed Cuckoo, Bald Eagle, and many others." (PCR et al. 2000)

BIOLOGICAL RESOURCE OF THE SANTA MONICA MOUNTAINS NORTH AREA

The Los Angeles County Biological Resources Map of the Santa Monica Mountains North Area Plan prioritizes habitat into four categories: S1, S2, S3, and S4 (Section 22.336.060 Biological Resource Standards A.1.). The North Area Plan states that new development shall be sited to avoid the most biologically sensitive habitats onsite, in order of priority – S1, S2, S3, S4 – while not conflicting with other Area Plan or Community Standards District (CSD) policies, with priority given to siting development in S4 habitat, then in S3 habitat if necessary.

S1 Habitat "consists of areas of the highest biological significance, rarity, or sensitivity. It includes alluvial scrub, native grassland and scrub with a strong component of native grasses or forbs, riparian, native oak, sycamore, walnut and bay woodlands, and rock outcrop habitat types. Wetlands, including creeks, streams, marshes, seeps and springs, area also S1 habitat. Coast live and valley oak, sycamore, walnut, and bay woodlands are all included in S1 habitat. S1 habitat also includes populations of plant and animal species (1) listed by the State or Federal government as rare, threatened or endangered, listed by NatureServe as State or Global-ranked 1, 2, or 3, and identified as California Species of Special Concern, and/or (2) California Native Plant Society (CNPS)-listed 1B and 2 plant species, normally associated with S1 habitats, where they are found within S2 or S3 habitats" (Santa Monica Mountain North Area Plan Table 1).



S1 habitat functions as land that supports the rarest and most sensitive resources or have important ecosystem functions and is worthy of the highest level of conservation (ibid.).

S2 Habitat "consists of areas of high biological significance, rarity, and sensitivity that are important to the ecological vitality and diversity of the Santa Monica Mountains Mediterranean ecosystem. S2 habitat includes large, contiguous areas of coastal sage scrub and chaparral-dominated habitats. This habitat contains (1) CNDDB-identified rare natural communities; (2) plant and animal species listed by the State or Federal government as rare, threatened, or endangered; listed by NatureServe as State or Global-ranked 1, 2, or 3, and identified as California Species of Special Concern; and/or (3) CNPS-listed 1B and 2 plant species, normally associated with S2 habitats" (Santa Monica Mountain North Area Plan, June 2021, Table 1).

S2 habitat functions as lands that support intact native plant communities and that may include some special-status species but are otherwise adequately conserved in the North Area (ibid.).

S3 Habitat "consists of areas that would otherwise be designated as S2 habitat, but the native vegetation communities have been significantly disturbed or removed as part of lawfully established development. This category also includes areas of native vegetation that are not significantly disturbed and would otherwise be categorized as S2 habitat, but have been substantially fragmented or isolated by existing, legal development and are no longer connected to large, contiguous areas of coastal sage scrub and/or chaparral-dominated habitats. This category includes lawfully developed areas and lawfully disturbed areas dominated by non-native plants such as disturbed roadside slopes, stands of non-native trees and grasses, and fuel modification areas around existing development (unless established illegally in an S2 or S1 area). This category further includes isolated and/or disturbed stands of native tree species (oak, sycamore, walnut, and bay) that do not form a larger woodland or savannah habitat." (Santa Monica Mountain North Area Plan, June 2021, Table 1, page 16.)

S3 habitat functions as lands that support nonnative and ruderal vegetation and have disturbed or cleared habitat that are expected to have lower habitat function than other natural lands (Ibid.).

S4 Habitats "consists of developed or paved land that was permitted as part of a lawfully established development. While S4 habitat does not constitute a biological resource area, these habitats may provide important biological functions that warrant specific development standards for the siting and design of new development." (Santa Monica Mountain North Area Plan, June 2021, Table 1, page 16.)

S4 habitat functions as lands that support existing residential or commercial development, other facilities, or agricultural practices (Ibid.).

Impacts to S1 rated habitats shall be mitigated at a 3:1 ratio. Impacts to S2 rated habitats shall be mitigated at a 2:1 ratio, with priority given to onsite mitigation. No mitigation is required for impacts to S3 and S4 habitats. (North Area Plan Section 22.336.060 A.8.a and b.)

Native trees, such as *Quercus agrifolia* (Coast Live Oak) present onsite, are protected under North Area Plan (Section 22.336.060 B.1.a-c., 2.b.) in that encroachment or trimming and pruning are all regulated activities for trees at least 6 inches diameter at breast height (DBH) (54 inches) and also regulated under Chapter 22.174 (Oak Tree Permits).



SPECIAL-STATUS RESOURCES DEFINITIONS

Special-status habitats are vegetation types, associations, or sub-associations that support concentrations of special-status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife.

Special-status species are plants and animals that are at least one of the following:

- Listed as Endangered or Threatened under Federal or California Endangered Species Acts,
- Listed as Rare under the California Native Plant Protection Act, or
- *Considered rare* (but not formally listed) by resource agencies, professional organizations (e.g. Audubon Society, California Native Plant Society [CNPS], The Wildlife Society), and the scientific community.

Listed species are those taxa that are formally listed as Endangered or Threatened by the federal government (e.g. USFWS), pursuant to the Federal Endangered Species Act (ESA) or as Endangered, Threatened, or Rare (for plants only) by the State of California (i.e. California Fish and Game Commission), pursuant to the California Endangered Species Act (CESA) or the California Native Plant Protection Act, or those formally adopted by a local (e.g. county or city government) agency as of local concern or rare, or similar status. Special-status species are defined in Table 4, Definitions of Special-status Species.

The CNPS' *Inventory of Rare and Endangered Plants of California* (CNPS 2001, 2021) categorizes rare California plants into one of five lists or ranks (1A, 1B, 2A, 2B, 3, and 4) representing five levels of species status, one of which is assigned to a sensitive species to indicate its status of rarity or endangerment and distribution. Most taxa also receive a threat code extension following the List (e.g. 1B.1, 2.3), which replaces the R-E-D Code previously used by CNPS. Table 5, California Native Plant Society Rare Plants List, provides a definition for each List code number, and Table 6, California Native Plant Society List Threat Code Extensions, defines the CNPS List Threat Code Extensions that indicates the level of endangerment within California.

The California Natural Diversity Database (CNDDB) Element Ranking system provides a numeric global and state-ranking system for all special-status species tracked by the CNDDB (2021b). The global rank (G-rank) is a reflection of the overall condition of an element (species or natural community) throughout its global range. The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank. This Element Ranking system is defined below in Table 7, California Natural Diversity Database Element Ranking System.



Table 4. Definitions of Special-status Species

- Plants and animals legally protected under the California and Federal Endangered Species Acts or under other regulations.
- Plants and animals considered sufficiently rare by the scientific community to qualify for such listing; or
- Plants and animals considered to be sensitive because they are unique, declining regionally or locally, or are at the extent of their natural range.

	Special-status Plant Species		Special-status Animal Species			
0	Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in <i>Federal Register</i> for proposed species).	0	Animals listed/proposed for listing as threatened/endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in <i>Federal Register</i>			
0	Plants that are Category 1 or 2 candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (55 CFR 6184, February 21, 1990).	0	for proposed species). Animals that are Category 1 or 2 candidates for possible future listing as threatened or			
0	Plants that meet the definitions of rare or endangered species under the CEQA (<i>State CEQA Guidelines</i> , Section 15380).		endangered under Federal Endangered Species Act (54 CFR 554).			
0	Plants considered by CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in CNPS 2001).	0	Animals that meet the definitions of rare or endangered species under the CEQA (State			
0	Plants listed by CNPS as plants needing more information and plants of limited distribution (Lists 3 & 4 in CNPS 2001).	0	<i>CEQA Guidelines</i> , Section 15380). Animals listed or proposed for listing by the			
0	Plants listed by CNPS as locally rare (Lake et al. 2021 for Alameda & Contra Costa Counties, Magney 2020 for Ventura County, Wilken 2018 for Santa Barbara County).		State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5).			
0	Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCB (70.5)	0	Animal species of special concern (SSC) to the CDFW.			
0	Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).	0	California (California Fish & Game Code, Sections 3511 [birds], 4700 [mammals], 5050			
0	Plants considered sensitive by other federal agencies (i.e. U.S. Forest Service, Bureau of Land Management) or state and local agencies or jurisdictions.	0	[reptiles, amphibians]). Animals considered rare or sensitive locally by a local agency or scientific community (<i>State</i>			
0	Plants considered sensitive or unique by the scientific community; occurs at natural range limits (<i>State CEQA Guidelines</i> , Appendix G).		CEQA Guidelines, Appendix G)			

Table 5. California Native Plant Society Rare Plant Ranks (CNPS Lists)

CNPS Rank	Definition
1A	Presumed Extinct in California
1B	Rare, Threatened, or Endangered in California and elsewhere
2A	Presumed Extinct in California, but more common elsewhere
2B	Rare, Threatened, or Endangered in California, but more common elsewhere
3	Need more information (a Review List)
4	Plants of Limited Distribution (a Watch List)



Table 6. California Native Plant Society Risk Threat Code Extensions

CNPS Threat Code Extension	Definition
x.1	Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
x.2	Fairly endangered in California (20-80% occurrences threatened)
x.3	Not very endangered in California (<20% of occurrences threatened)

Table 7. California Natural Diversity Database Element Ranking System

	Global Ranking (G)								
G1	Less than 6 viable element occurrences (pops for species), OR less than 1,000 individuals, OR <809.4 hectares (ha) (2,000 acres [ac]).								
G2	6 to 20 element occurrences OR 809.4 to 4,047 ha (2,000 to 10,000 ac).								
G3	21 to 100 element occurrences OR 3,000 to 10,000 individuals OR 4,047 to 20,235 ha (10,000 to 50,000 ac).								
G4	Apparently secure; rank lower than G3, factors exist to cause some concern (i.e. there is some threat, or somewhat narrow habitat).								
G5	Population, or stand, demonstrably secure to ineradicable due to being commonly found in the world.								
GH	All sites are historic; the element has not been seen for at least 20 years, but suitable habitat still exists.								
GX	All sites are extirpated ; this element is extinct in the wild.								
GXC	Extinct in the wild; exists in cultivation.								
G1Q	The element is very rare, but there is a taxonomic question associated with it.								
Subspective the entire For exact robusta	Subspecies Level: Subspecies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire <u>species</u> , whereas the T-rank reflects the global situation of just the <u>subspecies</u> or <u>variety</u> . For example: <i>Chorizanthe robusta</i> var. <i>hartwegii</i> is ranked G2T1. The G-rank refers to the whole species range (<i>Chorizanthe robusta</i>), whereas the T-rank refers only to the global condition of the variety (var. <i>hartwegii</i>).								
	State Ranking (S)								
S1	Less than 6 element occurrences OR less than 1,000 individuals OR less than 809.4 ha (2,000 ac). S1.1 = very threatened S1.2 = threatened S1.3 = no current threats known								
S2	6 to 20 element occurrences OR 3,000 individuals OR 809.4 to 4,047 ha (2,000 to 10,000 ac). S2.1 = very threatened S2.2 = threatened S2.3 = no current threats known								
S3	21 to 100 element occurrences OR 3,000 to 10,000 individuals OR 4,047 to 20,235 ha (10,000 to 50,000 ac). S3.1 = very threatened S3.2 = threatened S3.3 = no current threats known								
S4	Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern (i.e. there is some threat, or somewhat narrow habitat). NO THREAT RANK.								
S5	Demonstrably secure to ineradicable in California. NO THREAT RANK.								
SH	All California sites are historic; the element has not been seen for at least 20 years, but suitable habitat still exists.								
SX	All California sites are extirpated; this element is extinct in the wild.								
	Notes								
 Other fragment sensitive Unce rank is an 	c considerations used when ranking a species or natural community include the pattern of distribution of the element on the landscape, ation of the population/stands, and historical extent as compared to its modern range. It is important to take an aerial view when ranking elements rather than simply counting element occurrences. trainty about the rank of an element is expressed in two major ways: by expressing the rank as a range of values (e.g. S2S3 means the manufacture between set).								



CNDDB SEARCH RESULTS

This section addresses the special-status biological resources observed, reported, or having the potential to occur on the project site. These resources include plant and wildlife species that have been afforded special-status and/or recognition by federal and state resource agencies, as well as private conservation organizations. In general, the principal reason an individual taxon (i.e. species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size, geographic range, and/or distribution resulting in most cases from habitat loss.

DMEC conducted a search of CDFW's CNDDB RareFind3 for the Point Dune, California USGS Quadrangle (in which the project site is found), and for the five surrounding quadrangles, including Triunfo Pass, Newberry Park, Thousand Oaks, Calabasas, and Malibu Beach. This search was updated by an examination of the current, 2021, version of the CNDDB GIS database. DMEC conducted this database search to account for special-status species tracked by CNDDB in the area and with potential to occur at the project site, as well as the iNaturalist.org and Calflora.org databases for recent local observations. This includes CDFW Sensitive Species not mapped by the CNDDB. One hundred five (105) special-status elements were reported by CNDDB, including sixty-two (62) plant species (60 vascular plants and 2 mosses), thirty-five (35) wildlife species, and eight (8) habitats, plus another seven (7) wildlife species not mapped by CNDDB but considered special-status species either statewide or locally. Figure 8, Map of Special-status Species and Sensitive Habitats, illustrates the local distribution of each of three categories, plants, wildlife, and habitats, including those species observed onsite or adjacent to the Duggan parcel. Three taxa mapped on Figure 5 are based on DMEC's research and mapping: *Calochortus catalinae, Juglans californica,* and *Helminthoglypta traskii* ssp. *traskii*.

DMEC also conducted a search of CNPS's *Inventory of Rare and Endangered Plants of California* (CNPS 2001, 2021) to account for CNPS-listed plants not tracked on the CNDDB database with potential to occur in the vicinity of the proposed project site. All plants ranked by CNPS are also considered species of concern by the CNDDB (2021b). The CNDDB Special Animals List (CNDDB 2021a) was also referenced to account for other listed animal species.

Special-status Plants

A total of sixty-one (61) special-status plant species tracked by CNPS are known to occur within the region of the project site, which are also tracked by CNDDB, are known or reported in the vicinity of the Duggan property site and have the potential to occur onsite. Table 8, Special-Status Plants Potentially Occurring Onsite, summarizes the CNPS and CNDDB reports for the 61 special-status plant species tracked for the six USGS quadrangles⁶⁰, and provides each species' scientific and common names, status, habitat requirements, and likelihood of occurrence on the project site.

Three special-status plant species was observed onsite: Island Mountain Mahogany (*Cercocarpus betuloides* var. *blancheae*), Southern California Black Walnut (*Juglans californica*), and Fragrant Pitcher Sage (*Lepechinia fragrans*). Island Mountain Mahogany was found at several locations along the water line route. Southern California Black Walnut was found at one location along a

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⁶⁰ Standard protocol for the CNDDB and CNPS database searches is to include the quadrangle on which the project site occurs plus all the surrounding quadrangles; however, in this case, since there is no land south of the Point Dume and Triunfo Pass quads, the three quads normally occurring to the south do not exist. Therefore, the search included only six quadrangles.



ranch road but not along the proposed water line route. Fragrant Pitcher Sage was found near one of the exploratory well sites and along the waterline route as illustrated on Figure 9, Locations of Special-status Plants Onsite.



Left: Cercocarpus betuloides var. blancheae leaves. Center: Juglans californica leaves. Right: Lepechinia fragrans.

The installation of the waterline will be routed to avoid any direct impacts to these three specialstatus species. Figure 9 indicates the locations of each rare plant on a Google Earth aerial photograph with GPS waypoints. Each rare plant location is described below.

- WP964 *Juglans californica*, 1 shrub. Coordinates: 34.11132°N, 118.86672°W, 1,183 feet above mean sea level (msl).
- WP1022 *Cercocarpus betuloides* var. *blancheae*, 1 shrub. Coordinates: 34.10984°N, 118.86677°W, 1,358 feet above msl.
- WP1023 *Cercocarpus betuloides* var. *blancheae*, many shrubs. Coordinates: 34.10933°N, 118.86636°W, 1,450 feet above msl.
- WP1026 *Cercocarpus betuloides* var. *blancheae*, 1 shrub, *Lepechinia fragrans*, 1 shrub. Coordinates: 34.10699°N, 118.86485°W, 1,744 feet above msl.
- WP1112 *Cercocarpus betuloides* var. *blancheae*, 1 shrub (*Magney 32-22* UCSB), *Lepechinia fragrans*, 1 shrub. Coordinates: 34.11243°N, 118.87011°W, 1,152 feet above msl.
- WP1113 *Cercocarpus betuloides* var. *blancheae*, 1 shrub. Coordinates: 34.11192°N, 118.86944°W, 1,236 feet above msl.
- WP1114 *Cercocarpus betuloides* var. *blancheae*, 1 shrub. Coordinates: 34.11158°N, 118.86898°W, 1,276 feet above msl.
- WP1116 *Lepechinia fragrans*, 1 shrub. Coordinates: 34.10991°N, 118.86845°W, 1,273 feet above msl.

Catalina Mariposa Lily (*Calochortus catalinae*) and Lyon's Pentachaeta (*Pentachaeta lyonii*) have been found on or near the Duggan parcels but not at the drilling sites or along the water line route. Southern California Black Walnut was observed at approximately 2,530 feet north of Well Site #11, and 2,540 feet to the east along a branch of the ranch fire road. Catalina Mariposa Lily has potential to occur onsite and is known to occur 7,990 feet west and 7,177 feet southwest of the project site. Lyon's Pentachaeta is known from 1,212 feet east of the project site. The Southern California Black Walnut and Catalina Mariposa Lily are CNPS Rank 4 species, species of Limited Distribution. (Note: CNPS is currently considering removing Catalina Mariposa Lily from the *Inventory* since it has been found in many more places in the last decade.) Lyon's Pentachaeta is a CNPS Rank 1B species that is listed as Endangered by the U.S. Fish and Wildlife



Service (USFWS) and the California Fish and Game Commission pursuant to the federal Endangered Species Act and California Endangered Species Act, respectively.



Left: Calochortus catalinae Right: Pentachaeta lyonii

Survey timing in April was designed to maximize detection any occurrences of the Lyon's Pentachaeta or Catalina Mariposa Lily; however, due to the location of the proposed drilling sites within the bed of the ranch road, neither species is likely to occur at the four drilling sites or access road, and none were observed during the field surveys. Catalina Mariposa Lily was found to be blooming on a site nearby in Little Sycamore Canyon on 19 April 2022. The remaining special-status plants known to occur in the region of the project site are assessed in Table 8.







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Special-status Wildlife

A total of forty (40) special-status wildlife species tracked by CNDDB are known or reported in the vicinity of the Duggan property site and have the potential to occur onsite. Additional special-status wildlife species not specifically tracked by the CNDDB are also known to occur in the region of the project site. Table 9, Special-Status Wildlife Potentially Occurring Onsite, summarizes the CNDDB reports for the 35 special-status wildlife species tracked for the six quads as well as locally rare species that have potential to occur onsite. Table 9 provides each species' scientific and common names, status, habitat requirements, and likelihood of occurrence on the project site. In addition to the species listed in Table 9, it should be noted that all raptors, raptor nests (active or inactive), and other active bird nests are protected under Fish and Game Code Section 3503.

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Two special-status wildlife species were observed onsite, or near to the Duggan parcel, the Santa Monica Grasshopper (*Trimerotropis* occidentiloides) and Coastal Western Whiptail (*Aspidoscelis tigris* ssp. stejnegeri). One adult of the Santa Monica Grasshopper was observed along the existing ranch road in the location of the proposed exploratory water well test sites as seen in the photograph to the right. One adult Coastal Western Whiptail was observe at the fork in the fuel break and the ranch fire road.

Additional special-status wildlife species, San Diego Desert Woodrat (*Neotoma lepida* ssp. *intermedia*) and Peninsular Shoulderband Snail (*Helminthoglypta traskii* ssp. *traskii*) are



both known in the immediate area have have potential to occur onsite. San Diego Desert Woodrat occurs in coastal scrub in Southern California from San Diego County to San Luis Obispo County. It prefers moderate to dense canopies, and is particularly abundant in rock outcrops and rocky cliffs and slopes. Peninsular Shoulderband Snail occurs in chaparral and coastal scrub in coastal Southern California. It is known from Ventura, Los Angeles, Orange, and San Diego Counties (Magney 2021), and Baja California del Norte (Figure 10, Distribution Map of Peninsular Shoulderband Snail).



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Scientific Name	Common Name	G Rank ⁶¹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ⁶²
Abronia maritima	Red Sand Verbena	G4	S3?	-	-	4.2	Coastal dunes; sand. Elev. 0-100 m. Reported Point Dume, Zuma Beach, and Malibu State Beach.	Highly Unlikely [HA]
Adolphia californica	California Adolphia	G3	S2	-	-	2B.1	Deciduous shrub in coastal scrub, chaparral, in clayey soils. Elev. 35-2,430 feet. Reported from Santa Monica Mountains; Topanga State Park, between Rustic Canyon and Temescal Canyon at 1,197 feet (<i>P. Saadat 5</i> 16-May-1999 SFV).	Possible [HP]
Asplenium vespertinum	Western Spleenwort	G4	S4	-	-	4.2	Chaparral, oak woodland, coastal sage scrub. Elev. 180-1,000 m. Known from Newberry Park and Thousand Oaks to the NW.	Possible [HP]
Astragalus brauntonii	Braunton's Milkvetch	G2	S2	Е	-	1B.1	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland. Recent burns or disturbed areas; in stiff gravelly clay soils overlying granite or limestone. Elev. 4-640 m. Reported at Malibu Lagoon, Zuma Loop Trail, Lower Zuma Ridge Motorway above Point Dume at 679 feet, and in Topanga Canyon.	Possible [HP]

Table 8. Special-status Plants Potentially Occurring Onsite

⁶¹ See Tables 4 through 7 above for descriptions of rank and status categories. Federal (Fed or F) and State (CA or S) status listings: E = Endangered; SC = Species of Concern.

⁶² Likelihood of occurrence based on species' habitat requirements, presence of required habitat onsite, and reported occurrences:

Observed [P] = Species has been observed onsite [Present];

Likely [HP] = Required habitat present onsite and the species has been reported in the vicinity [Habitat Present];

Possible [HP] = Marginal habitat onsite and/or required habitat present nearby, with no reported occurrences nearby [Habitat Present];

Unlikely [HA] = Required habitat not reported onsite, nor is it found nearby [Habitat Absent].

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Scientific Name	Common Name	G Rank ⁶¹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ⁶²
Astragalus pycnostachyus var. lanosissimus	Ventura Marsh Milkvetch	G2T1	S1.1	Е	Е	1B.1	Coastal salt marsh, coastal dune scrub. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs. Elev. 1-35 m. Nearest historic occurrence was in the Santa Monica area (Rancho Ballona).	Highly Unlikely [HA]
Astragalus tener var. titi	Coastal Dunes Milkvetch	G1T1	S1.1	Е	Е	1B.1	Coastal bluff scrub, coastal dunes. Moist, sandy depressions of bluffs or dunes along and near the Pacific Ocean; one site on a clay terrace. Elev. 1-50 m. Nearest historic occurrence on Rancho Ballona.	Unlikely [HA]
Atriplex coulteri	Coulter's Saltbush	G3	S1S2	-	-	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Ocean bluffs, ridgetops, as well as alkaline low places. Elev. 10- 460 m. Nearest known [historic - 1930] occurrence is thought to be along Zuma Beach.	Possible [HP]
Atriplex serenana var. davidsonii	Davidson's Saltscale	G5T1	S1	-	-	1B.2	Coastal bluff scrub, coastal scrub; alkaline habitats. Elev. 10-200 m. Nearest known occurrence is in lower Malibu Canyon.	Possible [HP]
Baccharis malibuensis	Malibu Baccharis	G1	S1	-	-	1B.1	Coastal scrub, chaparral, cismontane woodland. In Conejo volcanic substrates, often on exposed roadcuts. Sometimes occupies oak woodland habitat. Elev. 150-305 m. Nearest known occurrence is at W end of Malibu Lake E of the project site.	Unlikely [HA]
Baccharis plummerae ssp. plummerae	Plummer's Baccharis	G3T3	83	-	-	4.3	Riparian woodland, Coast Live Oak Woodland, chaparral, coastal scrub; partial shade, typically on N- facing slopes. Elev. 5-425 m. Nearest known occurrence is at Solstice Canyon [Park], S of the creek from picnic area / parking lot.	Possible [HP]
Calandrinia breweri	Brewer's Calandrinia	G4	S4	-	-	4.2	Chaparral, coastal scrub; in sandy or loamy soil in disturbed sites and burns. Elev. 10-1,220 m. Nearest known occurrences is SSW of project site in Los Alisos Canyon.	Possible [HP]

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Scientific Name	Common Name	G Rank ⁶¹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ⁶²
Calochortus catalinae	Catalina Mariposa Lily	G3G4	S3S4	-	-	4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Elev. 15-700 m. Nearest known occurrences are at approximately 8,166 feet W, 7,164 feet SW, 21,297 feet SE. and 14,456 feet NNE.	Possible [HP]
<i>Calochortus clavatus</i> var. <i>clavatus</i>	Club-haired Mariposa Lily	G4T3	S3	-	-	4.3	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Usually clayey, rocky sites. Elev. 75-1,300 m. Nearest known occurrence is in Los Alisos Canyon to the SSW.	Possible [HP]
Calochortus clavatus var. gracilis	Slender Mariposa Lily	G4T2T3	S2S3	-	-	1B.2	Chaparral, coastal scrub, grassland. Shaded foothill canyons; often on grassy slopes within other habitat. Elev. 320-1,000 m. Nearest known occurrence is approx 12,457 feet ESE.	Possible [HP]
Calochortus plummerae	Plummer's Mariposa Lily	G4	S4	-	-	4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. Elev. 100-1,700 m. Nearest known occurrence is in Hidden Valley to the NW.	Possible [HP]
Camissoniopsis lewisii	Lewis's Evening- primrose	G4	S4	-	-	3	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland. Sandy or clay soils. Elev. 0-300 m. Nearest known occurrences are on Point Dume to the SSE.	Possible [HP]
Centromadia parryi ssp. australis	Southern Tarplant	G3T2	S2	-	-	1B.1	Marshes and swamps (margins), valley and foothill grassland. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with Saltgrass. Elev. 0-480 m. Nearest known occurrence is in the Santa Monica area.	Highly Unlikely [HA]

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Scientific Name	Common Name	G Rank ⁶¹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ⁶²
Cercocarpus betuloides var. blancheae	Island Mountain- Mahogany	G5T4	S4	-	-	4.3	Closed-cone coniferous forest, chaparral. Elev. 30- 600 m. Observed and vouchered ⁶³ onsite along the existing ranch fire break roads, including along the water main route. See Figure 9 for locations.	Known [HP]
Chaenactis glabriuscula var. orcuttiana	Orcutt's Pincushion	G5T1T2	S1	-	-	1B.1	Coastal bluff scrub, coastal dunes; sandy soil. Elev. 0-100 m. Nearest known occurrence is on South Beach, Leo Carrillo State Beach.	Unlikely [HA]
Chamaebatia australis	Southern Mountain Misery	G4	S4	-	-	4.2	Chaparral, dry slopes. Elev. 300-1,230 m. Nearest known occurrence is at Rocky Oaks Park to the E.	Possible [HP]
Chloropyron maritimum ssp. maritimum	Salt Marsh Bird's- Beak	G4?T1	S1	Е	Е	1B.2	Coastal salt marsh, coastal dunes. Limited to the higher zones of the salt marsh habitat. Elev. 0-30 m. Nearest known occurrence is at Mugu Lagoon in Ventura County.	Highly Unlikely [HA]
Chorizanthe parryi var. fernandina	San Fernando Valley Spineflower	G2T1	S1	С	Е	1B.1	Coastal scrub. Sandy soils. Elev. 3-1,035m. Nearest known occurrence is on Lasky Mesa to the NNE.	Highly Unlikely [HA]
Chorizanthe parryi var. parryi	Parry's Spineflower	G3T2	S2	-	-	1B.1	Coastal scrub, chaparral, Coast Live Oak Woodland. Dry slopes and flats, sometimes at interface of 2 vegetation types (e.g. chaparral and oak woodland). Dry, sandy & rocky soils. Elev. 275-1,220 m. Nearest known [historic – 1957] occurrence is on the W side of the mouth of Latigo Canyon.	Possible [HP]
Convolvulus simulans	Small-flowered Morning-glory	G4	S4	-	-	4.2	Openings in chaparral, coastal scrub, valley & foothill grassland; clayey soils, serpentinite seeps. Elev. 30-740 m. Nearest known occurrence is at the E edge of Oak Park N of Agoura Hills in the Simi Hills.	Unlikely [HA]
Deinandra minthornii	Santa Susana Tarplant	G2	S2	-	R	1B.2	Chaparral, coastal scrub. On sandstone outcrops and crevices, in shrubland. Elev. 280-760 m. Nearest known occurrence approx 12,292 feet E.	Unlikely [HA]

⁶³ Vouchered on 20 April 2022, *D.L. Magney 32-22* UCSB.

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Scientific Name	Common Name	G Rank ⁶¹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ⁶²
Dichondra occidentalis	Western Dichondra	G3G4	S3S4	-	-	4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Elev. 50-500 m. Nearest known occurrences is along Mulholland Highway in Leo Carrillo State Beach to the S and lower Tuna Canyon to the E.	Unlikely [HA]
Didymodon norrisii	Norris' Beard Moss	G3G4	S.S4	-	-	2.2	Chaparral. Rock outcrops, known from W-facing slope of Zuma Canyon/Creek in the Santa Monica Mountains National Recreation Area.	Unlikely [HA]
Dudleya blochmaniae ssp. blochmaniae	Blochman's Dudleya	G3T2	S2	-	-	1B.1	Coastal scrub, coastal bluff scrub, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas w/little soil. Elev. 5-450 m. Nearest known occurrences are at Point Dume and the mouth of Winter Canyon to the SE.	Unlikely [HA]
Dudleya cymosa ssp. agourensis	Agoura Hills Dudleya	G5T1	S1	Т	-	1B.2	Chaparral, cismontane woodland. Rocky, volcanic breccia. Elev. 200-500 m. Nearest known occurrence is approx. 9,000 feet N of the project site along SR23.	Unlikely [HA]
Dudleya cymosa ssp. marcescens	Marcescent Dudleya	G5T2	S2	Т	R	1B.2	Chaparral. On sheer rock surfaces and rocky volcanic cliffs. Elev. 180-520 m. The nearest known occurrences are 1 mile SW of Seminole Hot Springs, E of the project site.	Unlikely [HA]
Dudleya cymosa ssp. ovatifolia	Santa Monica Mountains Dudleya	G5T1	S1	Т	-	1B.1	Chaparral, coastal scrub. In canyons on sedimentary conglomerates & volcanics; primarily N-facing slopes. Elev. 150-1,675 m. Nearest known occurrence is 1 mile upgrade from Seminole Hot Springs, E of the project site.	Unlikely [HA]
Dudleya multicaulis	Many-stemmed Dudleya	G2	S2	-	-	1B.2	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. Elev. 15-790 m. Nearest known occurrence is in the Topanga Canyon area to the E.	Possible [HP]

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Scientific Name	Common Name	G Rank ⁶¹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ⁶²
Eriogonum crocatum	Conejo Buckwheat	G1	S1	-	R	1B.2	Chaparral, coastal scrub, valley and foothill grassland. Conejo volcanic outcrops, sandstone outcrops; rocky sites. 50-580 m. Known extant occurrences are known from near Lake Eleanor in Ventura County NNE of the project site.	Unlikely [HA]
Erythranthe glaucescens	Shield-bracted Monkeyflower	G3G4	S3S4	-	-	4.3	Chaparral, Coast Live Oak Woodland, lower montane coniferous forest, valley and foothill grassland; serpentinite seeps, streambanks. Elev. 30-1,240 m. Nearest known occurrence is along road near Seminole Hot Springs E of the project site.	Highly Unlikely [HA]
Galium cliftonsmithii	Santa Barbara Bedstraw	G4	S4	-	-	4.3	Coast Live Oak Woodland. Elev. 200-1,220 m. Nearest known occurrence is in Sepulveda Canyon to the E of the project site.	Possible [HP]
Heterotheca sessiliflora ssp. sessiliflora	Beach Goldenaster	G4T2T3	S1	-	-	1B.1	Coastal chaparral, coastal dunes, coastal scrub. Elev. 0-1,225 m. Nearest known occurrence is at SW edge of Russel Valley along SR23 in Ventura County.	Possible [HP]
Hordeum intercedens	Vernal Barley	G3G4	S3S4	-	-	3.2	Coastal dunes, Coastal scrub, vernal pools in grasslands. Elev. 5-1,000 m. Nearest known occurrence is in Leo Carrillo State Park.	Unlikely [HA]
Horkelia cuneata ssp. puberula	Mesa Horkelia	G4T1	S1	-	-	1B.1	Maritime chaparral, coastal scrub, Coast Live Oak Woodland; sandy or gravelly soil. Elev. 70-810 m. Nearest historic occurrence is on Point Dume and nearest known extant occurrence is in Charmlee Wilderness Park to the SE of the project site.	Unlikely [HA]
Isocoma menziesii var. decumbens	Decumbent Goldenbush	G3G5T2 T3	S2	-	-	1B.2	Chaparral, coastal scrub; sandy soils. Elev. 10-135 m. Nearest reported occurrence is at Carbon Beach E of Malibu.	Unlikely [HA]
Iva hayesiana	San Diego Povertyweed	G3	S2	-	-	2B.2	Marshes and swamps, playas. Elev. 10-500 m. Nearest known occurrence is at Malibu Creek State Park E of the project site.	Highly Unlikely [HA]

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Scientific Name	Common Name	G Rank ⁶¹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ⁶²
Juglans californica	Southern California Black Walnut	G4	S4	-	-	4.2	Chaparral, cismontane woodland. 50-900 m. Found scattered throughout the Santa Monica Mountains and scattered throughout the two parcels and on adjacent parcels as well. Not found at project site. See Figure 9 for locations.	Known [HP]
Juncus acutus ssp. leopoldii	Southwestern Spiny Rush	G5T5	S4	-	-	4.2	Backdune swale areas of coastal dune, marshes and swamps, coastal salt marsh. Saturated to seasonally saturated soil. Elev. 3-900 m. Nearest known occurrence is in Leo Carrillo State Beach S of the project site.	Highly Unlikely [HA]
Lasthenia glabrata ssp. coulteri	Coulter's Goldfields	G4T2	82	-	-	1B.1	Marshes and swamps, coastal salt marsh, playas, vernal pools. Elev. 1-1,220 m. Nearest known occurrence is at Malibu Lagoon to the SE of the project site.	Highly Unlikely [HA]
Lepechinia fragrans	Fragrant Pitcher Sage	G3	S 3	-	-	4.2	Chaparral habitats of coastal southern California. Observed onsite at several locations. See Figure 9 for locations. Nearest historic [1940] occurrence was in Trancas Canyon along Decker Road. Nearest known extant occurrence is from Malibu State Park to the E.	Known [HP]
Lilium humboldtii ssp. ocellatum	Ocellated Humboldt Lily	G4T4?	S4?	-	-	4.2	Chaparral, Coast Live Oak Woodland, coastal scrub, lower montane coniferous forest, Riparian woodland; openings. Elev. 30-1,800 m. Nearest known occurrence in Carlisle Canyon to the N and SW corner of Hidden Valley WNW of the project site. Not observed along project site.	Unlikely [HA]
Lycium californicum	California Boxthorn	G4	S4	-	-	4.2	Coastal bluff scrub, coastal scrub. Elev. 5-150 m. Nearest known [historic - 1936] occurrence is in Latigo Canyon near mouth, SE of the project site.	Possible [HP]
Malacothrix saxatilis var. saxatilis	Cliff Aster	G5T4	S4	-	-	4.2	Coastal bluff scrub, coastal scrub. Elev. 3-200 m. Nearest known occurrences are near the N end of Latigo Canyon Road and in Leo Carrillo State Beach.	Possible [HP]

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Scientific Name	Common Name	G Rank ⁶¹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ⁶²
Monardella hypoleuca ssp. hypoleuca	Whiteleaf Coyote Mint	G4T3	S3	-	-	1B.3	Chaparral, Coast Live Oak Woodland. Elev. 50-1,525 m. Nearest occurrence is on Circle X Ranch to the W of the project site.	Possible [HP]
Navarretia ojaiensis	Ojai Navarretia	G2	S2	-	-	1B.1	Chaparral (openings), coastal scrub, valley and foothill grassland. Elev. 275-620 m. Nearest known occurrence is near Agoura Hills near Mulholland Highway S of Sierra Creek Road, E of the project site.	Possible [HP]
Nolina cismontana	Chaparral Nolina	G3	S3	-	-	1B.2	Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. Elev. 140- 1,275 m. Nearest known occurrences is along Medea Creek in the Simi Hills of Ventura County.	Unlikely [HA]
Orcuttia californica	California Orcutt Grass	G1	S1	Е	Е	1B.1	Vernal pools. Elev. 15-660 m. Nearest known occurrence is in the Tierra Rejada Valley near Moorpark, Ventura County.	Highly Unlikely [HA]
Pentachaeta lyonii	Lyon's Pentachaeta	Gl	S1	E	E	1B.1	Chaparral, valley and foothill grassland. Edges of clearings in chaparral, usually at the ecotone between grassland and chaparral or edges of firebreaks in rocky, clayey soils. Elev. 30-690 m. Nearest known occurrence is on the parcel immediately E of the project site.	Possible [HP]
Phacelia hubbyi	Hubby's Phacelia	G4	S4	-	-	4.2	Chaparral, coastal scrub, valley and foothill grassland. Gravelly or rocky or talus slopes. Elev. 0- 1,000 m. Nearest known occurrence is in Corral Canyon ESE of the project site.	Possible [HP]
Phacelia ramosissima var. austrolitoralis	South Coast Branching Phacelia	G5?T3Q	S3	-	-	3.2	Sand dunes, salt marshes, coastal bluff scrub. Elev. 0-300 m. The nearest known occurrence is at the mouth of Carbon Canyon to the ESE of the project site.	Possible [HP]

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Scientific Name	Common Name	G Rank ⁶¹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ⁶²
Piperia cooperi	Chaparral Rein Orchid	G3G4	S3S4	-	-	4.2	Chaparral, Coast Live Oak Woodland, valley and foothill grassland. Elev. 15-1,585 m. Nearest known occurrence is in the headwaters of the W Fork Trancas Creek E of the project site.	Possible [HP]
Rhinotropis [Polygala] cornuta var. fishiae	Fish's Milkwort	G4T4	S4	-	-	4.3	Chaparral, Coast Live Oak Woodland, Riparian woodland. Elev. 100-1,000 m. Nearest reported occurrences are at SW corner of Hidden Valley WNW, at Craggs Club to the E of the project site, and in Malibu Canyon to the ESE.	Possible [HP]
Quercus dumosa	Nuttall's Scrub Oak	G3	S3	-	-	1B.1	Chaparral, coastal scrub, closed-cone coniferous forest; in sandy, clay loam soils. Elev. 15-400 m. Nearest known occurrence is a few miles N of Malibu Vista E of the project site.	Possible [HP]
Romneya coulteri	Coulter's Matilija Poppy	G4	S4	-	-	4.2	Chaparral, coastal scrub; often in burn areas. Elev. 20-1,200 m. Nearest known occurrence is in Malibu Creek State Park to the E of the project site.	Possible [HP]
Senecio aphanactis	California Groundsel	G3	S2	-	-	2B.2	Chaparral, Coast Live Oak Woodland, coastal scrub; sometimes in alkaline habitats. Elev. 15-800 m. Nearest known occurrences in on the Ventura County line on ridge E of Lake Eleanor to the NNE of the project site.	Possible [HP]
Thelypteris puberula var. sonorensis	Sonoran Maiden Fern	G5T3	S2	-	-	2B.2	Meadows and seeps; along streams, seepage areas. Elev. 50-550 m. Nearest known occurrence is in Encinal Canyon S of the project site.	Highly Unlikely [HA]
Thysanocarpus conchuliferus	Santa Cruz Island Lacepod	G2?	S2?	Е	-	1B.2	Chaparral, Coast Live Oak Woodland; rocky sites. Elev. 45-655 m. Nearest known occurrence is in Malibu Creek State Park E of the project site.	Possible [HP]
Tortula californica	California Screw Moss	G2G3	S2?	-	-	1B.2	Chenopod scrub, valley and foothill grassland; sandy soils. Elev. 10-1,460 m. Nearest known occurrence is approx. 20,090 feet W of the project site.	Unlikely [HA]

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Scientific Name	Common Name	G Rank ⁶⁴	S Rank	Fed	CA	CDFW ⁶⁵	Habitat Requirements	Likelihood of Occurrence ⁶⁶
Amphibians								
Bufo californicus	Arroyo Toad	G2G3	S2S3	Е	-	SC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Highly Unlikely [HA]
Rana aurora ssp. draytonii	California Red- legged Frog	G4T2T3	S2S3	Т	-	SC	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to aestivation habitat.	Highly Unlikely [HA]
						Reptiles		
Actinemys marmorata ssp. pallida	Southwestern Pond Turtle	G3G4T2 T3Q	S2	-	-	SC	Inhabits permanent or nearly permanent bodies of water in many habitat types; below 1,829 m elev. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks. Need suitable nesting sites.	Highly Unlikely [HA]

Table 9. Special Status Wildlife Potentially Occurring Onsite

⁶⁴ See Tables 2 through 5 in Section 2.6 above for descriptions of rank and status categories. Federal (Fed or F) and State (CA or S) status listings: E = Endangered; T = Threatened; R = Rare; C = Candidate; SC = Species of Special Concern.

⁶⁵ CDFW = California Department of Fish and Wildlife, formerly known as California Department of Fish and Game.

⁶⁶ Likelihood of occurrence based on species' habitat requirements, presence of required habitat onsite, and reported occurrences: Observed [P] = Species has been observed onsite [Present];

Likely [HP] = Required habitat present onsite and the species has been reported in the vicinity [Habitat Present];

Possible [HP] = Marginal habitat onsite and/or required habitat present nearby, with no reported occurrences nearby [Habitat Present];

Unlikely [HA] = Required habitat not reported onsite, nor is it found nearby [Habitat Absent].

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Scientific Name	Common Name	G Rank ⁶⁴	S Rank	Fed	CA	CDFW ⁶⁵	Habitat Requirements	Likelihood of Occurrence ⁶⁶
Aspidoscelis tigris ssp. stejnegeri	Coastal Western Whiptail	G5T3T4	S2S3	-	-	-	Found in deserts & semiarid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky. Observed at fork in fuel break & ranch fire road.	Known [HP]
Diadophis punctatus ssp. modestus	San Bernardino Ringneck Snake	G5T2T3	S2?	-	-	-	Most common in open, relatively rocky areas. Often in somewhat moist microhabitats near intermittent streams. Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous vegetation.	Possible [HP]
Lampropeltis zonata (pulchra)	California Mountain Kingsnake (San Diego Population)	G4G5	S1S2	-	-	SC	Restricted to the San Gabriel and San Jacinto Mtns, of Southern California. Inhabits a variety of habitats, including valley-foothill hardwood, coniferous, chaparral, riparian, and wet meadows. Reported in vicinity at Stunts Ranch and Cold Creek Preserve E of the project site.	Possible [HP]
Phrynosoma coronatum	Coast Horned Lizard	G4G5	S3S4	-	-	SC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions. Prefers friable, rocky, or shallow sandy soils. Native ants (preferred food) are present onsite.	Likely [HP]
Thamnophis hammondii	Two-Striped Garter Snake	G3	S2	-	-	SC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 2,134 m elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Unlikely [HA]
						Birds		
Accipiter cooperii	Cooper's Hawk	G5	S3	-	-	SC	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	Possible [HP]

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Scientific Name	Common Name	G Rank ⁶⁴	S Rank	Fed	CA	CDFW ⁶⁵	Habitat Requirements	Likelihood of Occurrence ⁶⁶
Agelaius tricolor	Tricolored Blackbird	G2G3	S2	-	-	SC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, & foraging area with insect prey within a few km of the colony.	Highly Unlikely [HA]
Aimophila ruficeps ssp. canescens	Southern California Rufous-crowned Sparrow	G5T2T4	S2S3	-	-	SC	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass & forb patches.	Possible [HP]
Aquila chrysaetos	Golden Eagle	G5	S3	-	-	SC, Fully Protected	Rolling foothills, mountain areas, sage-juniper flats, & desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Unlikely [HA]
Athene cunicularia	Burrowing Owl	G4	S2	-	-	SC	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California Ground Squirrel.	Highly Unlikely [HA]
Polioptila californica ssp. californica	Coastal California Gnatcatcher	G3T2	S2	Т	-	SC	Obligate, permanent resident of coastal sage scrub below 762 m in Southern California. Low, coastal sage scrub in arid washes, on mesas & slopes. Not all areas classified as coastal sage scrub are occupied.	Unlikely [HA]
Riparia riparia	Bank Swallow	G5	S2S3	-	Т	-	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Highly Unlikely [HA]
Contopus cooperi	Olive-sided Flycatcher	G4	S4	-	-	-	May winter in Southern California coastal areas. Known in Santa Monica Mountains National Recreation Area.	Possible [HP]

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Scientific Name	Common Name	G Rank ⁶⁴	S Rank	Fed	CA	CDFW ⁶⁵	Habitat Requirements	Likelihood of Occurrence ⁶⁶
Picoides nuttalli	Nuttall's Woodpecker	G5	-	-	-	-	Chaparral and oak woodland in canyons. Known in Santa Monica Mountains National Recreation Area. Nest sites are of concern to CDFW.	Possible [HP]
Selasphorus sasin	Allen's Hummingbird	G5	-	-	-	-	Feed on nectar from flowers. Known in Santa Monica Mountains National Recreation Area.	Possible [HP]
					Λ	<i>Aammals</i>		
Antrozous pallidus	Pallid Bat	G5	S3	-	-	SC	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Possible [HP]
Euderma maculatum	Spotted Bat	G4	S2S3	-	-	SC	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.	Unlikely [HA]
Eumops perotis ssp. californicus	Western Mastiff Bat	G5T4	S3?	-	-	SC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral etc. Roosts in crevices in cliff faces, high buildings, trees & tunnels.	Possible [HP]
Lasiurus blossevillii	Western Red Bat	G5	S3?	-	-	-	Roosts primarily in trees, 0.6-12.2 m above ground, from sea level up through mixed conifer forests. Prefers habitat edges & mosaics with trees that are protected from above & open below with open areas for foraging.	Possible [HP]
Lasiurus cinereus	Hoary Bat	G5	S4?	-	-	SC	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Possible [HP]

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Scientific Name	Common Name	G Rank ⁶⁴	S Rank	Fed	CA	CDFW ⁶⁵	Habitat Requirements	Likelihood of Occurrence ⁶⁶
Macrotus californicus	California Leaf- nosed Bat	G4	S2S3	-	-	SC	Desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub and palm oasis habitats. Needs rocky, rugged terrain with mines or caves for roosting.	Unlikely [HA]
Myotis ciliolabrum	Western Small- footed Myotis	G5	S2S3	-	-	-	Wide range of habitats mostly arid wooded & brushy uplands near water. Seeks cover in caves, buildings, mines & crevices. Prefers open stands in forests and woodlands. Requires drinking water. Feeds on a wide variety of small flying insects.	Possible [HP]
Myotis yumanensis	Yuma Myotis	G5	S4?	-	-	-	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Unlikely [HA]
Neotoma lepida [bryanti] ssp. intermedia ⁶⁷	San Diego Bryant's Woodrat	G5T3?	S3?	-	-	SC	Coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops & rocky cliffs & slopes.	Possible [HP]
Taxidea taxus	American Badger	G5	S4	-	-	SC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Need sufficient food, friable soils, and open, uncultivated ground. Prey on burrowing rodents. Dig burrows.	Possible [HP]

⁶⁷ Taxonomy and distribution updated by Blood (2021).

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Scientific Name	Common Name	G Rank ⁶⁴	S Rank	Fed	CA	CDFW ⁶⁵	Habitat Requirements	Likelihood of Occurrence ⁶⁶
						Fish		
Eucyclogobius newberryi	Tidewater Goby	G3	S2S3	Е	-	SC	Brackish water habitats along the Calif. coast from Agua Hedionda Lagoon, San Diego Co., to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.	Highly Unlikely [HA]
Gila orcuttii	Arroyo Chub	G2	S2	-	-	SC	Los Angeles basin south coastal streams. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation & associated invertebrates.	Highly Unlikely [HA]
Oncorhynchus mykiss ssp. irideus	Southern Steelhead - Southern California ESU	G5T2Q	S2	Е	-	SC	Fed listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego Co.). Southern Steelhead likely have greater physiological tolerances to warmer water & more variable conditions.	Highly Unlikely [HA]
					In	vertebrates		
Helminthoglypta traskii ssp. traskii	Peninsular or Trask Shoulderband Snail	G1G2T2	S1	-	-	SC	Chaparral and Coastal Scrub habitats of coastal southern California. Known from Ventura, Los Angeles, Orange, and San Diego Counties, and Baja California del Norte (Roth & Sadeghain 2003, Magney 2010). Observed in upper Carbon Canyon in 2008 (DMEC 2008), near Trancas Beach, and Newbury Park (Magney 2021).	Likely [HP]
Aglaothorax [Nebula] longipennis	Santa Monica Shieldback Katydid	G1G2	S1S2	-	-	-	Occur nocturnally in chaparral and canyon stream bottom vegetation, in the Santa Monica Mountains, of Southern California. Inhabit introduced iceplant and native chaparral plants.	Possible [HP]

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Scientific Name	Common Name	G Rank ⁶⁴	S Rank	Fed	CA	CDFW ⁶⁵	Habitat Requirements	Likelihood of Occurrence ⁶⁶
Bombus crotchii	Crotch's Bumble Bee	G3G4	S1S2	-	CE	SSC	Forages on Asclepias, Lupinus, Melilotus, Phacelia, Salvia, Clarkia, Eschscholzia, and Eriogonum species. CNDDB Element Occurrence 146 is mapped from a 1 June 2008 observation was recorded for "along Encinal Canyon Road 2.7 miles N of Highway 1" approximately 16,930 feet S of the project site. Several other occurrences are known in all directions from the project site in the Santa Monica Mountains and beyond. Some host plants were observed onsite, including Eriogonum, Phacelia, and Salvia species.	Possible [HP]
Cicindela hirticollis ssp. gravida	Sandy Beach Tiger Beetle	G5T2	S1	-	-	-	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	Highly Unlikely [HA]
Coelus globosus	Globose Dune Beetle	G1	S1	-	-	-	Inhabitant of coastal sand dune habitat, from Bodega Head in Sonoma County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation.	Highly Unlikely [HA]
Danaus plexippus	Monarch Butterfly	G5	S3	-	-	-	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (Eucalyptus, Monterey Pine, Monterey Cypress), with nectar and water sources nearby.	Highly Unlikely [HA]
Socalchemmis gertschi	Gertsch's Socalchemmis Spider	G1	S1	-	-	-	Known from only 2 localities in Los Angeles County: Brentwood (type locality) and Topanga Canyon (Platnick & Ubick 2001).	Possible [HP]

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Scientific Name	Common Name	G Rank ⁶⁴	S Rank	Fed	CA	CDFW ⁶⁵	Habitat Requirements	Likelihood of Occurrence ⁶⁶
Trimerotropis occidentiloides	Santa Monica Grasshopper	G1G2	S1S2	-	-	-	Known only from the Santa Monica Mountains. Found on bare hillsides and along dirt trails in chaparral. Observed onsite on dirt road.	Known [HP]
				LOC	ALLY	RARE SP	PECIES	
					N	<i>Iammals</i>		
Puma concolor	Mountain Lion	-	-	-	-	- Scrub and woodland habitats. Only a few left in Santa Monica Mountains. Known to occur on the Duggan property		Possible [HP]
					In	vertebrates		
Haplotrema caelatum	Slotted Lancetooth Snail	G1N1 ⁶⁸	-	-	-	-	Riparian areas. Endemic to coastal Southern California. Known from Santa Barbara, Ventura, Los Angeles, and San Diego Counties.	Unlikely [HA]
Tinema monikensis	Santa Monica Mountains Walking Stick	-	-	-	-	-	Chaparral. Endemic to Santa Monica Mountains.	Possible [HP]

⁶⁸ G-Rank "N1" represents a national rank devised by NatureServe, with N1 defined as "critically imperiled nationally".



Sensitive Habitats

There are two primary categories of sensitive habitats in the Santa Monica Mountains, those considered as Sensitive Habitats by the CDFW and tracked by the CNDDB, and those habitat categories identified in the Los Angeles County LIP. Table 10, CNDDB and SMMNA Sensitive Habitats Potentially Occurring Onsite, summarizes the CNDDB search for sensitive habitat types reported for the six quads surrounding and including the project site and assigns Los Angeles County Santa Monica Mountains North Area Plan sensitivity categories (S1-S3).

Table 10.	CNDDB a	and SMMNA	A Sensitive	Habitats	Potentially	Occurring	Onsite
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CNDDB & CDFW Sensitive Habitats (Holland 1986, CDFW 2023)	G Rank ⁶⁹	S Rank	LA ⁷⁰	Presence Onsite ⁷¹
California Walnut Woodland	G2	S2.1	S 1	Not observed
Southern California Coastal Lagoon	G?	SNR	S 1	Not observed
Southern California Steelhead Stream	G?	SNR	S1	Not observed
Southern Coast Live Oak Riparian Forest	G4	S4	S1	Observed
Southern Coastal Salt Marsh	G2	S2.1	S1	Not observed
Southern Sycamore Alder Riparian Woodland	G4	S4	S1	Not observed
Valley Needlegrass Grassland	G1	S3.1	S1	Not observed
Valley Oak Woodland	G3	S2.1	S1	Not observed
Avena Herbaceous Alliance	GNA	SNA	S2-3	Present onsite
Corethrogyne filaginifolia Herbaceous Alliance	G4	S4	S1	Present onsite
Selaginella bigelovii Herbaceous Alliance	G4	S3	S1	Present onsite
Ruderal Herbaceous Alliance	G5	S5	S3	Present onsite
Adenostoma fasciculatum Shrubland Alliance	G5	S5	S2	Dominant habitat
Adenostoma sparsifolium Shrubland Alliance	G3	S 3	S2	Present onsite
Baccharis salicifolia Shrubland Alliance	G5	S5	S1	Present onsite
Ceanothus ssp. Shrubland Alliance	G4	SNR	S2	Dominant habitat
Eriogonum fasciculatum Shrubland Alliance	G3	S 3	S2	Present onsite
Ruderal Chaparral	G4	S4	S3	Present onsite
Platanus racemosa Woodland Alliance	G3	S3	S1	Present onsite
Populus trichocarpa Woodland Alliance	G5	S 3	S1	Present onsite
Quercus agrifolia Woodland Alliance	G5	S 5	S1	Present onsite

The Los Angeles County Santa Monica Mountains North Area Plan maps S1, S2, S3, and S4 habitats as present on or in the immediate vicinity of the Duggan project site. The site was not burned in the Woolsey Fire and the natural vegetation is intact onsite; however, the fire did burn the area immediately to the east. The southern portion of the project site is mapped as S1 as well as long the streams (Santa Monica Mountains North Area Plan Figure 2).

⁶⁹ See Tables 4 through 7 above for descriptions of rank and status categories. Federal (Fed or F) and State (CA or S) status listings: E = Endangered; T = Threatened; R = Rare; C = Candidate; SC = Species of Concern.

⁷⁰ Los Angeles County Santa Monica Mountains North Area Plan vegetation sensitivity categories, S1, S2, S3, S4.

⁷¹ Observed [P] = Habitat present onsite [Present]; Not Observed = Habitat not present onsite though some constituents of the habitat may be present as noted; [CH] = Project footprint is within a Critical Habitat unit.



Table 11 in the next section provides the habitat's name, status, and whether it was observed onsite. There were four special-status habitats observed on the Duggan property site. Coast Live Oak Woodland, and California Walnut Woodland all meet the definition as S1 habitats regardless of the CDFW/NatureServe rarity rankings as shown on Table 10 above. Coastal Sage Scrub and Ceanothus Chaparral meet the county's definition of S2 habitats since they are part of large contiguous patches of coastal scrub and chaparral.

The water well and water storage tank site will not affect any sensitive habitat type as none of those listed in Table 10 above occur onsite and none of the S2 habitats present onsite would be affected by the proposed drilling. The proposed water line is proposed to be constructed immediately adjacent to occurrences of individual shrubs of *Cercocarpus betuloides* var. *blancheae* and *Lepechinia fragrans*. However, the water line will be constructed to avoid direct impacts to all occurrences of these two shrubs and native trees, primarily *Quercus agrifolia*.



SECTION IV. IMPACTS ANALYSIS

The proposed development of a water well on the Duggan parcel will result in minor impacts to biological resources only at the locations of the exploratory water wells (four sites). The total area affected will be approximately 0.005 acre. Natural vegetation is sparse at the four sites since they occur within the bed of the existing ranch road. The total direct impacts from these activities are summarized in Table 11, Existing Habitats and Land Cover on the Duggan Property and Expected Impacts.

Existing Habitats and Land Cover Observed	Habitat Sensitivity Ranking (S1-4)	Total Onsite Acres	Onsite Sensitive Habitat Acres	Onsite Impact Acres	Onsite Sensitive Impact Acres	Total Impact Acres
Herbaceous	S2-S3	1.258	0.00	0.00	0.00	0.00
Buckwheat Scrub	S2	0.068	0.00	0.00	0.00	0.00
Chamise Chaparral	S2	17.831	17.831	0.00	0.00	0.00
Red Shanks Chaparral	S2	45.934	45.934	0.00	0.00	0.00
Ceanothus Chaparral	S2	11.975	11.975	0.00	0.00	0.00
Mesic Chaparral	S2	29.166	29.166	0.00	0.00	0.00
Ruderal Chaparral	S2	1.028	0.00	0.00	0.00	0.00
Mulefat Scrub	S1	0.291	0.291	0.00	0.00	0.00
Riparian Woodland	S1	1.168	1.168	0.00	0.00	0.00
Coast Live Oak Woodland	S1	13.364	13.364	0.0009	0.0009	0.0009
Rock Outcrop	S1	0.114	0.00	0.00	0.00	0.00
Ruderal (firebreak & fuelbreak)	\$3	6.268	0.00	<0.001	0.00	0.001
Road (paved and dirt)	S4	9.194	0.00	< 0.001	0.00	0.00
Developed	S4	0.365	0.00	0.00	0.00	0.00
Acreage Totals		138.024	119.729	0.0019	0.0009	0.0019

Table 11.	Existing Habitats and Land Cover on the Duggan Property and Expected
	Impacts

Note: this table is a duplicate of Table 3.

The only natural vegetation impacted by the proposed water well exploratory drilling is ruderal habitat within the existing previously graded area of the property.

One special-status species is known to occur at the four drilling sites or dirt road, the Santa Monica Grasshopper, but since this species is highly mobile, impacts to this species are not expected to be significant. Observations of this species, based on iNaturalist.org records, show that this species is active during the late spring, summer, and fall months, between May and November, based on 25 observations (6 in June, 7 in July, 5 in August, 6 in September⁷², and 1 in October).

There are not expected to be any direct impacts to either special-status species since the total area disturbed during the drilling will be very small (estimated to be no more than 0.001 acre [40 square feet]) and the topsoil at each drilling site will be salvaged immediately prior to drilling

⁷² One of the 6 observations made in September include that made by Magney on 19 September 2021.



and respreads over the drilling site(s) if the well is not sufficient to develop a permanent water well.

No sensitive habitat expected to be impacted since all drilling will occur within the limits of the existing graded area of the ranch road.

To avoid impacts to special-status species and sensitive habitats during installation of the water line, mitigation measures are recommended to ensure impact avoidance.

Native trees over 6 inches DBH are regulated. Coast Live Oak Woodland (dominated by *Quercus agrifolia*) habitat is considered an S1 sensitive habitat. Impacts to Coast Live Oak trees must be avoided when feasible and specific measures must be implemented when the Critical Root Zone (CRZ) is encroached upon. The CRZ is typically delineated to include the root zone to the dripline plus 15 feet or at least 15 feet from the trunk, whichever is greater.

The proposed water line will encroach upon the CRZ of several mature Coast Live Oak Trees at the north end of the water line, near existing buildings. No assessment of individual trees was performed as part of this assessment but a Level I assessment of the trees along the water line route found them to generally be in good health. A Level I assessment represents the most cursory level of assessment as defined by the International Society of Arboriculture. Since the proposed water line will be installed above ground for most of its length, including under the Coast Live Oak trees, a Level II health assessment was not considered necessary. Rather, a Certified Arborist will monitor activities associated with installing the water line when it will pass through the CRZ for each tree or group of trees, to ensure none of the trees are damaged.

The water line will pass under the Coast Live Oak Woodland for a distance of approximately 125 feet. The footings for the above-ground water line will be spaced approximately 20 feet apart. Each footing will be established by auguring a 30-inch deep hole 18 inches in diameter. There is potential for the footing augur hole to damage major roots. Major roots are roots defined as those 2 inches or greater in diameter. The total area expected to be disturbed is approximately 0.0009 acre.

Impact 1. Special-status plants species may be impacted during construction. Since several special status plant species occur along the construction zone, there is potential that one or more individual plants would be damaged during construction activities. This would be considered a significant impact. Therefore, Mitigation Measures 1.1, 1.2, and 1.3 are recommended to ensure the construction crews do not inadvertently damage one or more special-status plant species.

Mitigation Measure 1.1. Conduct Pre-construction survey for special-status plants within the construction zone. A qualified botanist shall walk the entire length of the proposed water line and flag all special-status plants within 50 feet of the construction zone within two (2) weeks of construction. This would be completed if project activities commence during the blooming period for the special-status plants with potential to occur.

Mitigation Measure 1.2. Conduct Pre-construction surveys for special-status wildlife species within 100 feet of the construction zone. A qualified wildlife biologist shall walk the entire length of the proposed water line and flag all special-status plants within 100 feet of the construction zone within two (2) weeks of construction. All special-status wildlife species locations shall be flagged and avoidance measures developed prior to initiation of construction.

Mitigation Measure 1.3. Monitor construction activities to protect special-status species. A qualified biologist shall monitor installation of the waterline supports to ensure that all special-status species are avoided during construction. Should any special-status wildlife species be



found within the construction zone, a qualified biologist shall either shoo it away or capture it an relocate it into similar habitat onsite at least 200 feet away from the construction site.

Impact 2. Protected trees occur within a portion of the construction zone and portions of one or more trees could be damaged during construction, primarily by severing or injuring one or more large roots during the waterline support holes. Work within a tree's CRZ and pruning (including roots) is a regulated activity and unpermitted impacts to protected trees is considered a significant impact. Since the exact location of the waterline support posts is unknown at this time and their placement is discretionary, Mitigation Measure 4 is recommended to avoid any impacts to any protected tree within the construction zone.

Mitigation Measure 2.1. Protect Protected Native Trees. A Certified Arborist shall mark Tree Protection Zones (TPZs) around each Coast Live Oak tree within 50 feet of the waterline construction zone. Temporary fencing shall be installed to establish each tree's TPZ. A Certified Arborist shall monitor construction during installation of the waterline support structures to ensure there are no impacts the protected trees roots greater than 2 inches in diameter or the root zone is compacted by heavy equipment. Support holes dug within a TPZ shall be dug with hand tools only.

Impact 3. Disturbance of bird nests could occur during construction of the waterline and supports. Section 3503 of the California Fish and Game Code prohibits impacts to active bird nests and nesting behavior. Avoidance is the only option; therefore, Mitigation Measure 3.1

Mitigation Measure 3.1. A biologist shall survey the project site to determine the presence of any active bird nests within two weeks of construction work. All active bird nests within 100 feet of the construction zone shall be monitored when construction is occurring within 300 feet of the nest(s) or 500 feet from active raptor nests. The biologist shall determine if construction within buffer zones established for each nest appears to be causing the nesting birds undue stress that may lead to nest failure, work shall be suspended within that buffer until the nest is no longer active. The typical nesting period is between January 15 [raptors] through September 15. Buffer zones from 50 feet to 500 feet will be established for active nests depending on the nesting species, depending on their sensitivity to construction noise and activities. Results of the survey and monitoring shall be submitted to Regional Planning.

Implementation of the four mitigation measures above should be sufficient to avoid any signification impacts associated with implementation of the proposed project.



SECTION V. CONCLUSIONS

The proposed waterline would result in the disturbance, temporary and permanent, impact no more than 0.001 acre of ruderal vegetation that is growing within the bed on an existing dirt ranch roads.

No S1 through S3 habitat would be impacted by waterline support structure installation activities or by driving equipment on the existing ranch road.

Potential significant impacts to special-status species present at the waterline support sites will be avoided by flagging all occurrences of special-status plant species along the waterline route and avoiding them during construction. A qualified botanist and wildlife biologist will conduct pre-construction surveys of the construction site and monitor construction activities to ensure all special-status species present or found onsite are avoided.

A Certified Arborist will establish CRZs around all native trees within the construction zone and monitor construction within or immediately near the CRZ to ensure avoiding significant impacts to protected trees during construction.

Implementation of the proposed mitigation measures should be sufficient to avoid any and all significant impacts to special-status species and sensitive habitats associated with installation of the waterline.



SECTION VI. ACKNOWLEDGMENTS

This report was written by David Magney. Graphics were created by Mr. Magney. Photographs were taken by Mr. Magney.

Lynn Haeacox provided guidance and assistance with the project description and providing current project plans and drawings.

Paul Valentich-Scott and Eric Hochberg, staff with the Santa Barbara Museum of Natural History, Invertebrate Collection, provided assistance with identification of *Helminthoglypta traskii* ssp. *traskii*.

Joeseph Decruyenaere, Senior Biologist with Los Angeles County Environmental Planning and Sustainability, reviewed this report and provided several valuable comments.



SECTION VII. CITATIONS

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PERSONAL COMMUNICATIONS

- Franchino, Nick, GIS Manager, Los Angeles Regional Planning, <u>Nfranchino@planning.lacounty.gov</u>, dated 30 January 2008, regarding ESHA maps of Malibu Coastal Zone and David Gray parcel (in Carbon Canyon).
- Nesom, Guy, PhD., biologist/botanist, author of Pseudognaphalium treatments in Jepson Manual and Flora of North America, gynesom@sbcglobal.net, personal communication (email) regarding identification of a Pseudognaphalium species occurring on the Duggan project site, 25 April 2022.