ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
Civil Engineer: AZ#16969, CA#36293 & NV #7441, Land Surveyor CA#5413 & NV#7441, Real Estate Broker CA#836955, QSD/P CA#21595

BIOLOGICAL RESOURCE STUDY
AND
PROTECTED PLANT PRESERVATION PLAN
AND
Focused Surveys for Desert Tortoise and Burrowing Owl Surveys
Evaluation of Habitat for the Mojave Ground Squirrel

LEGAL: North 629.45 Feet of Lot No. "D" of Block 159, M.B. 1/43

Assessor's Parcel Number: 410-221-08-0000

Prepared for:

CITY OF HESPERIA – PLANNING DEPARTMENT
9700 Seventh Avenue
EDGAR GONZALEZ, Associate Planner
egonzalez@cityofhesperia.us
760-947-1330

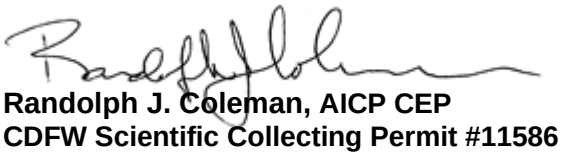
Prepared for Owner:

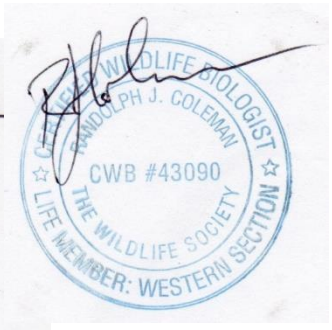
PARK VIEW TRAILS, LLC
15550 MAIN STREET, SUITE C-11
HESPERIA, CA 92345

REPORT PREPARATION DATE: MAY 24, 2023
EFFECTIVE DATE OF REPORT: MAY 23, 2023
Expiration date OF REPORT: FEBRUARY 1, 2024 (Reptile & Mammal Species only)
Expiration date OF REPORT: JANUARY 31, 2024 (All applicable Bird Species)

DISTRIBUTION: DIGITAL ONLY TO CLIENT & CLIENT CIVIL ENGINEER

I Hereby certify that the findings and conclusions presented in this Report are accurate to the best of my knowledge.
NOTE: No Joshua Trees or other trees on Site.





Randolph J. Coleman, AICP CEP
CDFW Scientific Collecting Permit #11586
Certified Wildlife Biologist #43090
Certified Arborist & Tree Risk Assessment Qualified WE#8024A
Qualified Storm water Developer/Planner – QSD/P #21595

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1.0 INTRODUCTION

This report presents the results of a general Biological Resource Study and Protected Plant Preservation Plan (Report or Assessment) and focused surveys for Desert Tortoise (Gopherus agassizii) and Burrowing Owl at this Site in the City of Hesperia, County of San Bernardino, California (see Figure 1). The project legal description and Assessor's Parcel Number is:

Legal Description: North 629.45 Feet of Lot No. "D" of Block 159, M.B. 1/43
Assessor's Parcel Number: 0410-221-08-0000.

It is located on the U.S.G.S. 7.5-minute HESPERIA, California Quadrangles. The proposed Project Site occupies ~10.0 (Gross) acres. The Project Site is bordered by Sultana High School on the east, vacant land to the east and south, Edison switching station to the north and existing single-family residential development in the extended directions to the south and east and multi-family to the north and west. The Project Site is located at elevations ranging from ~3,218 feet at the southwest corner of the site to ~3,202 feet at the northeast corner of the site.

This survey effort consisted of a literature review, a site survey to perform a general inventory of plants and animals and a focused survey to ascertain presence/absence of Desert Tortoise and Burrowing Owl, Joshua Trees and other native desert protected trees and plants, an assessment of potential habitat for sensitive biological resources, and to check for presence/absence of jurisdictional waters or wetlands.

2.0 METHODS

A literature review was conducted to identify sensitive biological resources known from the vicinity of the Project Site. This included consultation with the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Data Base (CNDDB 2007) computerized data base, a review of the California Native Plant Society's (CNPS) *Rare and Endangered Vascular Plants of California* (2001), and a review of Hesperia ordinances, San Bernardino County's Biotic Resources Overlay Map. Pertinent documents from the Altec files were also consulted.

The Site was surveyed by Randolph J. Coleman, Certified Wildlife Biologist & Certified Arborist on SEPTEMBER 17 and 18, 2022 (see Table A). The site was surveyed for presence/absence of Desert Tortoise by walking United States Fish and Wildlife Service protocol (USFWS) 30 foot-wide transects over the entire site. Zone of Influence transects were performed surrounding the site, as some of the property directly surrounding the site is vacant (see Map 1). The surveyor also looked for sign of Burrowing owls, Desert kit fox and American badger during the course of walking transects over the site and available buffer areas, as well as sign of nesting birds.

The assessment of the potential for occurrence of many of the sensitive biological resources known from the project vicinity was based on geographic range, habitat associations, soil types and personal desert experiences. All plant and vertebrate species observed were recorded in field notes. Unobserved wildlife species were identified through indirect signs (e.g., scat, tracks, nests, burrows, etc.). Bird species were identified through calls, nests, and binoculars.

Scientific nomenclature for this report is from the various standard reference sources: plant communities, Holland (1986); flora, Hickman (1993) and Munz (1974); reptiles and amphibians, Stebbins (2003); birds, American Ornithologist's Union (2005); and mammals, Grenfell (2000).

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Table A. Biological Surveys Dates at the Project Site

2023 Date	Surveyors	Time	Weather	Temp.
May 22 (1949 Sunset)	R. Coleman	1700-2200	Clear, 5-10 mph wind (North to South)	78-65°F
May 23 (0541 Sunrise)		0400-0900	Clear, 0-5 mph wind (Northerly)	59-68°F

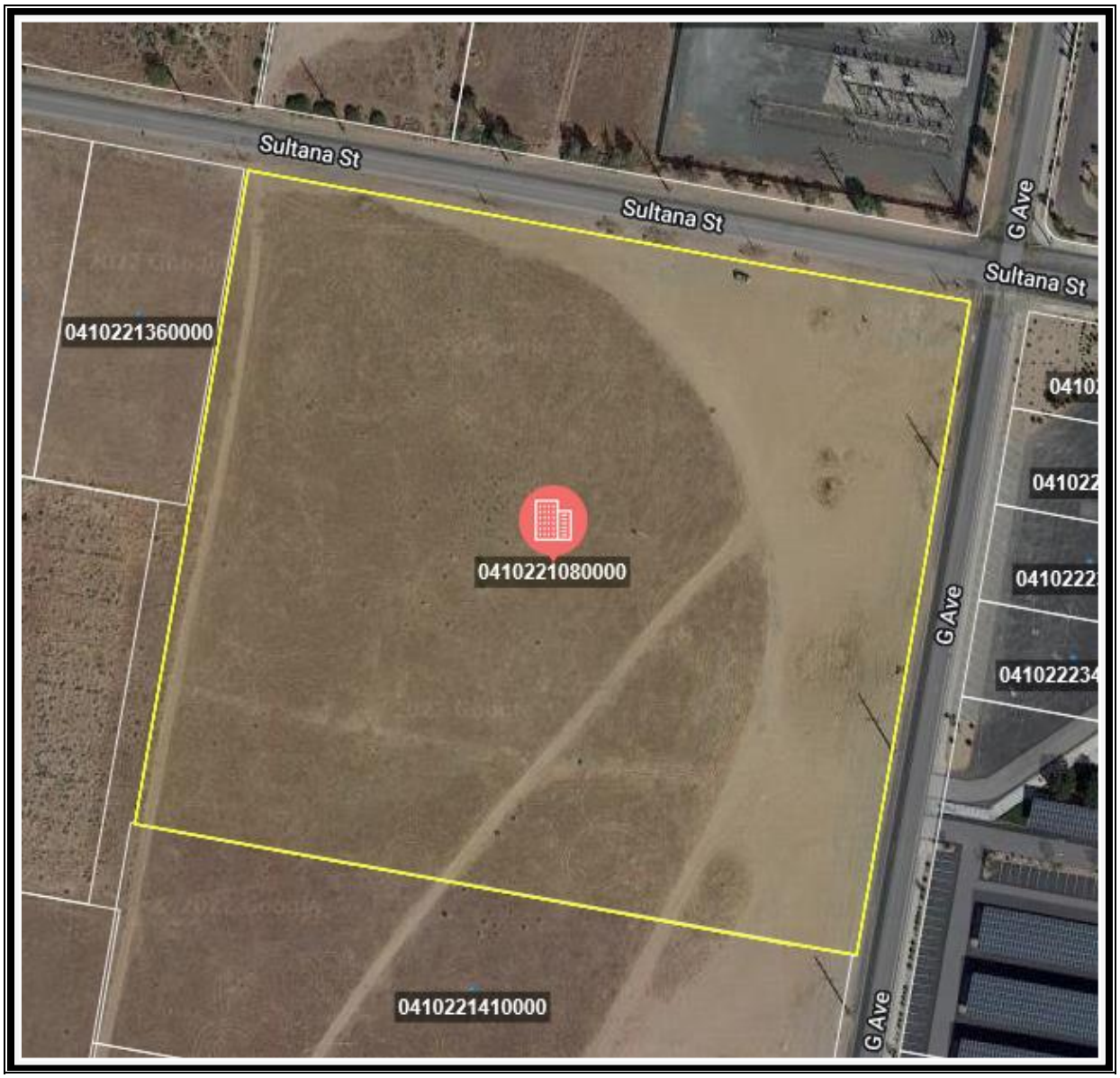

Figure 1. Current Over-View of the Site (Google Earth Image)

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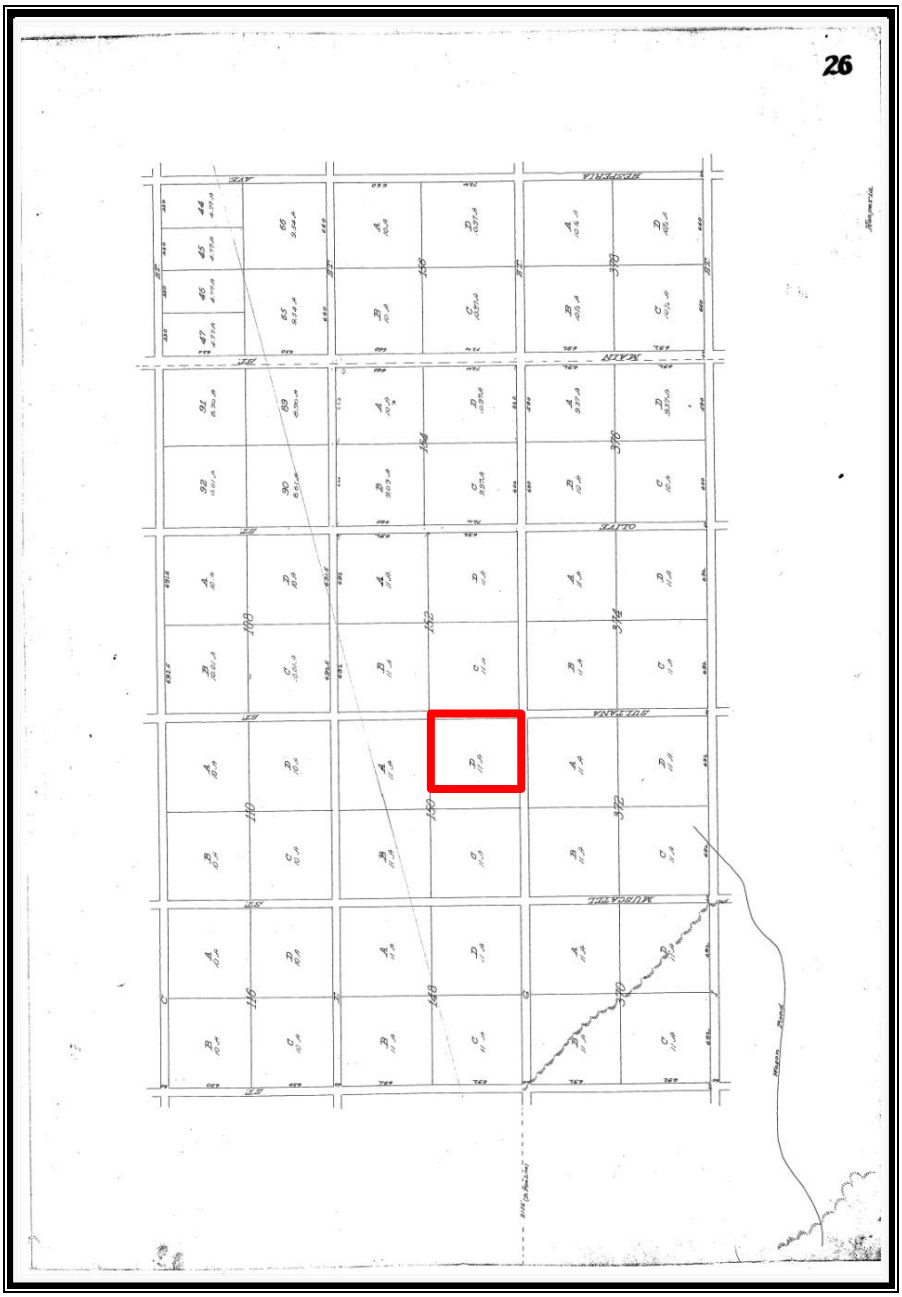

Figure 2. 2 Tract Map – Township of Hesperia M.B. 1/43

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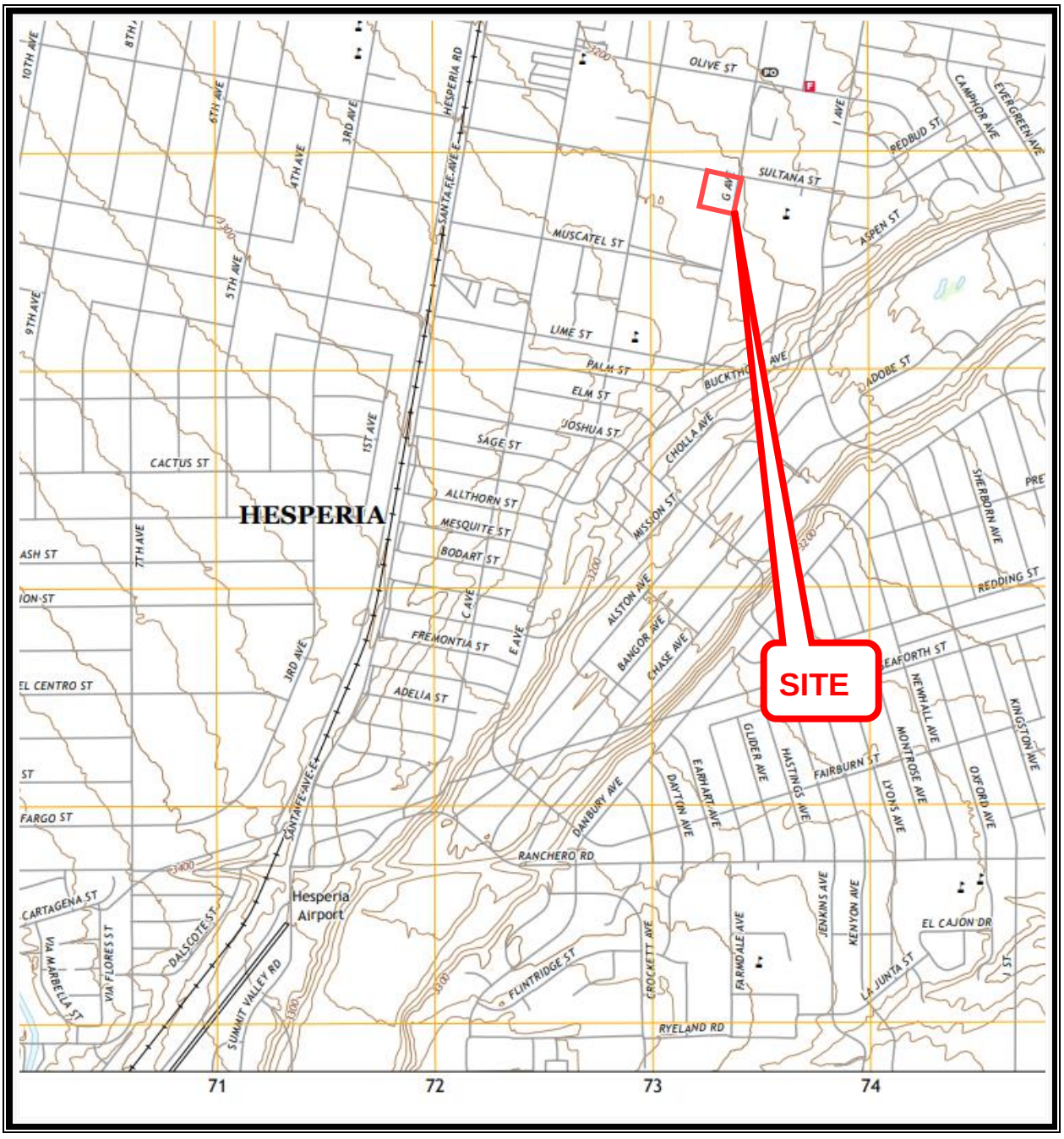

Figure 3. Over-View of the Site on a USGS Map

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3.0 REGULATORY FRAMEWORK

3.1 Federal

Endangered Species Act (ESA) – The United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service are the designated federal agencies accountable for administering the ESA. ESA defines species as "endangered" or "threatened" and provides regulatory protection at the federal level.

- Section 9 of the ESA prohibits the "take" of listed (i.e., endangered or threatened) species. The ESA definition of take is "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct." Recognizing that take cannot always be avoided, Section 10(a) includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities. Specifically, Section 10(a)(1)(A) permits (authorized take permits) are issued for scientific purposes. Section 10(a)(1)(B) permits (incidental take permits) are issued for the incidental take of listed species that does not jeopardize the species.

- Section 7 (a)(2) requires federal agencies to evaluate the proposed project with respect to listed or proposed listed, species and their respective critical habitat (if applicable). Federal agencies must employ programs for the conservation of listed species and are prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its "critical habitat."

As defined by the ESA, "individuals, organizations, states, local governments, and other non-federal entities are affected by the designation of critical habitat only if their actions occur on federal lands, require a federal permit, license, or other authorization, or involve federal funding.

Section 10(a) of the ESA authorizes the issuance of incidental take permits and establishes standards for the content of habitat conservation plans (see Section 3.3 below).

Migratory Bird Treaty Act (MBTA) – Treaties signed by the U.S., Great Britain, Mexico, Japan, and the countries of the former Soviet Union make it unlawful to pursue, capture, kill, and/or possess, or attempt to engage in any such conduct to any migratory bird, nest, egg or parts thereof listed in this document. The Secretary of the Interior can issue permits for incidental take of migratory bird species. As with the ESA, the MBTA also allows the Secretary of the Interior to grant permits for the incidental take of these protected migratory bird species.

National Environmental Policy Act (NEPA) – If portions of a proposed project could fall under the jurisdiction of a federal agency (i.e., U.S. Army Corps of Engineers). NEPA establishes certain criteria that must be adhered to for any project that is "financed, assisted, conducted or approved by a federal agency. The federal lead agency is required to "determine whether the proposed action will significantly affect the quality of the human environment."

Section 404 of the Clean Water Act – This section of the Clean Water Act, administered by the U.S. Army Corps of Engineers (USACE), regulates the discharge of dredged and fill material into "waters of the United States." The USACE has created a series of nationwide permits that authorize certain activities within waters of the U.S. provided that the proposed activity does not

exceed the impact threshold for nationwide permits, takes steps to avoid impacts to wetlands where practicable, minimize potential impacts to wetlands, and provide compensation for any remaining, unavoidable impacts through activities to restore or create wetlands. For projects that exceed the threshold for nationwide permits, individual permits under § 404 can be issued.

3.2 State - California

California Endangered Species Act (CESA) – This legislation is similar to the federal ESA; however, it is administered by the California Department of Fish and Wildlife (CDFW). The CDFW is authorized to enter into "memoranda of understanding" with individuals, public agencies, and other institutions to import, export, take, or possess state-listed species for scientific, educational, or management purposes. CESA prohibits the take of state-listed species except as otherwise provided in state law. Unlike the federal ESA, CESA applies the take prohibitions to species currently petitioned for state-listing status (candidate species). State lead agencies are required to consult with CDFW to ensure that actions are not likely to jeopardize the continued existence of any state-listed species or result in the destruction or degradation of occupied habitat.

California Environmental Quality Act (CEQA) – The basic goal of CEQA is to maintain a high-quality environment now and in the future and the specific goals are for California's public agencies to:

1. Identify the significant environmental effects of their actions; and, either
2. Avoid those significant environmental effects, where feasible; or
3. Mitigate those significant environmental effects, where feasible.

CEQA applies to "projects" proposed to be undertaken or requiring approval by state and local government agencies. Projects are activities which have the potential to have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits and the approval of tentative subdivision maps. Where a project requires approvals from more than one public agency, CEQA requires one of these public agencies to serve as the "lead agency."

A "lead agency" must complete the environmental review process required by CEQA. The most basic steps of the environmental review process are:

1. Determine if the activity is a "project" subject to CEQA;
2. Determine if the "project" is exempt from CEQA; and
3. Perform an Initial Study to identify the environmental impacts of the project and determine whether the identified impacts are "significant". Based on its findings of "significance", the lead agency prepares one of the following environmental review documents:

    a. Negative Declaration if it finds no "significant" impacts;
    b. Mitigated Negative Declaration if it finds "significant" impacts but revises the project to avoid or mitigate those significant impacts; and
    c. Environmental Impact Report (EIR) if it finds "significant" impacts.

While there is no ironclad definition of "significance", Article 5 of the State CEQA Guidelines provides criteria to lead agencies in determining whether a project may have significant effects.

The purpose of an EIR is to provide state and local agencies and the general public with detailed information on the potentially significant environmental effects which a proposed project is likely to have and to list ways in which the significant environmental effects may be minimized and indicate alternatives to the project.

The Native Plant Protection Act (NPPA) – The NPPA includes measures to preserve, protect, and enhance rare and endangered native plant species. Definitions for “rare and endangered” are different from those contained in CESA. However, the list of species afforded protection in accordance with the NPPA includes those listed as rare and endangered under CESA. NPPA provides limitations on take as follows: “no person will import into this state, or take, possess, or sell within this state” any rare or endangered native plants, except in accordance with the provisions outlined in the act. If a landowner is notified by CDFW, pursuant to section 1903.5 that a rare or endangered plant is growing on their property, the landowner shall notify CDFW at least 10 days prior to the changing of land uses to allow CDFW to salvage the plants.

Natural Community Conservation Planning (NCCP) Program – The NCCP, which is managed by the CDFW, is intended to conserve multiple species and their associated habitats, while also providing for compatible use of private lands. Through local planning, the NCCP planning process is designed to provide protection for wildlife and natural habitats before the environment becomes so fragmented or degraded by development that species listing are required under CESA. Instead of conserving small, often isolated “islands” of habitat for just one listed species, agencies, local jurisdictions, and/or other interested parties have an opportunity through the NCCP to work cooperatively to develop plans that consider broad areas of land for conservation that would provide habitat for many species. Partners enroll in the programs, and, by mutual consent, areas considered to have high conservation priorities or values are set aside and protected from development. Partners may also agree to study, monitor, and develop management plans for these high value “reserve” areas. The NCCP provides an avenue for fostering economic growth by allowing approved development in areas with lower conservation value. See further discussion in Section 3.3 below.

Sections 1600-1603 of the State Fish and Game Code – The California Fish and Game Code, pursuant to Sections 1600 through 1603, regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife resources. Under state code, CDFW jurisdiction is assessed in the field based on one, or a combination, of the following criteria (CDFW 2005b):

1. At minimum, intermittent, and seasonal flow through a bed or channel with banks and that also supports fish or other aquatic life.
2. A watercourse having a surface or subsurface flow regime that supports or that has supported riparian vegetation.
3. Hydrogeomorphically distinct top-of-embankment to top-of-embankment limits.
4. Outer ground cover and canopy extents of, typically riparian associated vegetation species that would be sustained by surface and/or shallow subsurface waters of the watercourse.

The CDFW requires that public and private interests apply for a “Streambed Alteration Agreement” for any project that may impact a streambed or wetland. The CDFW has maintained

a "no net loss" policy regarding impacts to streams and waterways and requires replacement of lost habitats on at least a 1:1 ratio. No mapped blue line "stream" affects the Project Site. These features would qualify as "Waters of the State," if applicable.

Section 2081 of the State Fish and Game Code – Under Section 2081 of the California Fish and Game Code, the CDFW authorizes individuals or public agencies to import, export, take, or possess state endangered, threatened, or candidate species in California through permits or memoranda of understanding. These acts, which are otherwise prohibited, may be authorized through permits or "memoranda of understanding" if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in question, and (4) the applicant ensures suitable funding to implement the measures required by the CDFW. The CDFW shall make this determination based on the best scientific information reasonably available and shall include consideration of the species' capability to survive and reproduce.

Section 3505.5 of the State Fish and Game Code – This section makes it unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds-of-prey, e.g.: owls, hawks, eagles, etc.) or to take, possess, or destroy the nest or eggs of any bird-of-prey.

3.3 County – San Bernardino

Applicable sections of the County of San Bernardino Development Code establishes the guidelines for Desert Native Plant Protection and Management applied to specific desert native plants growing on private land within the unincorporated areas of the County, and to desert native plants growing on public land owned by the County or the State of California. The list of regulated desert native plants consists of the following groups:

- Desert Native Plants with stems two (2) inches or greater in diameter or six (6) feet or greater in height
  - Smoke Trees (*Dalea spinosa*);
  - All species of the genus *Prosopis* (Mesquites);
- All woody species of the family *Agavaceae* (century plants, nolinas, yuccas);
- Creosote (*Larrea tridentata*) rings, ten (10) feet or greater in diameter;
- All Joshua trees (*Yucca brevifolia*); and
- Any part of any of the following species, whether living or dead:
  - Desert ironwood (*Olneya tesota*);
  - All species of the genus *Prosopis* (mesquites);
  - All species of the genus *Cercidium* (palos verdes).

All plants protected or regulated by the State Desert Native Plants Act (i.e., California Food and Agricultural Code 80001 et. seq.) shall be required to comply with the applicable provisions of those statutes prior to the issuance of any County development permit or land use application approval. The County Agricultural Commissioner is the responsible agency for the issuance of any required wood tags, seals, or permits.

Any person who willfully removes or harvests or transplants a living desert native plant shall first obtain approval from the County to do so in accordance with the applicable procedures set forth.

3.4 City – HESPERIA

Applicable sections of the City of Hesperia Development Code establishes the guidelines for Desert Native Plant Protection and Management applied to specific desert native plants growing on private land within the incorporated areas of the City.

The general geographical coordinates of Hesperia City Hall is 35°25'37" latitude and -117°19'00" longitude and an average elevation of 3,280 feet. The weather in the Community of Hesperia is predominately influenced by its high desert location along the western edge of the Mojave Desert and being adjacent and rain-shadow effect of the San Bernardino and San Gabriel Mountain ranges to the south. The climate is characterized by hot days and cool nights with extremely arid conditions prevailing throughout the summer months.

The mean annual temperature for the Hesperia area is 61 F (16 C). There are wide annual temperature fluctuations that occur from a high of 110 F (44° C) to a low of 1 F (−17 C). The area is known to have wind as high as 50 mph (80 km/h) on a sunny day. Whenever winds exceed 30 mph (48 km/h) dust devils and dust clouds form in the area due to the fine desert sands becoming airborne and then leaving Eolian deposits. December is the coolest and wettest month, August is the hottest month, and April is the windiest month.

Hesperia is a desert environment, with an average precipitation of 8.5 inches (215 mm) of "equivalent rainfall" per year, which includes snow and minimal dew, therefore the vast majority of typical moisture is from the normal winter storms and corresponding rainfall. This higher average precipitation is influenced by being adjacent to the San Bernardino Mountain Range that quickly drops to about an annual average of 2-inches per year just 10 miles northerly.

These extreme weather patterns with extreme heat and little to no rainfall during summer months and freezing nights during winter months along with being the typical rainy-season (October til April) with minimal rainfall patterns make all native desert endemic animal and plant life extremely hardy to survive these extremes when compared to the Sonoran Desert to the extended east and the Great Basin Desert to the north.

Contact with local Law Enforcement Officers (LEO's):

None: Occasionally a neighbor may call the local Police Department to say someone is suspicious on or near the subject property, which has personally occurred in the past.

4.0 RESULTS

4.1 Vegetation

Appendix 1 includes the scientific and common names for plant species identified during the surveys. A total of 50 plant species were identified in the general area of the survey. This number does not reflect the total number of plant species likely to occur on the site, specifically spring and autumnal annuals. Recent years have been below average rainfall years, which has resulted in a lack of germination for many spring and autumnal annual plant species during Site reviews and the even rarer fall annual plant species that require specific timing of hot August/September rainfall for germination. Weather records for Hesperia show that the area has only received ~1.2 inches of rainfall in 2023. The relatively low number of observable annual plants on the site is an indication of the previous extended drought conditions and compounded by historical disturbances that much of the Mojave Desert is experiencing.

The dominant plant community present on the site is best characterized as highly impacted by anthropogenic activities (agricultural uses since the 1880's), wildland fires and sparse Mojave Mixed Woody Scrub with no Joshua Trees or other native desert trees in the general area (Holland 1986). This habitat is generally characterized by a lack of overstory desert trees and with only an understory of various shrubs and perennial herbs that are often typical components of other plant communities. At higher elevations Joshua Tree Woodland intergrades with Blackbrush Scrub and Mojavean Juniper Woodland and Scrub (Holland 1986); and at lower elevations with Mojave Creosote Bush Scrub (Holland 1986) and scattered Alkali Sinks (Dry Lakes) scattered throughout the Transmontane system in the Mojave Desert (Basin and Range affect). Dominant plant species typical of Mojave Mixed Woody Scrub present on the Project Site include: Creosote Bush (*Larrea tridentata*), Burrobush (*Ambrosia dumosa*), and Golden Cholla (*Opuntia echinocarpa*).

The Project Site is surrounded on two sides (north and east) by development of perimeter roads, two sides (south and west) by vacant land multi-residentially zoned for future development. The Site has received substantial historical (See Figure 2 Aerial Photograph) disturbance from pedestrian trails and vehicular parking by adjacent high school uses, nearby residents walking, some with multiple dogs (off-leash) and substantial use of Off-Highway Vehicle activities in the form of motorcycle and Quad trail uses in the general neighborhood. The Site has been historically cleared of native vegetation. (Appendix 2: Site Photographs). No mapped blue line stream crosses the Project Site or immediately adjacent to the Site.

4.2 Wildlife

The list of common animals typically detected on or near the Project Site and some during the survey totals 35 species (5 reptiles, 6 mammals and 24 birds). The inventory was limited by the brief survey duration, the general drought conditions of the area, and by the nocturnal and fossorial habits of many animals that would be limited during the Burrowing owl protocols.

These following common reptiles were observed during this specific field surveys:

Side-blotched Lizards (*Uta stansburiana*)
Desert Spiny Lizards (Sceloporus sp.)

Great Basin Whiptails (*Aspidoscelis tigris tigris*)

These common reptiles have been observed previously in the general area in past during site surveys in the Hesperia area:

Mojave Green (*Crotalus scutulatus)*
Southwestern Speckled Rattlesnake *(Crotalus mitchellii pyrrhus)*

The disturbed native habitats on the Site and existing residence and anthropogenic effects (with Active-Use by students/kids, off highway vehicles and numerous canines) and perimeter roads, no longer creates potential habitat for the Desert tortoise (*Gopherus agasizzii*), and additionally no tortoise sign was observed during the survey transects in 2022 but have been observed in the native desert areas since the 1970's north of Adelanto and Victorville. A few other common reptiles likely inhabit or utilize the site but were not observed due to early fall or late summer.

These following ubiquitous or common mammals were observed or detected (i.e., sign – nest-burrows -scat) during this specific field survey:

Black-tailed Jackrabbit (*Lepus californicus*)
Desert Cottontail (*Sylvilagus audubonii)*
White-tailed Antelope Ground Squirrel (*Ammospermophilus leucurus*)
Desert Woodrat (*Neotoma lepida*)
Coyote (*Canis latrans*).

These following ubiquitous or common birds observed during the survey include a mix of species commonly found in the local desert community and typically are observed at nearby residential uses that provide water, food, nesting and shelter resources and opportunities. Most of these birds observed were during the walking of the transects including the following species: Mourning Dove (*Zenaida macroura*), Red-tailed Hawk (*Buteo jamaicensis*), Black- throated Sparrow (*Amphispiza bilineata*), Verdin (*Auriparus flaviceps*), American Kestrel (*Falco sparverius*), and Common Raven (*Corvus corax*). Additional bird species were observed during previous site and other nearby site surveys in the area and are listed in Appendix 1.

4.3 Sensitive Elements

Plant or animal taxa may be considered "sensitive" due to declining populations, vulnerability to habitat change or loss, or because of restricted distributions. Certain sensitive species have been listed as Threatened or Endangered by the United States Fish and Wildlife Service (USFWS) or by the CDFW and are protected by the federal and state Endangered Species Acts and the California Native Plant Protection Act. Other species have been identified as sensitive by the USFWS, the CDFW, or by private conservation organizations, including the CNPS, but have not been formally listed as Threatened or Endangered. Such species can still be considered significant under the California Environmental Quality Act (CEQA).

The literature review, and ALTEC biologists' knowledge of the project vicinity, indicated that as many as 27 sensitive biological resources may potentially occur near the Project Site. For a summary of sensitive species known to occur or potentially occurring near the Project Site, see Tables 1 through 4.

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Table 1. Sensitive Plants: Project Site

Species	Protective Status	Habitat	Flowering Period (Elevation/rainfall)	Occurrence Probability
Agavaceae Century plants, nolinas & Yuccas	F: ND C: ND CNPS List: ND State Rank: ND County: Protected	Varies	Varies	Absent (Not detected during survey)
Arenaria paludicola Marsh sandwort	F: FE C: CE CNPS List: 1B.1 State Rank: S1 County: None	Sandy, openings. Marshes & swamps	May – Aug	Absent (Not detected during survey)
Berberis nevinii Nevin's barberry	F: FE C: CE CNPS List: 1B.1 State Rank: S1 County: None	Sandy or gravelly. Chaparral; Cismontane woodland; Coastal scrub; Riparian scrub	(Feb) Mar – Jun	Absent (Not detected during survey)
Brodiaea filifolia Thread-leaved brodiaea	F: FT C: CE CNPS List: 1B.1 State Rank: S2 County: None	Often clay. Chaparral (openings); Cismontane woodland; Coastal scrub; Playas; Valle7y & foothill grassland; Vernal pools	Mar – Jun	Absent (Not detected during survey)
Cercidium Palos verdes	F: FD C: FD CNPS List: FD State Rank: FD County: Protected			Absent (Not detected during survey)
Chloropyron maritimum ssp. Maritimum Salt marsh bird's beak	F: FE C: CE CNPS List: 1B.2 State Rank: S1 County: None	Coastal dunes; Marshes & swamps (coastal salt).	May – Oct (Nov)	Absent (Not detected during survey)
Dalea spinosa Smoke tree	F: FD C: FD CNPS List: FD State Rank: FD County: Protected			Observed in the general area along ephemeral washes and locations with high water table
Dodecahema leptoceras Slender-horned spineflower	F: FE C: CE CNPS List: 1B.1 State Rank: S1 County: None	Sandy. Chaparral; Cismontane woodland; Coast scrub (alluvial fan).	Apr – Jun	Absent (Not detected during survey)
Eriastrum densifolium ssp. sanctorum Santa Ana River woollystar	F: FE C: CE CNPS List: 1B.1 State Rank: S1 County: None	Sandy or gravelly. Chaparral; Coastal scrub (alluvial fan).	Apr – Sep	Absent (Not detected during survey)

Eschscholzia androuxii Joshua Tree poppy	F: FD C: FD CNPS List: 4.3 State Rank: S3 County: None	Desert washes, flats, slopes; sandy, gravelly & rocky. Joshua tree woodland; Mojavean desert scrub.	Feb – May (Jun)	Absent (Not detected during survey)
Euphorbia vallis-mortae Death Valley sandmat	F: FD C: FD CNPS List: 4.2 State Rank: S3 County: None	Mojavean desert scrub (sandy or gravelly)	May – Oct	Absent (Not detected during survey)
Funastrum utahense Utah vine milkweed	F: FD C: FD CNPS List: 4.2 State Rank: S4 County: None	Sandy or gravelly. Mojavean desert scrub; Sonoran Desert scrub.	(Mar) Apr – Jun (Sep-Oct)	Absent (Not detected during survey)
Grusonia parishii Parish's club-cholla	F: FD C: FD CNPS List: 2B.2 State Rank: S2 County: None	Sandy, rocky. Joshua woodland; Mojavean desert scrub; Sonoran Desert scrub.	May – Jun (Jul)	Absent (Not detected during survey)
Larrea tridentate Creosote	F: FD C: FD CNPS List: FD State Rank: FD County: Protected			Ubiquitous, but no 10-foot interior rings observed in general area (Johnson Valley area)
Linanthus maculatus Little San Bernardino Mtns. linanthus	F: FD C: FD CNPS List: 1B.2 State Rank: S2 County: None	Sandy, Desert dunes, Sonoran Desert scrub, Mojave Desert scrub, Joshua tree woodland, 6,800 feet elevation	March - May	Absent-Low (Not detected during survey)
Nasturtium gambelii Gambel's water cress	F: FE C: CT CNPS List: 1B.1 State Rank: S1 County: None	Marshes & Swamps (freshwater or brackish)	Apr – Oct	Absent (Not detected during survey)
Olneya tesota Desert ironwood	F: FD C: FD CNPS List: FD State Rank: FD County: Protected			Absent (Not detected during survey)
Prosopis Mesquites	F: FD C: FD CNPS List: FD State Rank: FD County: Protected			Observed at residences and in the general area along ephemeral washes and locations with high water table
Saltugilia latimeri Latimer's woodland-gilia	F: FD C: FD CNPS List: 1B.2 State Rank: S3 County: None	Rocky or sandy, often granitic, sometimes washes. Chaparral; Mojavean Desert scrub; Pinyon & juniper woodland.	Mar – Jun	Absent (Known from fewer than 20 occurrences, not much known about life history)

Sidalcea pedata Bird-foot checkerbloom	F: FE C: CE CNPS List: 1B.1 State Rank: S1 County: None	Meadows & seeps (mesic); Pebble (pavement) plain.	May – Aug	Absent (Not detected during survey)
Thelypodium stenopetalum Slender-petaled thelypodium	F: FE C: CE CNPS List: 1B.1 State Rank: S1 County: None	Meadows & seeps (mesic, alkaline).	May – Sep	Absent (Not detected during survey)
Yucca Brevifolia Joshua tree	F: FD C: FD CNPS List: FD State Rank: FD County: Protected			Ubiquitous and no Joshua Trees have been removed or proposed to be removed

Table 2. Sensitive Reptiles: Project Site

Species	Protective Status (F=Federal, C=California)	Habitat	Occurrence Probability
Gopherus agassizii Desert tortoise	F: FT C: CT CDFW: None	A variety of desert habitats, creosote bus scrub, wash scrub.	Absent (Not observed/detected or sign detected on or adjacent to site)
Phrynosoma blainvillii Coast horned lizard	F: FD C: FD CDFW: SSC		Absent (Not observed/detected on or adjacent to site)

Table 3. Sensitive Birds: Project Site

Species	Protective Status (F=Federal, C=California)	Habitat	Occurrence Probability
Athene cunicularia Burrowing Owl	F: FD C: FD CDFW: SSC	Inhabits a variety of open habitats (including edges of ag. fields), often occupies unused ground squirrel and other burrows	Absent (Habitat marginal to unsuitable [very disturbed] very few burrows suitable for owl occupation observed and lack of resources)
Toxostoma lecontei Le Conte's Thrasher	F: FD C: FD CDFW: SSC	Resident of open desert wash, scrub, alkali scrub, succulent scrub habitats, nests in dense spiny shrubs and cacti in washes	Absent-Low (CNDDB record from >5.5 mi. NE of site, most of site is too close to residential development)

Table 4. Sensitive Mammals: Project Site

Species	Protective Status (F=Federal, C=California)	Habitat	Occurrence Probability
Ovis canadensis nelson Desert bighorn sheep	F: None C: None CDFW: FP	Deep canyons and rocky slopes of the desert mountains with available water and forage	Absent but have been observed throughout the Mojave transmontane rocky hills/mountains ranges since the 1970's.
(*Chaetodipus fallax pallidus*) *Pallid San Diego Pocket Mouse*	F: None C: None CDFW: SLC	varies	Absent (Not detected during survey)

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
Civil Engineer: AZ#16969, CA#36293 & NV #7441, Land Surveyor CA#5413 & NV#7441, Real Estate Broker CA#836955, QSD/P CA#21595

Definitions of status designations and occurrence probabilities.

Federal designations: (Federal Endangered Species Act, US Fish and Wildlife Service):

- END: Federally listed, Endangered.
- THR: Federally listed, Threatened.
- BCC: Birds of Conservation Concern
- C: Candidate for Federal listing
- ND: Not designated.

State designations: (California Endangered Species Act, California Dept. of Fish and Wildlife)

- END: State listed, Endangered.
- THR: State listed, Threatened.
- CSC: California Special Concern Species.
- ND: Not designated.
- RARE: State listed as Rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)

California Native Plant Society (CNPS) designations: (non-regulatory, compilation by a non-profit organization which tracks rare plants)

CNPS Designations Note: According to the CNPS (http://www.cnps.org/programs/Rare_Plant/inventory/names.htm), ALL plants on Lists 1A, 1B, and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. Certain plants on Lists 3 and 4 do as well.
The CDFW (http://www.dfg.ca.gov/hcpb/species/t_e_spp/nat_plnt_consv.shtml) states that plants on Lists 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing, and recommends they be addressed in CEQA projects (CEQA Guidelines Section 15380). However, a plant need not be in the Inventory to be considered a rare, threatened, or endangered species under CEQA. CDFW recommends, and local governments may require, protection of plants which are regionally significant, such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Lists 3 and 4.

- **List 1A**: Plants presumed extinct in California.
- **List 1B**: Plants rare and endangered in California and throughout their range.
- **List 2**: Plants rare, threatened or endangered in California but more common elsewhere.
- **List 3**: Plants for which more information is needed.
- **List 4:** Plants of limited distribution; a "watch list."
- **CA Endemic**: Taxa that occur only in California

CNPS Threat Code:

.1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened, or no current threats known)

Note: All List 1A (presumed extinct in California) and some List 3 (need more information- a review list) plants lacking any threat information receive no threat code extension. Also, these Threat Code guidelines represent a starting point in the assessment of threat level. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are also considered in setting the Threat Code.

Definitions of occurrence probability:

- *Occurs:* Observed on the site by ALTEC personnel or recorded on-site by other qualified or Certified Wildlife Biologists.

- *High:* Observed in similar habitat in region by qualified biologists, or habitat on the site is a type often utilized by the species and the site is within the known range of the species.
- *Moderate:* Reported sightings in surrounding region, or site is within the known range of the species and habitat on the site is a type occasionally used by the species.
- *Low:* Site is within the known range of the species but habitat on the site is rarely used by the species.
- *Absent:* A focused study failed to detect the species, or no suitable habitat is present.

CDFW CNDDB rankings: Animals

- S1 = Extremely endangered:
  <6 viable occurrences or <1,000 individuals, or < 2,000 acres of occupied habitat
- S2 = Endangered:
  about 6-20 viable occurrences or 1,000 - 3,000 individuals, or 2,000 to 10,000 acres of occupied habitat
- S3 = Restricted range, rare:
  about 21-100 viable occurrences, or 3,000 – 10,000 individuals, or 10,000 – 50,000 acres of occupied habitat
- S4 = Apparently secure:
  some factors exist to cause some concern such as narrow habitat or continuing threats
- S5 = Demonstrably secure; commonly found throughout its historic range
- SH = All sites are historical, this species may be extinct, further field work is needed

CDFW CNDDB rankings: Plants and Vegetation Communities

- S1 = Less than 6 viable occurrences OR less than 1,000 individuals OR less than 2,000 acres
- S1.1 = very threatened
- S1.2 = threatened
- S1.3 = no current threats known
- S2 = 6-20 viable occurrences OR 1,000-3,000 individuals OR 2,000-10,000 acres
- S2.1 = very threatened
- S2.2 = threatened
- S2.3 = no current threats known
- **S3** = 21-80 viable occurrences or 3,000-10,000 individuals OR 10,000-50,000 acres
- 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.]
- S5 = Demonstrably secure to ineradicable in California.

Western Bat Working Group (WBWG) designations:

The Western Bat Working Group is comprised of agencies, organizations and individuals interested in bat research, management, and conservation from the 13 western states and provinces. Its goals are (1) to facilitate communication among interested parties and reduce risks of species decline or extinction; (2) to provide a mechanism by which current information on bat ecology, distribution and research techniques can be readily accessed; and (3) to develop a forum to discuss conservation strategies, provide technical assistance and encourage education programs.

H: High: Species which are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats.

M: Medium: Species which warrant a medium level of concern and need closer evaluation, more research, and conservation actions of both the species and possible threats. A lack of meaningful information is a major obstacle in adequately assessing these species' status and should be considered a threat.

L: Low: Species for which most of the existing data support stable populations, and for which the potential for major changes in status in the near future is considered unlikely. There may be localized concerns, but the overall status of the species is believed to be secure. Conservation actions would still apply for these bats, but limited resources are best used on High and Medium status species.

P: Periphery: This designation indicates a species on the edge of its range, for which no other designation has been determined.

Due to the substantially disturbed nature of the Site, heavily impacted by adjacent high school, proximity to residential development, nearby railroad corridor and associated infrastructure, and intrusion by domestic dogs, cats, kids and motorcycles/OHV on the site daily (use of dirt trails scattered is used in the evening and about 1 hour prior to dawn with walkers, runners and bike riders with dogs), the majority of the sensitive species listed in the tables above do not have potential to occur on the Site, or at best have a very low potential of utilizing the site.

Of the 22 sensitive plant species listed in Table 1, Pinyon Rock Cress (*Arabis dispar*) and Little San Bernardino Mountains Linanthus (*Linanthus maculatus*) have very low probability (albeit very low) of occurring near the Project Site, but the lack of localized rock outcroppings or hills create no potential habitat for this specific site. Neither of these plants or any other sensitive plant species were observed on the site during the survey. There is an historic CNDDB record (1937) of the Linanthus distant from the Project Site, but this species was not observed during the survey and the specific Project Site has substantial historical disturbance. During drought periods, desert annuals do not germinate, and Little SB Mountains Linanthus are undetectable.

Table 2 lists two reptile species known from the vicinity of the Project Site. The Desert Tortoise is a federal and state listed threatened species. Although a focused survey utilizing 30 foot-wide transects was performed over the entire Project Site, no tortoises, or their sign (scat, burrows, pallets, carcasses, etc.) were detected. Zone of Influence transects in native were performed on undeveloped lands around the Project Site at intervals of 100, 300, 600, 1200, and 2,400 feet from the project boundary, also with negative results. Desert Tortoises do not appear to occur on or immediately adjacent to the site, but it is noted they are in the general area.

Table 3 lists two species of sensitive birds that have varying probabilities of occurrence on the site. Of the four birds discussed in Table 3, only the Loggerhead Shrike (*Lanius ludovicianus*) and Prairie Falcon have a moderate probability of utilizing the site (for foraging) if the specific Site was in a native condition. The Loggerhead Shrike is considered a “Species of Special Concern” (CSC) as a nesting species by the CDFW, and a “Bird of Conservation Concern” (BCC) by the USFWS. Although Prairie Falcons (*Falco mexicanus*) have a low to moderate probability of foraging over the project, the site does not provide nesting habitat for Prairie falcon (the falcon nests on cliffs). Nesting Prairie Falcons are considered a CSC by the CDFW and are designated as a BCC by the USFWS. Burrowing Owls (*Athene cunicularia*) are considered a CSC, and have a state ranking of S2 (Endangered in the CDFW state ranking system). During the site survey, Burrowing Owls, their sign, and burrows capable of housing Burrowing Owls

were searched for on the property and no Burrowing Owls or their sign were observed on the site, and no suitable burrows that could potentially support an owl were located. The site does not have the local characteristics (wide shallow desert washes) to support Le Conte's Thrasher (*Toxostoma lecontei*), and this species was not observed on or adjacent to the site during the survey. This species is also considered a CSC by the CDFW and a BCC by the USFWS. This species had been historically observed by Coleman north of Adelanto along the wide shallow drainage courses since the 1970's.

No sensitive mammal species were observed on the site or within buffer areas during the survey. Of the one sensitive mammal listed in Table 4, there is a very low probability that Pallid San Diego Pocket Mouse (*Chaetodipus fallax pallidus*) could utilize the site. This pocket mouse is considered a CSC by the CDFW; and has a state ranking of S3 (a restricted range or rare species under the state ranking system).

Table 4 lists one species of mammal and was not observed on the Project Site and is not located at or near desert rocky hills or mountains and therefore does not have suitable habitat for Nelson's Bighorn Sheep (*Ovis canadensis nelsoni*).

5.0 DISCUSSION

5.1 Potential Impacts of the Proposed Project

Implementation of the project will not result in any additional permanent impacts to biological resources on the site because of the existing substantial disturbance. However, the site has been heavily disturbed, and some areas have been cleared (see Site Photographs). Much of the "biological value" of the site has already been lost from both historical (1880s) to recent impacts.

Implementation of the proposed project creates no additional negative impact may have a low potential to affect Le Conte's Thrashers, Loggerhead Shrikes, and Prairie Falcons, as well as common bird species that may nest on the site (NOTE: numerous Cactus Wren [*Campylorhynchus brunneicapillus*] nests were observed in larger Cholla cacti during the transects throughout the general area and typically observed near residences that provide food and water resources). Suitable habitat for Burrowing Owls is generally not present on the project site due to substantial disturbance and no sign of owls and no larger burrows for Burrowing owls or Desert kit foxes were observed on or adjacent to the site.

The project has no potential to affect a mapped blue line stream and other associated "State Waters" because they do not cross or nearby the Project Site.

5.2 Suggested General Mitigation Measures and Issues of Concern

Mitigation measures recommend methods to avoid negative impacts to significant biological resources. Such measures are designed to protect sensitive plant and wildlife species and their habitats. The following mitigation measures are generally suggested for all Project Sites and consist of measures often required of other commercial developers in the California deserts.

1.) **The Federal Migratory Bird Treaty Act recommendations:**

To comply with the Federal Migratory Bird Treaty Act, any vegetation or tree removal, or grading occurring between February 1 to August 15 shall require a qualified biologist to conduct at least one nesting bird survey, and more if deemed necessary by the consulting biologist, ending no less than 3 days prior to grading. All trees and suitable nesting habitat on the Project Site, whether they will be removed, shall be surveyed for nesting birds. If there are no nests present, this condition will be cleared.

Conducting construction activities outside the breeding season (August 16 through January 31) can avoid having to implement these measures, although even non-occupied raptor nests are protected under *Section 3505.5 of the State Fish and Game Code* and permission must be granted by CDFW to remove them.

2.) The **Burrowing Owl** *(Athene cunicularia)* is a CDFW CSC and is also protected by CDFW state code that grants protection to raptors. A habitat assessment and "burrow survey" were performed for Burrowing Owls on the site, but no owls or their sign were detected in 2022 (or other surveys since the 2006 timeframe) and not anticipated for .

The Project Site no longer contains suitable habitat for this species. To avoid potential impacts to any Burrowing Owls that may move onto the site in the future; a qualified biologist should conduct a preconstruction presence/absence survey for Burrowing Owls prior to commencement of project startup, if after a date of February 1, 2024. If an occupied burrow is found in an area that is near potential ground disturbance, and development activities are to take place during the breeding season (defined as February 1 through August 31), then no new disturbance should occur within 250 feet of the occupied burrow (or within 160 feet during the non-breeding period). Avoidance also requires that a minimum of 6.5 acres of foraging habitat be permanently preserved contiguous with occupied burrow sites for each pair of breeding burrowing owls (with or without dependent young) or single unpaired resident bird. The configuration of the protected habitat should be approved by CDFW (CDFW 1995). Upon consultation with CDFW, approval may also be granted for passive relocation of burrowing owls outside the breeding season through installation of one-way doors.

Because the Site is substantially disturbed and adjacent to numerous residences with many dogs, kids and high school impact uses, this Site has no current potential to be re-inhabited by Burrowing Owls, therefore the expiration for this assessment is February 1, 2024, similar to the expiration of mammals.

3.) **Landscaping,** if proposed or required by the local jurisdictional agency, of the proposed project should utilize locally native and endemic plants when feasible. The use of native plants has many advantages over using typical non-native or ornamental plant species. Native and endemic plant species are adapted to local climatic conditions and require far less irrigation and/or fertilizers than species not adapted to the arid climate and have additionally adapted for native pests but may be more prone to be negatively affected by invasive/non-native pests. Native plants are less likely to harbor or facilitate the spread of introduced plant pests or parasites. The use of native vegetation will help encourage native and endemic wildlife species (mainly birds and insects) to utilize the area and generally offsets the loss of native vegetation that was previously partially cleared for

previous activities. Implementing this measure will also comply with Local Ordinances – *Desert Native Plant Protection* as discussed in Section 3.3 of this report. A removal permit shall be required for the removal of any native tree or plant as regulated. Disturbing, moving (transplanting or otherwise), removal or destruction of an existing Regulated Desert Native Plant shall be subject to the provision of the ordinance outlined.

4.) **Discussion of Streambed Alteration, Blue-Line Stream on USGS Maps and Upstream Storm waters:** "A Review of Stream Processes and Forms in Dryland Watersheds: CDFG-Dec. 2010". The Site has the following attributes which any one item would be relative for the requirement of a Streambed Alteration Permit by CDFW:

- **Site:** Does not have a USGS delineated "Blue Line Stream" and the Site ultimately drains into the Mojave River.
- **USGS Blue-Line Stream:** The nearest is easterly about a 0.5 mile and is one the ephemeral natural drainage courses that ultimately drain into the Mojave River. This drainage channel's hydrology does not have the required volume of storm water discharge to affect this Site in a 100-year storm event.
- **100-Year-Flood Plain Designation:** Site is not in a "Designated Flood Plain".
- **Dominate Upstream Desert Alluvial Fan Channel:** The Site does not have a "Dominate upstream desert alluvial fan channel" that has become undefined due to lower slope and braiding of typical desert type alluvial fan morphology, therefore no potentially significant upstream off-site concentrated or sheet flows are formed from an alluvial fan that would be of an issue impacting the Site. The relatively minimal development in this area creates no potential effect on the Project Site.
- **Rivers & Riparian Corridors:** This Site does have a dominate river or riparian corridor, the nearest being the Mojave River. The Mojave River is the dominate blue-line stream of the Western Mojave Desert and is created from the northerly sides of both the San Bernardino and San Gabriel Mountain ranges and ending at Soda and Silver Dry Lakes, over 100 miles northerly and then easterly. The Colorado River dominates the Eastern Mojave Desert, along with several adjacent/nearby states and ultimately drains into the Sea of Cortez over 100 miles southerly. The Site is not a part of either dominate riparian corridors or significant riparian area.
- **Discussion of Ephemeral Natural Drainage Course(s):** The Site does not have any "Significant Native or Altered Ephemeral" drainage course(s) bisecting the Site.
- **OTHER**
  - **Aspect & Topography Issues:** The topography slopes generally to the northeast. The local customary aspect is to the Mojave River and other areas of the greater Mojave Desert varies with each dry lake shape and this specific Project Site has a lower level of erosivity potential, sedimentary transport and debris deposition during storm events. Also, no fluvial hydrology at this Site.
  - **Road Issues:** Typically, roads bisect sheet flows and natural drainage courses and re-routes flows along these roads until the water surface is no longer contained and breaks free of the road improvements (paved roads, graded dirt, and unimproved dirt roads and how the shoulders have been graded or improved) and then may continue in a newer location in the local customary aspect to the localized Dry Lake or Mojave and Colorado Rivers.
  - **Hydrology Report & Issues:** A Hydrology Report was prepared and would contain other specific information for development purposes.
  - **Observable Upstream diversions:** Observable Diversions from upstream

suburban development; public infrastructure and specifically the California Aqueduct have permanently altered the areas upstream hydrology and have no existing or future potential effect of the Site.

5.) **Wildland Fire** has an increasing affect in this area of the Mojave Desert due to a multitude of issues with invasive plant and grass species and nitrogen deposition from Los Angeles Basin smog migrating from the valley areas and through Cajon Pass, thereby creating an increasing frequency, flame height and intensity in the general area. Any increase of higher density of vegetation and increases in invasive grasses and other non-native plant species have historically and will continue to impact the local and greater Mojave Desert adversely. The site has historical wildland fire based upon the existing mosaic of native vegetation and recent decades of aerial photographs.

6.) **Habitat Fragmentation** has both natural (i.e. Aqueduct/River Riparian, Wildland Fires and Intermontane Sky Island issues) and anthropogenic barriers and boundaries, for various species, affecting regional desert habitat zone fragmentation from Highways 18, 58, 62, 66, 247 and 395, Interstates 10, 14, 15 and 40, California & Los Angeles Aqueducts, Railroad and Utility Corridors, all types of military bases, public facilities, agriculture, residential, industrial, commercial development that limit overall terrestrial migration and gene pool diversity since the “Post World War II Era”.

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
Civil Engineer: AZ#16969, CA#36293 & NV #7441, Land Surveyor CA#5413 & NV#7441, Real Estate Broker CA#836955, QSD/P CA#21595

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ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com
Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
Civil Engineer: AZ#16969, CA#36293 & NV #7441, Land Surveyor CA#5413 & NV#7441, Real Estate Broker CA#836955, QSD/P CA#21595

TABLE: Representative Species for each Plant Community

Joshua Tree Woodland – Juniper Woodland

Common Name	Scientific Name
Joshua Tree	Yucca brevifolia
California Juniper	Juniperus occidentalis
Creosote Bush	Larrea tridentata
Common Sagebrush	Artemesia tridentata
Mormon Tea	Ephedra nevadensis
Rabbit Brush	Chrysothamus nauseosus
Golden Bush	Haplopappus linearifolius
Cutleaf Filaree	Erodium cicutarium
Wild Buckwheat	Erigonum fasciculatum
Beaver Tail	Opuntia basilaris
Turpentine Broom	Thamnosoma montana
Purple Brush	Tetracoccus hallii

Joshua Tree Woodland

Joshua Tree	Yucca brevifolia
Mojave Yucca	Yucca schidigera
Creosote Bush	Larrea tridentata
Common Sagebrush	Artemesia tridentata
Wild Buckwheat	Erigonum fasciculatum
Cotton Torn	Tetradymia axillaris
Boxthorn	Lycium andersonii
Filaree	Erodium sp.
Schimus	Schimus barbatus

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19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

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APPENDIX 1

PLANTS AND ANIMALS OBSERVED
MOSTLY ALONG THE TRANSECTS
and
OBSERVATIONS AT NEARBY RESIDENCES
and
ALONG ROADS
and
UTILITY CORRIDORS
OF THE PROJECT SITE AND GENERAL AREA

(Previous Casual observations and for specific projects)

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

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Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
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Vascular Plants Observed in the general area of the Project Site,
San Bernardino County, California

MAY 23, 2023

CONIFERAE – CONE=BEARING PLANTS

Cupressaceae – Cypress Family

Juniperus californica -	California juniper

GNETAE - GNETAE

Ephedraceae - Ephedra Family

Ephedra californica -	Desert tea

ANGIOSPERMAE: DICOTYLEDONES - DICOT FLOWERING PLANTS

Asteraceae - Sunflower Family

Ambrosia acanthicarpa -	Annual bur-sage
Ambrosia dumosa -	Burrobush
Ambrosia dumosa/Hymenoclea salsola (hybrid) -	Hybrid Burrobush/Cheesebush
Bebbia juncea var. *aspera* -	Sweetbush
Ericameria cooperi var. *cooperi* -	Cooper's goldenbush
Ericameria nauseosus -	Rubber rabbitbush
Hymenoclea salsola -	Cheesebush
Stephanomeria exigua -	Annual mitra
Tetradymia stenolepis -	Mojave cottonthorn

Bignoniaceae - Bigonia Family

Chilopsis linearis ssp. *Arcuate* -	Desert willow

Boraginaceae - Borage Family

Amsinckia tessellate -	Checker fiddleneck

Brassicaceae - Mustard Family

**Sisymbrium irio* -	London rocket
*Brassica tournefortii -	Saharan mustard

Cactaceae - Cactus Family

Echinocereus engelmannii -	Hedgehog cactus
Opuntia basilaris -	Beavertail cactus
Opuntia echinocarpa -	Silver cholla
Opuntia ramosissima -	Pencil cholla

Chenopodiaceae - Goosefoot Family

**Salsola tragus* -	Russian thistle

Cucurbitaceae - Gourd Family

Cucurbita palmata -	Coyote gourd

Euphorbiaceae - Spurge Family

Chamaesyce albomarginata -	Rattlesnake weed
Stillingia linearifolia -	Narrow-leaved stillingia

Fabaceae - Pea Family

Acacia greggii -	Catclaw
**Parkinsonia aculeate* -	Mexican palo verde
Prosopis glandulosa var. *torreyana* -	Honey mesquite
Psorothamnus arborescens var. *simplicifolius* -	California indigo bush
Senna armata -	Desert senna

Fouquieriaceae -

F. splendens -	Ocotillo

Geraneaceae = Geranium Family

*Erodium cicutarium -	Red-stemmed filaree

Krameriaceae - Krameria Family

Krameria grayi -	White rhatany

Lamiaceae - Mint Family

Salazaria Mexicana -	Paper-bag bush
Salvia columbariae -	Chia

Malvaceae - Mallow Family

Sphaeralcea ambigua -	Desert mallow (color variations)

Polemoniaceae - Phlox Family

Eriastrum sp. -	Woolly star

Polygonaceae - Buckwheat Family

Eriogonum fasciculatum var. *polifolium* -	Flat-topped California buckwheat
Eriogonum inflatum -	Desert trumpet

Rosaceae - Rose Family

Coleogyne ramosissima -	Blackbush

Solanaceae - Nightshade Family

Datura wrightii -	Jimsonweed
Lycium andersonii -	Anderson's box-thorn
Lycium cooperi -	Peach thorn

Viscaceae - Mistletoe Family

Phoradendron californicum -	Desert mistletoe

Zygophyllaceae - Caltrop Family

Larrea tridentate -	Creosote bush

ANGIOSPERMAE: MONOCOTYLEDONES - MONOCOT FLOWERING PLANTS

Liliaceae - Lily Family

Yucca brevifolia -	Joshua tree
Yucca schidigera -	Mojave yucca

Poaceae - Grass Family

Achnatherum hymenoides -	Indian ricegrass

Pleuraphis (Hilaria) rigida -	Big galleta
**Schismus barbatus* -	Mediterranean grass/Split-grass
*Brome sp. -	Mediterranean grass/Cheat grass
Stipa sp. -	Desert Needlegrass

* - indicates a nonnative (introduced) species.
c.f. - compares favorably to a given species when the actual species is unknown.
Some species may not have been detected because of the seasonal nature of their occurrence. Common names are taken from Hickman (1993), Jaeger (1969), and Munz (1974).

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
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Vertebrates Observed on the Project Site, Transecrts, or previously in the native desert areas, San Bernardino County, California

MAY 23, 2023

REPTILES - REPTILIA

Rattlesnake – Crotalus
Mojave rattlesnake - *Crotalus scutulatus*

Spiny Lizards – Sceloporus
Desert Spiny Lizard (Sceloporus sp.)

Horned Lizards and allies - Phrynosomatinae
Side-blotched lizard - *Uta stansburiana*

Whiptails and relatives - Teiidae
Great Basin whiptail - *Aspidoscelis tigris tigris*

BIRDS – AVES

Larks – Alaudidae
Horned lark – *Eremophila alpestris*

New World Quail - Odontophoridae
California Quail - *Callipepla californica*

Kites, Eagles, Hawks, and allies - Accipitridae
Red-tailed Hawk - *Buteo jamaicensis*

Caracaras and Falcons - Falconidae
American Kestrel - *Falco sparverius*

Pigeons and Doves - Columbidae
Rock Pigeon - *Columba livia*
Mourning Dove - *Zenaida macroura*

Cuckoos, Roadrunners, and Anis - Cuculidae
Greater Roadrunner - *Geococcyx californianus*

Hummingbirds - Trochilidae
Costa's Hummingbird - *Calypte costae*
Rufous Hummingbird - *Selasphorus rufus*

Tyrant Flycatchers - Tyrannidae
Ash-throated flycatcher – Myiarchus cinerascens
Hammond's Flycatcher (M) - *Empidonax hammondii*
Say's Phoebe - *Sayornis saya*
Western Kingbird - *Tyrannus verticalis*

Jays, Magpies, and Crows - Corvidae

Common Raven - *Corvus corax*

Penduline Tits and Verdin - Remizidae
Verdin - *Auriparus flaviceps*

Wrens - Troglodytidae
Cactus Wren - *Campylorhynchus brunneicapillus*

Wrens – Thryomanes
Bewick's wren **-** *Thryomanes bewickii*

Mockingbirds, Thrashers, and allies - Mimidae
Northern Mockingbird - *Mimus polyglottos*
California thrasher - *Toxostoma redivivum*

Starlings and Allies - Sturnidae
European Starling - *Sturnus vulgaris*

Emberizines - Emberizidae
Black-throated Sparrow - *Amphispiza bilineata*
White-crowned Sparrow (M) - *Zonotrichia leucophrys*

Fringilline and Cardueline Finches - Fringillidae
House Finch - *Carpodacus mexicanus*

Old World Sparrows - Passeridae
House Sparrow - *Passer domesticus*

MAMMALS - MAMMALIA

Rabbits and Hares - Leporidae
Desert Cottontail - *Sylvilagus audubonii*
Black-tailed Jackrabbit - *Lepus californicus*

Squirrels, Chipmunks, and Marmots - Sciuridae
White-tailed Antelope Squirrel - *Ammospermophilus leucurus*
California ground squirrel – *Otospermophilus beecheyi*

Mice and Rats - Muridae
Desert Woodrat (middens) - *Neotoma lepida*

Foxes, Wolves, and relatives - Canidae
Coyote - *Canis latrans (numerous observation on-site and off-site in 2018 and 2022)*

M = species observed during migration or wintering (usually not a year-round resident) but a small percentage of migrating birds get off track in the fly-ways and then inhabit non-normal locations and for a local example a **Scissor-tailed flycatcher** (*Tyrannus forficatus*) stayed at Lucky Park in 29 Palms back in the 2008 timeframe and was observed personally with a Kingbird while local birders did not have to travel to Oklahoma to observe this species for their personal Bird Life List.

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APPENDIX 2
OTHER MAPS AND SITE PHOTOGRAPHS

Location & General Information of Site: See attached Drawings No. 1–5

California Desert Conservation Area Map:	See attached Drawing No. 1
Western Joshua Tree Petition Map:	See attached Drawing No. 2
Hesperia Location Map:	See attached Drawing No. 3
Seismic Information:	See attached Drawing No. 4
SCE- Fire Risk Map:	See attached Drawing No. 5
Desert Tree & Plant Legend:	See attached Drawing No. 6

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19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

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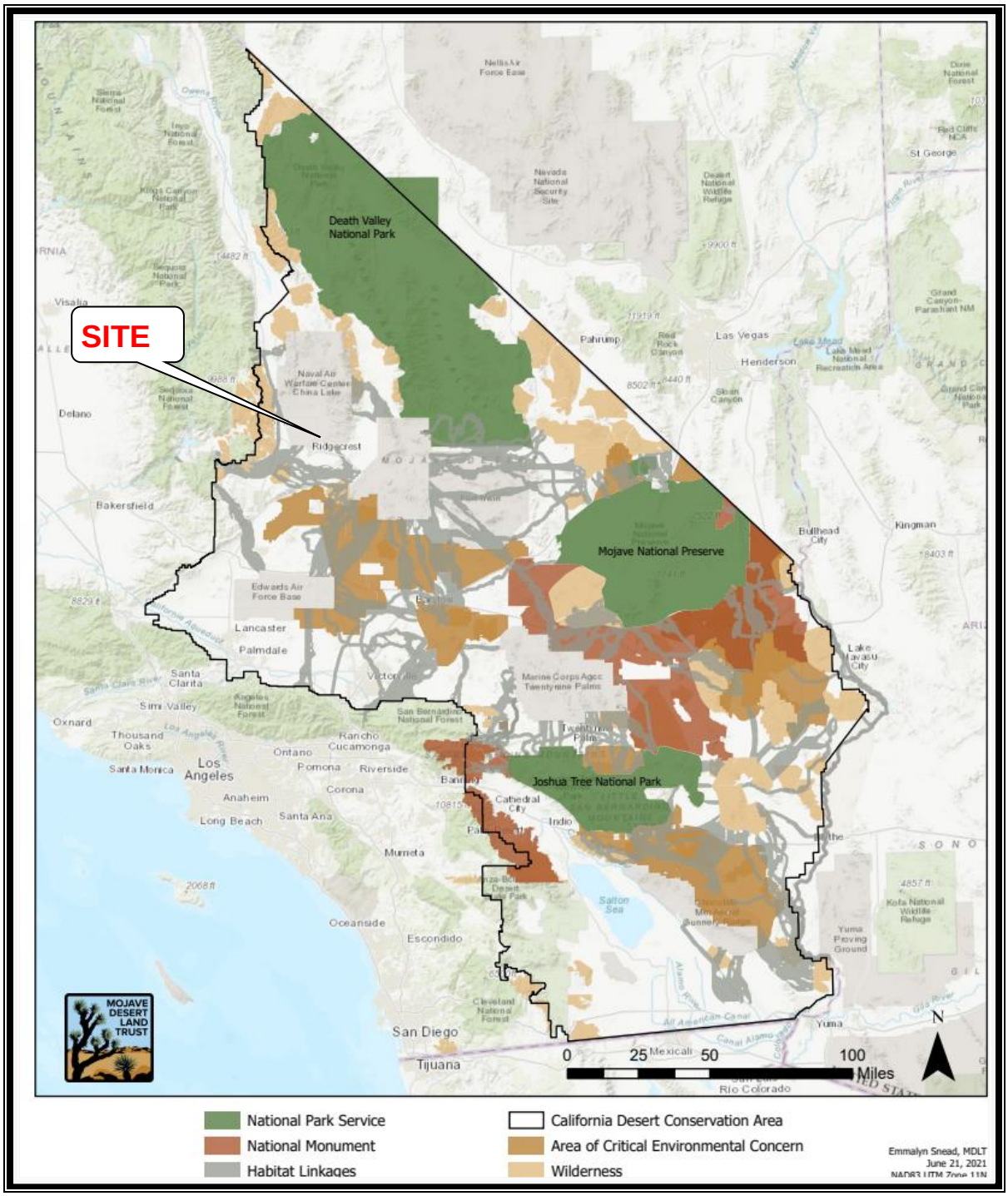
California Desert Conservation Area Map



DRAWING 1

ALTEC Land Planning
19531 U.S. Highway 18
Apple Valley, CA 92307

(760) 242-9917
GingereColeman@gmail.com
RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
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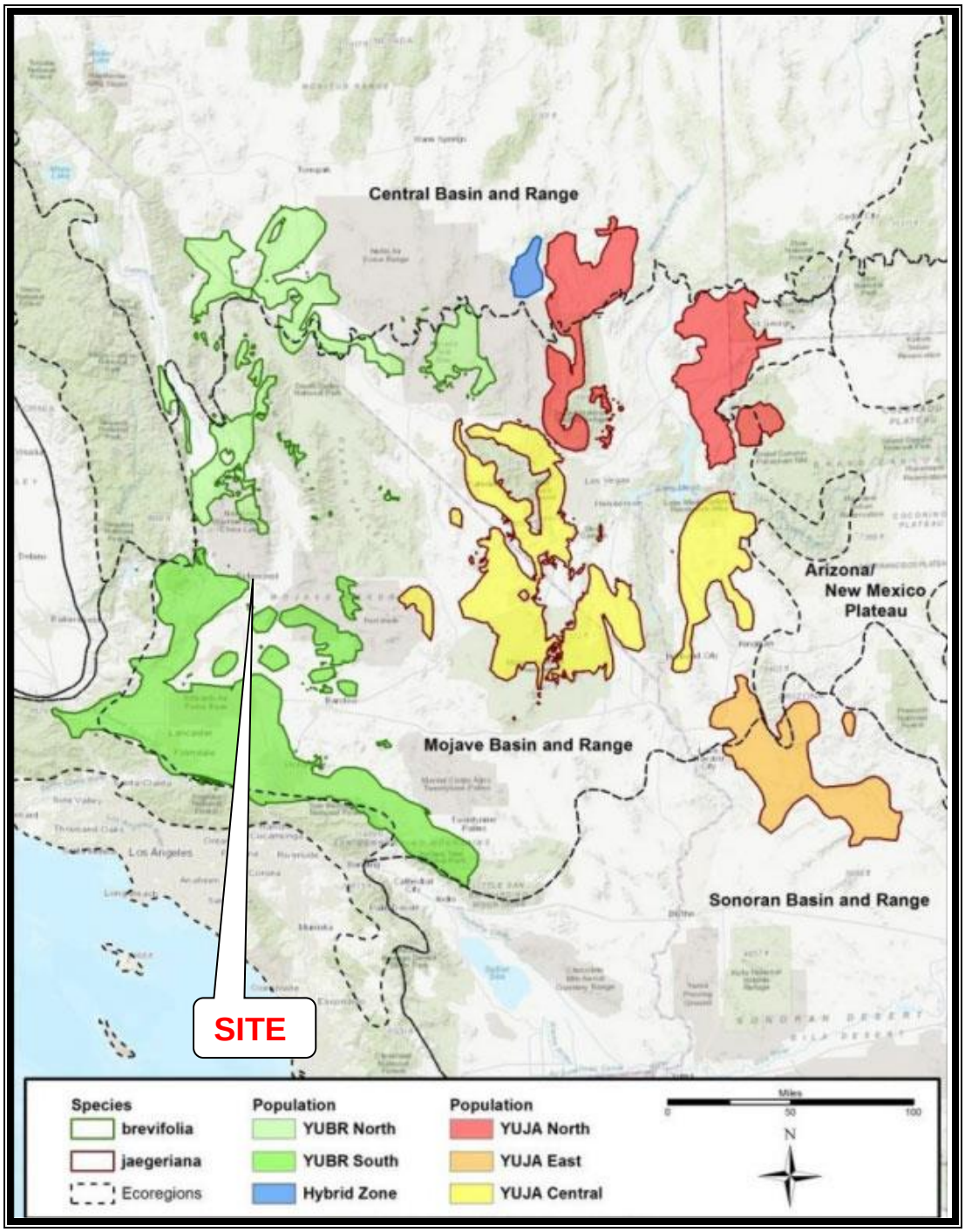
Western Joshua Tree CESA Petition & DFW's Evaluation of Petition Map



DRAWING 2

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
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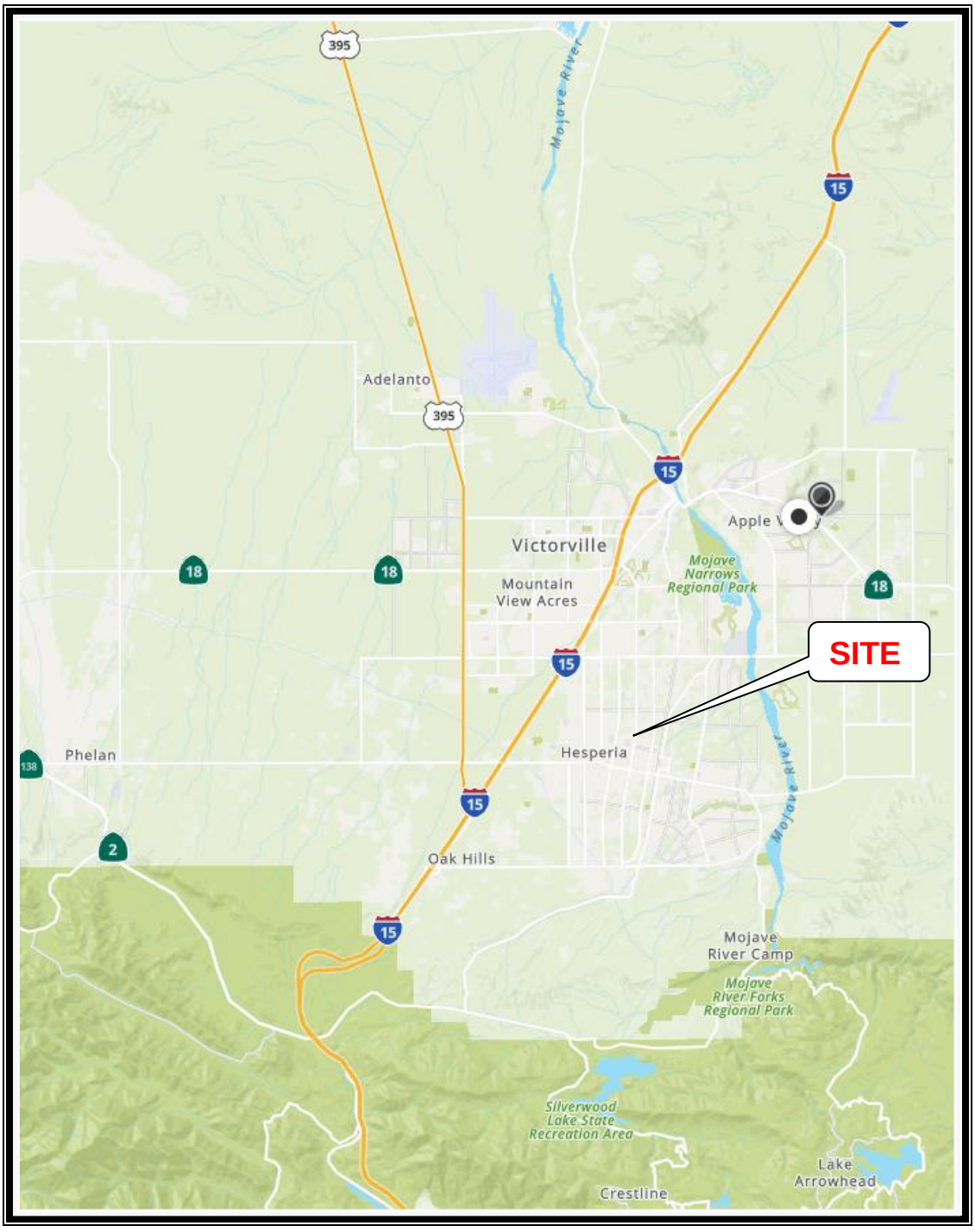
HESPERIA – REGIONAL LOCATION MAP



DRAWING 3

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
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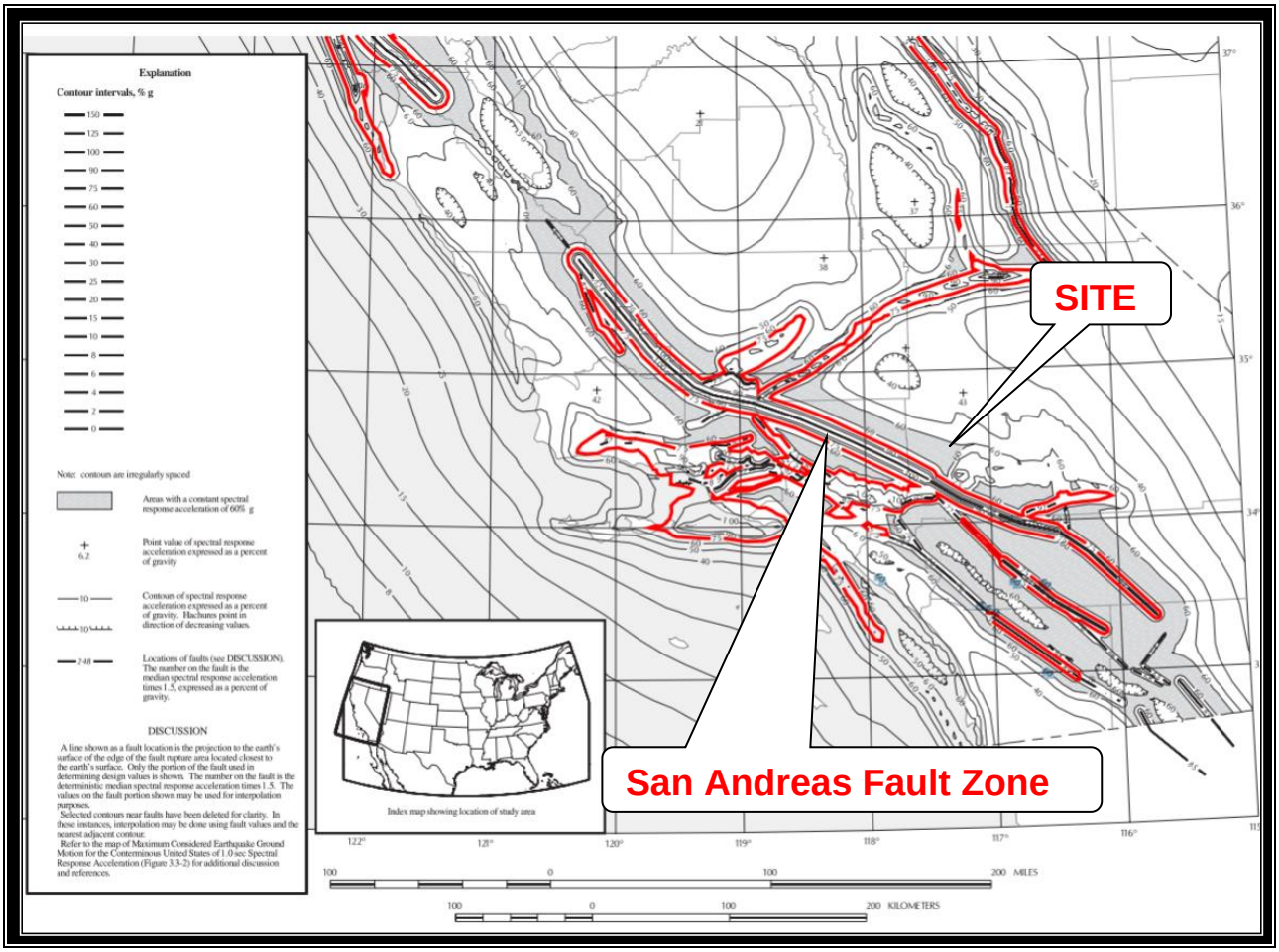
SEISMIC LOCATION MAP

1.0 second spectral response acceleration map, with 0.75g contours shown



Google Earth Pro: 34.411468˚ N, 117.290668˚ W & Elevation of 3213

DRAWING 4

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
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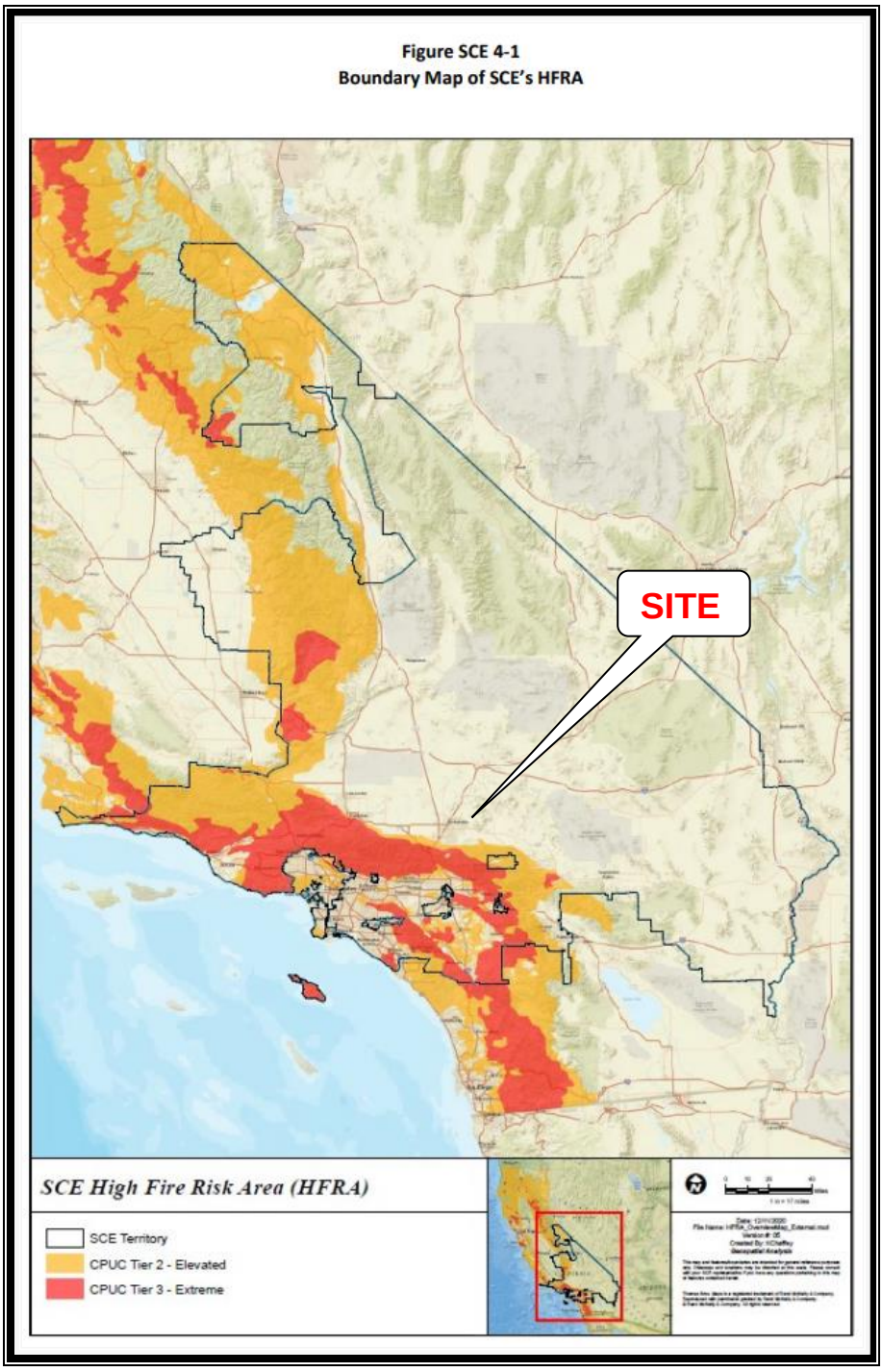
Southern California Edison - High Risk Fire Area Map (HRFA)



DRAWING 5

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
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DESERT TREES, CACTUS & JOSHUA TREE LEGEND & INFORMATION

Joshua Trees, Other Desert Trees and Plants and Cactus can have a variety of health issues and/or structural issues that create difficulties with relocation alternatives (Tree Spade use, backhoe use, hand replanting, etc.). Relocating any potential Native Desert Trees, Plants and Cacti is not planned at this time. The proposed project layout and Landscaping Plans, if applicable, are subject to change during development. During any relocation process, a review of Final Design Plans and review of individual trees or plants for fungus and insect damage will be completed and if present will prevent relocation of Joshua Trees, Plants and Cacti to prevent the spread to healthier plants. The following is a list of these common Tree and *common distinctive Joshua Tree* issues:

Binj	Basal Injury	Du	Dusty	InjO/N	Injury – Old/N
B-I	*Beetle and insect damage*	*F*	*Fungus damage*	L	Lean/Leaning
CoD	CoDominate Trunk(s)	G	Grainery Tree	*LB*	*Low Branches*
Cr	Crowded	Hf	Health Fair	*MC*	*Multiple Clones*
Db	Dieback	Hok	Health OK	*OB*	*Over Balanced*
Dbh	Diameter at 4.5’	Hp	Health Poor	*OM*	*Over Mature*
DC/C	*Dependent Clone/Clone*	IB	Included Bark	*OT*	*Over Tall*
DK	Decay	*IFb*	*Inflorescence Buds*	*S*	*Seedling (<3’)*
DL	*Down Live*	*IFf*	*Inflorescence Flowering*	Tcrk	Torsional Crack
D/*DS*	Dead/*Dead Standing*	*IFg*	*Inflorescence on-ground*	Dleg	Dogleg

NO DALEA SPINOSA
NO PROPOSIS TREES
NO AGAVACEAE TREES
NO CREOSOTE 10 FT RINGS
NO JOSHUA TREES

NO LIVING OR DEAD PARTS:

NO DESERT IRONWOOD
NO MESQUITE TREES
NO PALO VERDES

DRAWING 6

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
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Photographs:

NORTHWEST CORNER: LOOKING SOUTHEAST ACROSS SITE

NO Trees are located on Site

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
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SULTANA STREET SCENE: LOOKING EAST ALONG STREET AND SITE

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
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NORTHWEST CORNER: LOOKING SOUTH (SITE LEFT OF DIRT ROAD)

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
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APPENDIX 3

QUALIFICATIONS

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
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Consultant has completed the following environmental education, workshops, licenses, and designations:

2023 - **2023 ASCA Consulting Academy** – American Society of Consulting Arborists® (ASCA)
2021 - **Certificate Foundations of Utility Vegetation Management** (UVM) - Univ. Wisconsin-Steven's Point/UVM Assn.
- Introduction to Utility Vegetation Management [UVM - 101] & Leadership and Organization [UVM – 2.1]
- Programs and Project Management [UVM – 2.2] & Integrated Vegetation Management [UVM – 2.3]
2020 - **Botanical – CEQA Mitigation Measures & Monitoring** (David Magney; Rare Plant Program Manager at CNPS)
- **Tree Care for Birds & Other Wildlife** *(Arizona/California/Nevada/Hawaii)*-International Society of Arboriculture
- **Online Tools for Vegetation Data** – California Native Plant Society (CNPS)
- **Wildland-Urban Interface** – American Planning Association
2019 - **Joshua Tree Master Naturalist**: Joshua Tree National Park Desert Institute & UC Riverside (8 courses)
- **Desert Plant Phenology of Joshua Tree National Park:** UC Riverside and JTNP Desert Institute
- **Desert Tortoise Biology & Conservation:** CDFW/BLM/UC Riverside and JTNP Desert Institute
- **Fugitive Dust Control** (CV1903-007751-7796): South Coast Air Quality Management District
2018 - Large Branchiopods of California Workshop: TWS-SoCal and USFWS @ San Diego Botanic Garden
- Sea Turtle Workshop: NMFS Protected Res. Div., West Coast Region/NOAA @ Long Beach Aquarium
2010/15 - San Bernardino County Planning & Airport Commissioner - Review & Approval of CEQA Studies & Projects
2014 - **Arroyo Toad (Anaxyrus californicus) Workshop** (The Wildlife Society San Diego Chapter)
- Sustainable Communities @ APA-PTS Conference: Feb. 7-8, 2014, in San Diego
- California Annual Conference/APA (4 Days – Anaheim and Visalia in 2013 & 2014)
2013 - **Tree Risk Assessment Qualified** International Society of Arboriculture (WE#-8024A – Renewed in 2018 & 2023)
- **Yellow Billed Cuckoo (*Coccyzus americanus)* Workshop** (San Bernardino River Valley – KRV Audubon Facility)
- **Southwestern Willow Flycatcher (Empidonax traillii extimus) Workshop** (KRV Audubon Facility)
- National Innovative Communities Conference: 2013 (Ontario CA – San Diego mention as a leader may times)
- **Environmental Leadership Certificate:** CSU San Marcos (Matt Rahm, PhD., Esq.)
1998/12 - **UC Riverside Field & Other Certificates: - Desert Ecology - Field Ecology - Botany - Ornithology - Geology -** Geographic Information Systems - Geographical Positioning Systems - Educational Facility Planning
- American Planning Association Annual Conference (4 Days - Los Angeles)
- California County Planning Commissioners Association (2 Days - Suisun City)
2011 - **Scientific Collecting Permit #11586** by California Department of Fish and Wildlife
- **Legends of the Fall: Exploring the Clandestine Flora of Early Fall in the Eastern Mojave Desert** Rare [& Endangered] Autumn Annuals – Dr. James Andre & Dr. Tasha La Doux - CNPS @ UC- DRC
- **Certified Environmental Planner - Advanced Specialty Certification for AICP (2011 [1 of 33 in U.S.])**
- **Qualified Storm Water Developer & Planner (QSD/P #21595) by CASQA**
2010 - **Certified Wildlife Biologist #43090 -** by The Wildlife Society - Life Member (2006)-Western Section
2009 - **Western Pond Turtle, California Tiger Salamander & Red-legged Frog Workshop** (CSU Sonoma)
- **Wildlife Management & Ecosystem Management** (**Dr. Cameron Barrow,** UC Riverside Research Center/3-units)
- **Bird Biology** - Cornell University/3-unit course
2008 - **Palms Culture in the Southwest** (2 days - International Society of Arboriculture (ISA) in Las Vegas)
2007 - **Certified Arborist WE #8024A** – Int. Society of Arboriculture (+60hours CE)
- **Riparian Ecology & Plant Identification Workshop** (David Magney; Rare Plant Program Manager at CNPS)
- **Jurisdictional Delineation of Wetlands** (38-hours of Army Corps of Engineering training in San Diego)
- **Protocols for Botanical Reports** (2 day - U.C. Davis – Bodega Bay Marine Research Lab)
2006 - **Vegetation Mapping** in Redlands (4 day – Dr. Todd Keeler-Wolf, Senior Vegetation Ecologist, CDFW & Dir. CNPS
2005 - **Mojave Ground Squirrel Workshop -** Wildlife Society, CDFG & USFW
2003 - **California Burrowing Owl Symposium –** The Wildlife Society/Western Section in Sacramento
2002 - **Tortoise Workshop by Desert Tortoise Council** (Life Member), CDFG & USF&W
1994 - Registered Environmental Assessor #05791; Calif. Environmental Protection Agency (DTSC/ended in 2012)
1993 - American Institute Certified Planners #9892 & Certified Environmental Professional (2011 [1 of 33 in U.S.])
1982/4 - CA Licenses: Land Surveyor #5413 (1984); Civil Engineer #36293 (1983); Real Estate Broker #836955 (1982)
1980 **- B.S. in Civil & Environmental Engineering** from University of California,
1976 - Personally familiar with the general area; have completed various Surveys, Engineering, Planning & Appraisals

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
Civil Engineer: AZ#16969, CA#36293 & NV #7441, Land Surveyor CA#5413 & NV#7441, Real Estate Broker CA#836955, QSD/P CA#21595

BIOLOGICAL & ENVIRONMENTAL RESUME SUMMARY – RANDY COLEMAN, AICP, CCIM, MIRM, LS, PE

PROFESSIONAL MEMBERSHIPS & DESIGNATIONS:

LIFE MEMBER: International Society of Arboriculture, The Wildlife Society- Western Chapter, Desert Tortoise Council, Society for the Conservation of Bighorn Sheep (SCBS), Sierra Club, NRA Patriot Life Endowment

CERTIFIED ARBORIST #WE-8024A (2007 - original and updated*2 to 12/31/2023)
TREE RISK ASSESSMENT QUALIFIED (**2014** - Original SoCal group 1st Updated 03/07/2024)
CERTIFIED WILDLIFE BIOLOGIST #43090 - (2010) & Professional Development Certificate (2015 & 2020)
SCIENTIFIC COLLECTING PERMIT #11586 - (**2011** & Updated - California Department of Fish & Wildlife)
Foundations of Utility Vegetation Management Certificate (2021 - Univ. Wisconsin-Steven's Pt./UVM Assn)

CERTIFICATES: University of California RIVERSIDE (2001-2012)
•**Botany, Desert Ecology, Field Ecology, Ornithology, Geology, GIS, GPS**, Educational Facility Planning

School Business Management: CSU San Bernardino (2000 - Dr. Arthur Townley)
Environmental Leadership Academy: CSU San Marcos (2012 - Dr. Matt Rahm)
Master Naturalist: Joshua Tree National Park Desert Institute – (8 courses with UC Riverside)

EDUCATION: Bachelor of Science Civil & Environmental Engineering: University of California IRVINE, 1980

EXPERIENCE:

Mr. Coleman is an independent Certified Arborist and owner of ALTEC Land Planning since 1990 providing comprehensive consulting for a large variety of land planning projects; acquisitions; environmental compliance, native plants and endangered/threatened species protocol surveys; monitoring, mitigation and recommendations; including for re-establishment of native and locally endemic plant species for Mojave Desert, Mojave River riparian corridor and other Mojave and Sonoran Desert micro-environments; expert witness and litigation services, bird nesting studies and clearances, and jurisdictional entitlements, governmental compliance and permitting.

These experiences and expertise have included expert witness services and native re-landscaping plans for the Mojave River riparian corridor for a 175 felony count criminal litigation by Agency District Attorney requiring approval from US Fish & Wildlife Services, Army Corp of Engineers, California Department of Fish and Wildlife, County Flood Control District, and local city agencies. Additionally, expert witness services and prepared reports and testimony for a $100,000 Fine ($1,000 per tree -100+ native trees for a City); Black Walnut, Palm and Oak Tree Reports for southern California cities, tree and landscaping post-fire valuations, wildland urban interface fire (fuel) mitigation plans, market studies, community relations and fiscal analysis; native tree and plant assessments, preservation and relocations services; diagnosis of desert tree growth and relocation issues, construction impact mitigation and monitoring; preparation of landscaping assessment district plans; landscaping and irrigations plans and associated inspections and monitoring; right-of-way services, E-220 Multi-modal High Desert freeway corridor between I-15 and I-14, expert witness services, hazardous waste, Federal Bankruptcy, Airport master planning and approvals by state agencies for runway expansion issues & hazards evaluation; Fuel Modification Reports and Mapping for planned residential developments in fire-prone chaparral at the wildland-suburban interface; prepared approved Specific Plans with landscaping recommendations and native plant selection and monitoring/bonding programs.

Mr. Coleman is also President and founded BCA Engineering Corp. in 1981 where he has been providing professional Civil Engineering, Land Planning, Land Surveying, Project/Construction Management, Design-Build and community relations for non-profits/private/public sectors and public/private/charter schools.

Mr. Coleman has consulted for USDA Rural Utilities for water systems in disadvantage communities, state agencies, San Bernardino County and cities throughout SoCal, redevelopment agencies, special and school districts, banks, FDIC/RTC, insurance companies, national & local developers, homeowners' associations, theme park, homeowners, architects, landscape architects/contractors, property managers, NGOs/non-profits, and attorneys.

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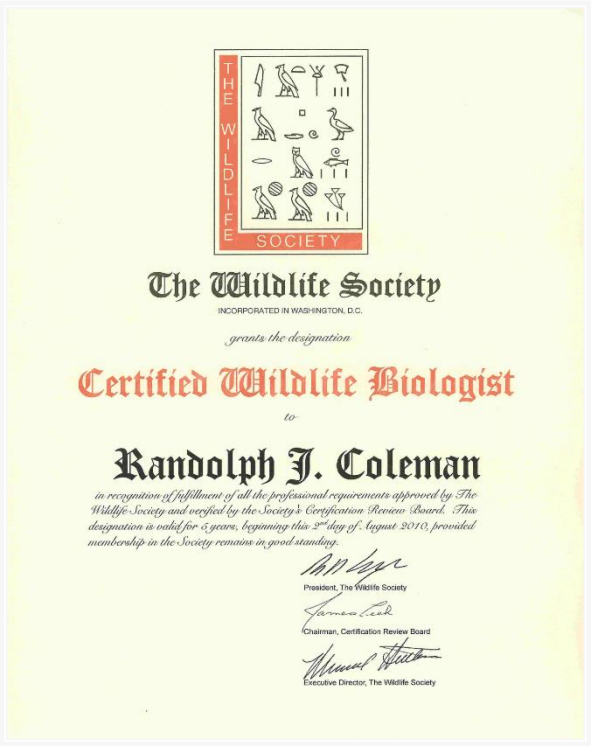

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for this competitive bidding exemption, based on a determination of what rates and speeds are commercially available prior to the start of the funding year.

(2) A Tribal applicant that seeks support for category one or category two services for a total pre-discount price of $3,600 or less per school or library annually is exempt from the competitive bidding requirements in paragraphs (a) through (c) of this section.

■ 5. Amend § 54.505 by revising paragraph (c) and adding paragraph (g) to read as follows:

§ 54.505 Discounts.

* * * * *

(c) *Matrices.* Except as provided in paragraphs (d), (f), and (g) of this section, the Administrator shall use the following matrices to set discount rates to be applied to eligible category one and category two services purchased by eligible schools, school districts, libraries, or consortia based on the institution's level of poverty and location in an ''urban'' or ''rural'' area.

* * * * *

(g) *Tribal Category Two Discount Level.* For the costs of category two services, Tribal schools and libraries at the highest discount level shall receive a 90 percent discount.

■ 6. Amend § 54.703 by revising paragraphs (b), (b)(12), and (13), and by adding new paragraph (b)(14) to read as follows:

§ 54.703 The Administrator's Board of Directors.

* * * * *

(b) Board composition. The independent subsidiary's Board of Directors shall consist of twenty (20) directors:

* * * * *

(12) One director shall represent state consumer advocates;

(13) One director shall represent Tribal communities; and

(14) The Chief Executive Officer of the Administrator.

* * * * *

■ 7. Amend § 54.705 by revising paragraphs (a)(2)(iv) and (v) and adding new paragraph (a)(2)(vi) to read as follows:

§ 54.705 Committees of the Administrator's Board of Directors.

(a) * * *

(2) * * *

(iv) One Tribal community representative;

(v) One at-large representative elected by the Administrator's Board of Directors; and

(vi) The Administrator's Chief Executive Office

* * * * *

[FR Doc. 2023–04751 Filed 3–8–23; 8:45 am]

BILLING CODE 6712–01–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R8–ES–2022–0165; FF09E21000 FXES1111090FEDR 234]

Endangered and Threatened Wildlife and Plants; Petition Finding for Joshua Trees (Yucca brevifolia and Y. jaegeriana)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notification of finding.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to list Joshua trees (*Yucca brevifolia* and *Y. jaegeriana*) as endangered or threatened species under the Endangered Species Act of 1973, as amended (Act). After a thorough review of the best available scientific and commercial information, we find that listing Joshua trees as endangered or threatened species is not warranted. However, we ask the public to submit to us any new information that becomes available concerning the threats to the Joshua trees or their habitat at any time.

DATES: The finding in this document was made on March 9, 2023.

ADDRESSES: This finding is available on the internet at *https://www.regulations.gov* under Docket No. FWS–R8–ES–2022–0165. Supporting information that we developed for this finding, including the species assessment form, species status assessment report, and peer review, are available at *https://www.regulations.gov* under Docket No. FWS–R8–ES–2022–0165 and on the Service's website at *https://www.fws.gov/office/carlsbad-fish-and-wildlife/library*. Supporting information is also available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Carlsbad Ecological Services Field Office, 2177 Salk Avenue, Suite 250, Carlsbad, CA 92008. Please submit any new information, materials, comments, or questions concerning this finding to the person listed under **FOR FURTHER INFORMATION CONTACT.**

FOR FURTHER INFORMATION CONTACT: Scott Sobiech, Field Supervisor, U.S. Fish and Wildlife Service, Carlsbad Ecological Services Field Office, 2177 Salk Avenue, Suite 250, Carlsbad, CA 92008; telephone 760–431–9440. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

Previous Federal Actions

On September 29, 2015, we received a petition from Taylor Jones (representing WildEarth Guardians), requesting that *Yucca brevifolia*—either as a full species (*Y. brevifolia*) or as two subspecies (*Y. b. brevifolia* and *Y. b. jaegeriana*)—be listed as threatened and, if applicable, critical habitat be designated. On September 14, 2016, we published a 90-day finding in the **Federal Register** (81 FR 63160) concluding that the petition presented substantial information indicating that listing the Joshua tree may be warranted. On August 15, 2019, we published a 12-month finding (84 FR 41694) concluding that listing either *Y. brevifolia* or *Y. jaegeriana* was not warranted. On November 4, 2019, WildEarth Guardians filed a complaint in the Central District of California challenging the analyses and listing decisions. The court vacated and remanded the listing decisions back to the Service (*WildEarth Guardians* v. *Haaland*, 2021 WL 4263831 (C.D. Cal. September 20, 2021)), ordering us to reconsider whether the two species of Joshua tree should be listed under the Act.

The Service has reassessed its August 2019 12-month finding and revised the species status assessment (SSA) report. This document complies with the September 20, 2021, court-ordered remand of the August 2019 ''not warranted'' 12-month findings for the two species of Joshua tree (*Yucca brevifolia* and *Y. jaegeriana*) and constitutes our new 12-month findings on the September 29, 2015, petition to list the Joshua tree species under the Act.

Supporting Documents

A species status assessment (SSA) team prepared an SSA report for Joshua trees (*Yucca brevifolia* and *Y. jaegeriana*). The SSA team was composed of Service biologists, in consultation with other species experts. The SSA report and the information

(www.govinfo.gov/content/pkg/FR-2023-03-09/pdf/2023-04680.pdf) **25 Pages**

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Apple Valley, CA 92307 RandyAICP@gmail.com

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Joshua trees rejected for protection under the federal Endangered Species Act

Erin Rode, Palm Springs Desert Sun **March 10, 2023**

The U.S. Fish and Wildlife Service has declined to list Joshua trees under the federal Endangered Species Act, leaving the fate of potential protection measures for the iconic spindly plant with newly proposed state legislation. The review looked at two species commonly known as Joshua trees: Yucca brevifolia, known as the western Joshua tree, and Yucca jaegeriana, known as the eastern Joshua tree. The decision comes after the agency's second review of the species. WildEarth Guardians first asked the federal agency to list the Joshua tree as "threatened" in 2015. " In 2019, during the Trump administration, the service found the listing "not warranted," and the group appealed.

A federal district court judge then told Interior Secretary Deb Haaland and the U.S. Fish and Wildlife Service that they wrongly denied the Joshua tree protection, calling the agency's refusal to protect the species "arbitrary and capricious" and said the federal agencies had ignored numerous scientific studies, including some that projected "the nearly complete loss by the end of the century" of key populations. The judge ordered the agency to reconsider, this time using "the best available science" on the Joshua trees' decline.

Iconic trees face threats from climate change, development.

Scientists and environmental groups say the science surrounding the western Joshua tree is grim. The tree's suitable habitat is expected to decline substantially by 2100 due to climate change, especially in the southern portions of its range — meaning the Joshua tree would largely be unable to survive in its namesake park by the end of this century. But looking at "the primary threats into the foreseeable future," U.S. Fish and Wildlife Service examined impacts on the Joshua trees to 2040-2069, and found that "Joshua trees display enough resiliency, redundancy, and representation to not be at risk of becoming endangered in the foreseeable future."

In its review, the agency looked at threats from wildfire, invasive grasses, climate change and habitat loss and fragmentation, but determined that while some threats affect the species "in areas of their respective ranges, none of the threats rose to the level that resulted in the species meeting the definition of a threatened or endangered species throughout all or a significant portion of their ranges."

WildEarth Guardians decried the decisions as "ignoring science and the law," and criticized that the agency for looking primarily at risks to the species between 2040 to 2069, highlighting the "huge degree of uncertainty" on the impacts of drought and temperature change from climate change on the trees and their pollinator moths.

"We're incredibly disappointed that the government, once again, has failed to afford future generations of Joshua trees the federal protections and help they need to withstand climate change, but sadly we're also not surprised," Jennifer Schwartz, staff attorney at WildEarth Guardians, said in a press release on Wednesday, adding that the group is exploring whether another round of legislation is needed. WildEarth Guardians also argued that while the agency's decision focused on "continued occupancy of current range by adult Joshua trees, it glossed over consideration of these threats on future generations of Joshua trees and decreased future 'recruitment' or ability of Joshua trees to reproduce in the face of climate change."

Joshua trees are long-living, with a common lifespan of about 150 years, but recruitment of new trees has floundered in recent years, according to conservationists and environmental groups. Cameron Barrows, a retired conservation ecologist with the Center for Conservation Biology at the University of California, Riverside, found in a 2013 study that the species was not reproducing within over 50% of their habitat within Joshua Tree National Park.

The situation in the park is akin to "a bunch of senior centers without any elementary schools that are filling in the gaps," Barrows told The Desert Sun last year.

While federal protection isn't moving forward, the U.S. Fish and Wildlife Service says it plans to coordinate with the National Park Service, other federal agencies, and the state to "ensure the long-term conservation of these species." "Through our scientific assessment, the Service determined that Joshua trees will remain an iconic presence on the landscape into the future. Although the two species do not need the protections of the Endangered Species Act, the Service cares deeply about Joshua trees and their roles in the desert environment," U.S. Fish and Wildlife Service Pacific Southwest Regional Director Paul Souza said in a

statement.

What's next for Joshua tree protections?

In addition to the push for a federal listing, environmental groups have separately pursued listing the western Joshua tree as threatened under the California Endangered Species Act since 2019, arguing the tree faces threats by climate change and development.

The California Fish and Game Commission accepted the Center for Biological Diversity's petition in September 2020, granting the tree interim protections as a candidate species. As a candidate for listing, the tree temporarily receives the same protections as a state-listed endangered or threatened species. This includes a prohibition on the import, export, take (or kill), possession, purchase, or sale of the western Joshua tree, or any part or product of the tree, without proper authorization.

But the commission has repeatedly delayed or deadlocked on making a final decision on listing the tree, most recently last month. In February, the commission unanimously delayed voting on the listing after the introduction of the Western Joshua Tree Conservation Act by California officials.

The legislation could streamline permitting for new housing, renewable energy developments and other construction that would harm or destroy the iconic trees, in exchange for payment of funds to acquire broad-scale habitat for them elsewhere.

Core elements of the bill include:

- prohibiting harm to the trees unless a permit is obtained, and fees or other "mitigation" are provided;
- development by next year of an overall plan for how the species can best be conserved; and
- a possible permit template for renewed and quicker approval of developments at the local level if payments are made and other conditions are met.

U.S. Fish & Wildlife Balks At Giving Joshua Trees Endangered Status

-Mark Gutglueck Posted on **March 10, 2023** by **Venturi**

In an announcement that rankled environmentalists and heartened developmental interests and the politicians they bankroll, the U.S. Fish and Wildlife Service on Wednesday revealed that it will not list Joshua trees under the federal Endangered Species Act.

The declaration that the two types of plants commonly known as Joshua trees – one with the scientific name of yucca brevifolia, referred to in common parlance as the western Joshua tree, and the other known by botanists as the Yucca jaegeriana, called the eastern Joshua tree – is the second setback at the federal level for those seeking to insulate the distinctive plants from encroaching development and climate change in four years.

Environmentalists in 2015 asked the U.S. Fish and Wildlife Service, which is a division of the U.S. Department of the Interior, to study the status of the trees, their fragility and prospect for survival, seeking a determination that the Joshua Tree is threatened and therefore in need of certain protections. That examination, which began during the Barack Obama Administration, extended itself into the Donald Trump Administration. Slightly more than halfway into President Trump's tenure in office, the U.S. Fish and Wildlife Service found the listing "not warranted."

In response, the environmental group WildEarth Guardians contested that determination and filed suit in November 2019 in the Central District of California, challenging the U.S. Fish and Wildlife Service's decision, arguing that the agency failed to consider multiple climate models and improperly discounted the best available science with regard to Joshua tree reproduction and dispersal. This week's outcome means that those intent on seeing official efforts to shield the plant from extinction will now turn to the California, Nevada and Arizona state governments in an effort to have them legislate protections for the two species.

In September 2021, Judge Otis Wright ruled in favor of WildEarth Guardians, finding that the agency disregarded material information and reached conclusions that were both "arbitrary and capricious" and unsupported by factual evidence. Specifically, as argued by WildEarth Guardians in the case and accepted by Judge Wright, the U.S. Fish and Wildlife Service's 2019 decision essentially ignored what the latest scientific evaluation revealed, which was that increasing temperatures and prolonged droughts were already impeding successful Joshua tree reproduction in the southern Mojave Desert, a problem that will spread to the majority of both species' ranges in the coming decades. Judge Wright ordered the U.S. Fish and Wildlife Service to redo its listing decision and account for all the recent science he said it improperly dismissed.

In undertaking its review, the U.S. Fish and Wildlife Service examined threats from competing species, wildfire, climate change and both habitat loss and habitat bifurcation and degradation. The agency came to the conclusion that despite existing environmental factors making things tough on the plants, "none of the threats rose to the level that resulted in the species meeting the definition of a threatened or endangered species throughout all or a significant portion of their ranges."

In the summary of its decision, the U.S. Fish and Wildlife Service stated, "After a thorough review of the best available scientific and commercial information, we find that listing Joshua trees as endangered or threatened species is not warranted. However,

we ask the public to submit to us any new information that becomes available concerning the threats to the Joshua trees or their habitat at any time."

In its decision, the U.S. Fish and Wildlife Service referenced a degree of equivocation within the endangered species act as regards what constituted the foreseeable future. "We considered time horizons at mid-century (2040–2069) and end of century (2070– 2100) for analyzing future conditions for Joshua trees," the decision text states. "Climate change and wildfire are the primary threats driving the future condition of Joshua trees at 2040–2069, which is consistent with the primary threats at the end of century. The best available science indicates that both species are long-lived (150–300 years), adapted to hot and dry conditions, and have been exposed to a range of environmental conditions over thousands of years. Both species continue to occupy most of their historical ranges, despite recent increases in temperature on the order of 1.8 degrees Fahrenheit (1 degree Centigrade) over the last 40 to 50 years. However, we also consider the potential loss of occupied habitat in localized areas within the warmest and driest portions of the ranges of both species. Also, the best available science does not provide information on the population dynamics and environmental thresholds for the yucca moth species, which are the pollinators for both Joshua tree species. Therefore, we presumed that yucca moth populations will track Joshua tree flowering, as has been experienced in the past, and the moth will experience similar threat effects as described for the Joshua tree including recent site-specific declines in Joshua Tree National Park. We note the high degree of uncertainty regarding these assumptions about the Joshua trees' and the yucca moths' responses to climate change which introduces uncertainty into our future projections of species' status that we cannot quantify at this time; but we have used the best available science in developing them, as the [Endangered Species] Act requires."

Referencing the existence of threats from competing species, wildfire, climate change and both habitat loss and habitat degradation, together with creeping urbanization, military training in the habitat, renewable energy projects, grazing, off-highway vehicle use and seed predation and animals feeding on the plants, the U.S. Fish and Wildlife Service decision stated, "the best available information indicates that these threats have not negatively influenced population dynamics on a population- or species-level scale now and are not projected to negatively influence population dynamics in the foreseeable future. Joshua trees display enough resiliency, redundancy, and representation to not be at risk of becoming endangered in the foreseeable future."

WildEarth Guardians expressed discomfiture with the decision.

"The U.S. Fish and Wildlife Service's 12-month finding on WildEarth Guardians' petition only looked towards the species' risk of extinction between 2040 to 2069, less than 50 years in the future, and concluded that the threats to extinction due to factors such as climate change, wildfires, and drought, amongst others, are 'not projected to result in population- or species-level declines… because the majority of the range of both species is projected to remain occupied and viable,'" the WildEarth Guardians stated in a release put out shortly after the U.S. Fish and Wildlife Services decision was announced. "However, the decision also notes the huge degree of uncertainty as to the impacts of drought and anticipated temperature change of 3.6–5.4 degrees Fahrenheit by 2040–2069 on both Joshua trees and their specialist pollinators, the yucca moth, and acknowledge the 'potential for long-term negative effects.' Notably, while the decision focused on continued occupancy of current range by adult Joshua trees, with lifespans of between 150 and 300 years, it glossed over consideration of these threats on future generations of Joshua trees and the decreased future 'recruitment' or ability of Joshua trees to reproduce in the face of climate change."

Jennifer Schwartz, staff attorney at WildEarth Guardians, said, "We're incredibly disappointed that the government, once again, has failed to afford future generations of Joshua trees the federal protections and help they need to withstand climate change, but sadly we're also not surprised. While the Endangered Species Act mandates that the U.S. Fish and Wildlife Service's listing decisions are to be based solely on the best available science, such decisions nevertheless become highly politicized. Now Guardians is forced to explore whether another round of litigation is needed to show that the U.S. Fish and Wildlife Service again caved to political opposition and arbitrarily disregarded multiple recent studies forecasting the Joshua tree's future plight."

According to the WildEarth Guardians website, "Joshua trees have existed for over 2.5 million years, but several published, peer-reviewed models show that climate change will eliminate this beloved plant from the vast majority of its current range, including Joshua Tree National Park, over the coming decades without robust efforts to dramatically reduce carbon emissions and address threats from invasive grass-fueled wildfires. In summer 2020, the Mojave Desert reached a record-breaking 130 degrees. Enormous wildfires like the Dome Fire have decimated thousands of acres of habitat, destroying an estimated 1.3 million Joshua trees."

Lindsay Larris, wildlife program director at WildEarth Guardians, said, "The intent of the Endangered Species Act is not to wait until a species is on life support before it can receive any federal protection. This is yet another example of the federal government failing to protect a species before it is too late. We should be proactively putting imperiled species on the path to recovery, not dooming them to hover on the brink of extinction if we truly value preserving biodiversity in this country."

Former Assemblyman Thurston Smith, who was voted out of office in November, Third District San Bernardino County

Supervisor Dawn Rowe and their political supporters, including those who have, in their words, "put their money where their mouth is" and contributed over a hundred thousand dollars to put Rowe, Smith and others with their philosophy into office and to try to keep them there, have characterized the WildEarth Guardians and groups of their ilk pushing to have Joshua trees designated as a threatened or endangered species as tree-huggers who impute a higher level of importance to trees than to humans. They say there are plenty of Joshua Trees, and they resent already existing restrictions on making improvements to land if that development will require removing Joshua trees. People have to go through all sorts of red tape and paperwork just to chop one down, desert property owners say.

Parallel to the effort to have the eastern and western Joshua trees listed as an endangered species under the federal Endangered Species Act, an effort, initiated by the Center for Biological Diversity to have the western Joshua tree listed as threatened under the California Endangered Species Act has been ongoing since 2019.

The California Fish and Game Commission has granted the yucca brevifolia temporary protection as it has conducted hearings on the issue in fits and starts over the last two years, while considering a peer-reviewed report and recommendation assembled by Dr. Cameron Barrows of the University of California Riverside, Dr. Erica Fleishman of the Oregon Climate Change Research Institute, Dr. Timothy Krantz with the University of Redlands, Dr. Lynn Sweet with the University of California, Riverside and Dr. Jeremy B. Yoder from California State University Northridge, which was released in April 2022.

According to Barrows, Fleishman, Krantz, Sweet and Yoder, the outlook for the plant, known by its scientific name Yucca brevifolia, is less than encouraging.

"The population size and area occupied by [the] western Joshua tree have declined since European settlement largely due to habitat modification and destruction, a trend that has continued to the present," the report states. "Primary threats to the species are climate change, development and other human activities, and wildfire. Available species distribution models suggest that areas predicted to be suitable for [the] western Joshua tree based on 20th Century climate data will decline substantially through the end of the 21st Century as a result of climate change, especially in the southern and lower elevational portions of its range."

Nevertheless, the scientists said, "the department does not currently have information demonstrating that loss of areas with 20th Century suitable climate conditions will result in impacts on existing populations that are severe enough to threaten to eliminate the species from a significant portion of its range by the end of the 21st Century. The effects of development and other human activities will cause western Joshua tree habitat and populations to be lost, particularly in the southern part of the species' range, but many populations within the range of the species are protected from development, suggesting that a significant portion of the species' range will not be lost by development alone. Wildfire can also kill over half of western Joshua trees in areas that burn, and wildfire impacted approximately 2.5% of the species' range in each of the last two decades, but wildfire does not appear to result in loss of range, only lowering of abundance within the species' range."

Barrows, Fleishman, Krantz, Sweet and Yoder stated that "the evidence presented in favor of the petitioned action, the scientific evidence that is currently possessed by the department does not demonstrate that populations of the species are negatively trending in a way that would lead the department to believe that the species is likely to be in serious danger of becoming extinct throughout all or a significant portion of its range in the foreseeable future. The department recommends that the commission find that the recommended action to list [the] western Joshua tree as a threatened species is not warranted."

Dr. Krantz, as one of the authors of the April recommendation against listing the tree as endangered, indicated in June that he was not in consonance with the recommendation that had been put out under his name and the collective aegis of his colleagues.

"The western Joshua tree is already very much a threatened species," Krantz told the Sentinel.

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
Civil Engineer: AZ#16969, CA#36293 & NV #7441, Land Surveyor CA#5413 & NV#7441, Real Estate Broker CA#836955, QSD/P CA#21595

For Immediate Release, **February 8, 2023**
Contact: Brendan Cummings, (951) 768-8301, bcummings@biologicaldiversity.org

New Joshua Tree Bill Spurs California Commission to Delay Decision Protecting Iconic Plants

Trees Remain Temporarily Protected Pending Legislative Action

SACRAMENTO, *Calif*.— The California Fish and Game Commission voted unanimously today to postpone a decision on whether to permanently protect western Joshua trees under the California Endangered Species Act. The commission agreed to wait to see whether a new bill proposed by Gov. Gavin Newsom's administration becomes law.
Western Joshua trees will stay protected under California's endangered species law in the meantime.
The Western Joshua Tree Conservation Act, made public late Tuesday, would provide the species protections comparable to those it would receive under the endangered species law, but with additional permitting mechanisms to address renewable energy and housing projects in its range. According to a fact sheet prepared by the state Department of Fish and Wildlife, "the permitting process for western Joshua tree is more complex than for any species currently listed under CESA."
"Western Joshua trees are an irreplaceable and highly threatened part of California's natural heritage," said Brendan Cummings, the Center for Biological Diversity's conservation director, and a Joshua Tree resident. "We're pleased the Newsom administration recognizes their importance and has proposed groundbreaking legislation to ensure these wonderful trees forever remain part of California's Mojave Desert landscape."
The bill is the first legislation in California specifically focused on ensuring the protection of a climate-threatened species. It requires the department to prepare a range-wide conservation plan for the species by the end of 2024, periodic reviews to ensure the effectiveness of the plan, and consultation with affected Tribes.
In June the commission deadlocked 2-2 on whether to make protection permanent and agreed to reconsider the listing decision after seeking more input from California Tribes. Tribal input so far has strongly supported protecting western Joshua trees. In October, following the appointment of a fifth commissioner, the commission again voted to delay a decision on the listing to see if legislation related to the tree would move forward. The new legislation would provide statutory protections for western Joshua trees regardless of the outcome of the commission's vote. "The western Joshua tree easily meets the legal and scientific standards for protection under CESA," Cummings said. "But absent a majority of commissioners willing to move forward with listing, this bill is the best and only available option to protect the species and its Mojave Desert home for future generations."
The bill is expected to go through legislative committee hearings in the coming months.

Background

In 2019 the Center filed a petition to list the trees under the state's Endangered Species Act. In September 2020 the state's Department of Fish and Wildlife recommended that Joshua trees be temporarily protected during a yearlong study, and the commission agreed. In April 2022 the department recommended against permanent protection of the species, shrugging off concerns from independent scientific peer reviewers.
Without legal protection, climate change could wipe out western Joshua trees, which already are failing to reproduce at drier, lower elevations. Recent studies show Joshua trees are already dying off because of hotter, drier conditions, with very few younger trees becoming established. Even greater changes are projected over the coming decades. Scientists in 2019 projected that Joshua trees will be largely gone from their namesake national park by the end of the century. An earlier study projected the species will be lost from virtually its entire range in California. Prolonged droughts are expected to be more frequent and intense over the coming decades, shrinking the species' range and leading to more tree deaths. Higher elevations, where some Joshua trees might survive increasing temperatures and drying conditions, are at risk of fire because of invasive non-native grasses.
Western Joshua trees are also threatened by habitat loss and degradation. Outside of Joshua Tree National Park, off-road vehicle use, cattle grazing, powerlines and pipelines and large-scale energy projects are destroying habitat. Approximately half of the western Joshua tree's range in California is on private land, and only a tiny fraction of that habitat is protected from development. Projections show that virtually all those trees will be lost without increased legal protection.
Joshua trees come in two distinct species: the western Joshua tree (*Yucca brevifolia*) and the eastern Joshua tree (*Y. jaegeriana*). The two species occupy different areas of the desert, are genetically and morphologically distinguishable, and have different pollinating moths.

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
Civil Engineer: AZ#16969, CA#36293 & NV #7441, Land Surveyor CA#5413 & NV#7441, Real Estate Broker CA#836955, QSD/P CA#21595

Joshua trees' quest to gain protection just got longer

By Caleigh Wells Oct. 12, 2022

By the year 2100, 80% of the iconic plants will be gone in the national park that straddles the Colorado Desert and the Mojave Desert, according to recent studies. *Photo by Caleigh Wells.*

The California Fish and Game Commission delayed the decision again today over whether to grant state protection to the western Joshua tree.

The petition to protect the plant under the California Endangered Species Act (CESA) was submitted in 2019. If it is listed, it would be the first species to earn protection in the state because of climate change.

But the process has been contentious. And even when the decision is made, the fate of the plant is far from sealed.

How to save a tree

A member of the public must make a case to the California Fish and Game Commission that a species needs protection. In this case, the case is over the western Joshua tree, which primarily grows in California.

Their champion is Brendan Cummings. As conservation director for the Center of Biological Diversity, he's litigated plenty of endangered species' cases. "Fifteen or so years ago, I did the … litigation that forced the Bush administration to protect the polar bear under the Federal Endangered Species Act."

But this species is personal. He's got dozens of them in his backyard in the town of Joshua Tree. "If you look around us here, the adult Joshua trees we're seeing were recruited into the population under a climate that no longer exists," he says.

But the case he's making isn't easy. Millions of these trees are still spanning thousands of square miles. Listing a species means businesses and residents must either avoid killing it if possible, or move it, or pay a fee if it must be killed. With so many trees left, that could be burdensome.

Kelly Herbinson says it's worth the trouble. She's the co-executive director of the Mojave Desert Land Trust, whose whole mission is to set aside acres of desert habitat for preservation.

"What we're seeing right now is unprecedented. This is serious. And I don't know that that's always obvious if you're not doing this every day and working on the land every day," she says.

At lower elevations, the western Joshua tree is facing the effects of the worst drought in more than a thousand years. "If you were to go to, say, the West Mojave, or even areas nearby where the drought has been really bad, I mean, they're mostly brown," she says.

In its middle elevations, the Joshua tree has been separated into small island habitats by decades of development as the human population in the desert continues to grow. That cuts off genetic flow between populations and creates problems like what LA's mountain lions are facing.
And then of course, at its middle and higher elevations, the Joshua tree is facing a threat it rarely encountered before: increased wildfire.
Warmer, dryer weather conditions have helped create larger wildfires that kill millions of Joshua trees. Photo by Caleigh Wells.
On a protected parcel of land across the street from where Herbinson works, a stray cigarette in 2020 burned most of the Joshua trees on a quarter of the 600 acres that the Mojave Desert Land Trust saved from becoming a housing development.
"That is not something that happened historically," she says. "There's this massive overgrowth of invasive plant species that are blanketing the desert and creating this massive fuel load. And then it dries out because we're in a drought. And then you just have this carpet of dried up plants that are ripe to burn."

There's also the problem of the tree's lifelong partner: the yucca moth. They're completely reliant on each other to survive.
The moth lives underground at the base of its tree for years, waiting for it to flower, and in the spring when it finally does, it emerges and pollinates the tree in exchange for food and a safe place to produce larvae. Joshua trees don't flower every year, but when they do, they rely on the yucca moth for pollination. Photo courtesy of the Mojave Desert Land Trust.
But as the climate changes, scientists have found that the moths aren't reproducing like they used to.
The California Department of Fish and Wildlife spent months studying the trees. Their job is to provide all the data and expertise that the commission needs to make a decision. In June, the department determined that there isn't compelling evidence that the western Joshua tree is in danger of going extinct in the foreseeable future. It said the plant has time to adapt to climate change.
Almost all of the peer-reviewed scientists disagreed. At the meeting in June, hundreds of members of the public showed up to throw in their opinion too.
Local politicians, the local water board, building developers, and labor unions all argued that listing an abundant plant in the desert as endangered would hurt development and jobs.
National politicians, conservationists, scientists, local residents, and tribal groups all made the case that the western Joshua tree is disappearing, and needs to be protected.
The commission reached a stalemate in June, and then on Wednesday they decided unanimously to delay the decision again, to leave room for more tribal consultation. Cummings says he is not surprised by the delay. But even if the commission lists the western Joshua tree next year, he doubts the fight will end there either.
"If they vote to protect Joshua trees, various business interests will undoubtedly sue, trying to overturn that protection. And conversely, if the commission votes against protecting Joshua trees, I will sue, attempting to overturn that unlawful, unscientific decision. So, the future of the species is likely to be contested for the next few years," he says. For now, the Joshua tree has temporary protection since it is a candidate species for CESA. The commission will revisit the decision in February 2023.

MOJAVE DESERT LAND TRUST
CELEBRATING 15 YEARS OF DESERT CONSERVATION

Dear Randy,

The fate of the western Joshua tree remains in limbo. California Fish and Game Commission members failed to reach a unanimous decision on whether to grant the western Joshua tree threatened species status on June 16, 2022. Despite the tied vote by members, we were heartened by the Commission's thoughtful discussion regarding the science behind the imperiled status of the western Joshua tree. We welcome their decisions to expand tribal input and consider initiating a conservation plan.

The species remains protected under its candidacy for the California Endangered Species Act until a decision is made by the Commission in October.

Thank you to everyone who came out to the rally at our HQ, signed our petition, and took the time to make such compelling public comments before and during the Commission meeting.

Thank you to Brendan Cummings of the Center for Biological Diversity for his leadership in this effort and Senator Dianne Feinstein and Assembly Member James C. Ramos for speaking out during the Commission meeting in support of listing.

We know that the western Joshua tree decision will ultimately have great bearing on the role of California's Endangered Species Act in protecting species threatened by climate change. We hope the Commission chooses to take bold, decisive action in applying CESA as a tool to protect our state's most vulnerable species, including the western Joshua tree, against this extraordinary threat.

We will keep you informed and look forward to working alongside you to continue supporting the western Joshua tree.

Cody Hanford and Kelly Herbinson
Joint Executive Directors

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
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California won't immediately list western Joshua tree as threatened

By Associated Press - June 16, 2022 - SACRAMENTO, CA — California won't be listing the iconic western Joshua tree as a threatened species for now after the four-member Fish and Game Commission couldn't reach agreement on how best to protect the plant from climate change.

After deadlocking on whether to list the species under the California Endangered Species Act, commissioners decided to reconsider in October. In the meantime, they voted to pursue more feedback from tribes and directed the California Department of Fish and Wildlife to work on a conservation plan for the species.

The desert plant is known for its unique appearance, with spiky leaves on the end of its branches, and is found in the national park that bears its name about 130 miles (209 kilometers) east of Los Angeles and through a stretch of desert up to Death Valley National Park. There are two types of trees, the eastern and western, but only the western is up for consideration.

Western Joshua tree is being considered for endangered protections. [Jae C. Hong/AP]

If the tree is listed as a threatened species, killing one would require special approval from the state. That would make it harder to win approval for housing, solar fields, or other development projects on land where Joshua trees are abundant. The trees are now under conditional protection while the state decides whether to deem them threatened.

The state has never listed a species as threatened based primarily on threats from climate change, said Brendan Cummings, conservation director for the Center for Biological Diversity.

The center petitioned in 2019 to have the western Joshua tree listed as threatened, saying hotter temperatures and more intense periods of drought fueled by climate change will make it harder for the species to survive through the end of the century. It also argued wildfires and development threats harm the trees' ability to live and reproduce.

The state's ongoing drought, which scientists say is part of the worst megadrought in 1,200 years, is likely harming the trees' ability to survive, Cummings said. "We're likely witnessing a single, large-scale mortality event right now," he told the commission.

The commissioners broadly agreed that hotter temperatures and more extreme droughts fueled by climate change will put the species in danger over the coming decades. But they were split on whether the Endangered Species Act was the best way to address those concerns.

The California Department of Fish & Wildlife has recommended against listing the species as threatened. The department acknowledged that areas suitable for the western Joshua trees growth are likely to decline due to climate change by 2100. But it said in an April report that the tree remained "abundant and widespread," which lowers the risk of extinction.

"The question is not, 'Will climate change be bad for Joshua tree?' The question is, 'How bad will it be, and how quickly?' And the truth is we don't know yet," Jeb McKay Bjerke, who presented the Department of Fish & Wildlife's recommendation to the commission, said Wednesday

Fires swept through an area where the Joshua tree is found in California. [Marcio Jose Sanchez/AP]

It's unknown how many Joshua trees exist in the state, but it could be anywhere from 4.8 million to 9.8 million, he said. It was a "close call" for the department not to recommend listing the species as threatened, he said, and three of five outside peer reviewers who were asked to look at the recommendation by the department disagreed with the conclusion.

About 40% of the Joshua trees in the state are on private land. Many of the comments focused on the development of housing and solar projects in the region. Several local and state politicians and union workers said listing the species as threatened would make it harder to move forward with necessary projects, including those that aim to fight climate change by boosting renewable energy.

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
Civil Engineer: AZ#16969, CA#36293 & NV #7441, Land Surveyor CA#5413 & NV#7441, Real Estate Broker CA#836955, QSD/P CA#21595

California holds off on listing western Joshua tree as threatened

Erin Rode, Palm Springs Desert Sun June 16, 2022,

Joshua Trees grow on protected Mojave Desert Land Trust lands which create wildlife linkages near the border of Joshua Tree and Yucca Valley, November 18, 2021.

The western Joshua tree will remain a protected species after the California Fish and Game Commission failed to come to a majority decision on Thursday on whether the iconic plant should be listed under the California Endangered Species Act.

High desert cities, construction and real estate trade groups, and renewable energy developers oppose the listing, arguing it would stymie development of housing and renewable energy. Conservation groups, scientists, and advocates, however, have argued that listing the tree is integral to protecting the species from climate change, as well as other threats like wildfire and development.

The commission considered four hours of public comments on Wednesday, and also heard presentations from the Center for Biological Diversity, which submitted the petition to list the species as threatened, and from the California Department of Fish and Wildlife, which issued a report recommending against listing the species in April.

Commission Vice President Erika Zavaleta and President Samantha Murray supported listing the western Joshua tree on Thursday, but commissioners Jacque Hostler-Carmesin and Eric Sklar said they want to delay the decision and encouraged all involved parties to work on a range-wide conservation plan in the meantime, although both indicated they would likely support listing the species at a future date. The fifth commissioner position currently vacant.

"Based on the models and the evidence, I come to a different conclusion than the scientists at the department... This strong suite of models and ground-truthing have led me to the conclusion that we have a lot of work to do to protect the species from becoming endangered in the next 80 years mainly throughout most of the southern part of its range," Zavaleta said.

Murray said the commission is tasked with evaluating whether a species is threatened or endangered, not with evaluating the potential economic impacts or impacts on housing and development of a listing.

"Listing doesn't mean that there can't be housing, that there can't be renewable energy projects, it just means they'll happen under a more careful watch," she said. "Over the last 18 months (while the species had candidate status), development and projects have still been happening. It just means it will be paired with numerical caps of trees that are taken and paired with habitat conservation planning efforts."

But Sklar said he preferred to continue the item to the commission's October meeting, with the hopes that delaying the decision would incentivize all parties to work on a conservation plan, and prompt the legislature to pass legislation related to protections for the species.

"I think it puts pressure on all parties, those for listing, those going against the listing, to work together to craft a really good solution," he said. "Not listing today keeps the pressure on all the groups in a greater way." He added that after listing a species it could take years before a conservation plan is developed.

Murray and Zavaleta said they doubted delaying the vote would in fact incentivize these actions more than listing the species as threatened would.

The discussion also raised the broader question of how to best use the California Endangered Species Act to protect species from climate change, with Sklar calling protecting individual species "like fiddling while Rome burns." The western Joshua tree represents the first time the state law has been used to protect a species that is primarily threatened by climate change.

A motion from Sklar to continue the item to the August meeting, and reopen the public record then for additional tribal input and ideas from the Department of Fish and Wildlife on creating a range-wide recovery and conservation plan, failed 2-2 with Murray and Zavaleta voting no. A second motion made by Zavaleta to list the species as threatened also failed 2-2, with Sklar and Hostler-Carmesin voting no, so the item will be continued to the commission's October meeting.

As a candidate for listing, the tree temporarily receives the same protections as a state-listed endangered or threatened species. This includes a prohibition on the import, export, take (or kill), possession, purchase, or sale of the western Joshua tree, or any part or product of the tree, without proper authorization.

The commission did agree to narrowly reopen the public record to receive additional input from California tribes in response to criticism that there wasn't sufficient engagement from tribes on the issue. The commission also voted to have the Department of Fish and Wildlife provide an update in October on legislative efforts to protect the species, and an update on a potential range-wide conservation plan.

Climate change reducing habitat

In their presentations on Wednesday, the Center for Biological Diversity and the Department of Fish and Wildlife presented similar science related to threats to the western Joshua tree, but different conclusions on whether or not these threats warrant listing under the California Endangered Species Act.

Chuck Bonham, director of the California Department of Fish and Wildlife, led off the meeting by saying the western Joshua tree likely represents the "most complex petition presented to the commission" he's seen during his time as director.

The Center for Biological Diversity submitted a petition to list the species in 2019 to protect the trees from the threats of climate change, wildfires, and development. The tree's suitable habitat is expected to decline substantially by 2100 due to climate change, especially in the southern portions of its range — meaning the Joshua tree would largely be unable to survive in its namesake park by the end of this century.

Outside of the park, the western Joshua tree's habitat extends northeast through fast-growing high desert cities like Victorville, Hesperia, and Palmdale. Approximately 40% of the western Joshua tree's range is on private lands, which advocates say makes protecting the tree even more vital.

The California Department of Fish and Wildlife recognized that "there will be a substantial reduction in areas with suitable climate conditions for western Joshua tree in the foreseeable future," which in combination with other threats "is expected to have negative effects on the abundance of western Joshua tree and is cause for substantial concern."

But the department recommended against listing the tree as threatened, concluding that the "currently abundant and widespread" population lessens the overall impact of these threats and threat of extinction for the foreseeable future, which the department defined as through 2100.

"The question is not 'will climate change be bad for the Joshua tree?' The question is, 'How bad will it be? And how quickly? And the truth is we don't know yet. There's a lot of uncertainty and speculation when it comes to the timing and magnitude of climate change impacts on the species. This is a close call, the recommendation was not easy for the department," said Jeb Bjerke with the department's native plant program.

Bjerke noted that only one of the five peer reviewers agreed with the recommendation.

As the western Joshua tree loses its current suitable habitat, identifying and protecting areas known as "climate refugia," where Joshua trees may be able to thrive at higher elevations amid rising temperatures and climate change, will become even more important to the species' survival. But Bjerke noted that western Joshua trees would be unlikely to colonize these areas on their own, and would instead require human assistance to be moved into these areas of suitable habitat.

"Available scientific evidence could support the conclusion to either list the species or to not list the species, and it's reasonable to come to different conclusions based on the same set of facts, "Bjerke said. "Our recommendation was therefore based on what we consider to be the more likely outcome at the end of this century. With widespread distribution, high abundance, and lack of negative demographic trends, the western Joshua tree is likely to continue to persist and reproduce in many areas of California."

In the Center for Biological Diversity's presentation, Conservation Director Brendan Cummings said he agreed with the scientific evidence in the department's report, but disagreed with the conclusion.

Cummings noted studies in 2012 and 2019 that predicted "catastrophic" loss of suitable habitat in Joshua Tree National Park, with a 90-plus percent decline of the tree's range in the park. Those studies were modeled on a 3-degree rise in summer maximum temperatures, an increase that state climate reports have estimated could occur as soon as 2035 or 2040.

Cummings criticized the department's portrayal of climate change as a longer-term threat to the western Joshua tree with unknown impacts. Reading out loud one line from the department's report that says the department expects "that any changes in the range of the western Joshua tree that are ultimately caused by climate change will likely occur very slowly, perhaps over 1,000 years," he called it the "most disappointing sentence" of the report.

"This reflects a profound misunderstanding of climate change and how fast impacts are being felt," he said. "We don't have 1,000 years to protect Joshua trees, summer maximum temperatures that likely preclude recruitment will be here in two or three decades under the most optimistic scenarios. The western Joshua tree clearly is likely to become endangered in the foreseeable at a minimum in a significant portion of its range. You must list it as such."

People visit information booths during the Mojave Desert Land Trust's "Save the Western Joshua Tree" rally at the trust headquarters in Joshua Tree, Calif., on May 26, 2022.

High desert cities opposed listing: The commission received over 200 public comments during the meeting this week, including from elected officials representing the high desert, who largely commented against the listing. From the general public, comments in support of the listing were roughly double the number of commenters speaking against the listing.

Supporters of the listing criticized the California Department Fish and Wildlife's characterization of how climate change could impact the western Joshua tree, calling it short-sighted, and the department's finding that the tree is "abundant and widespread."

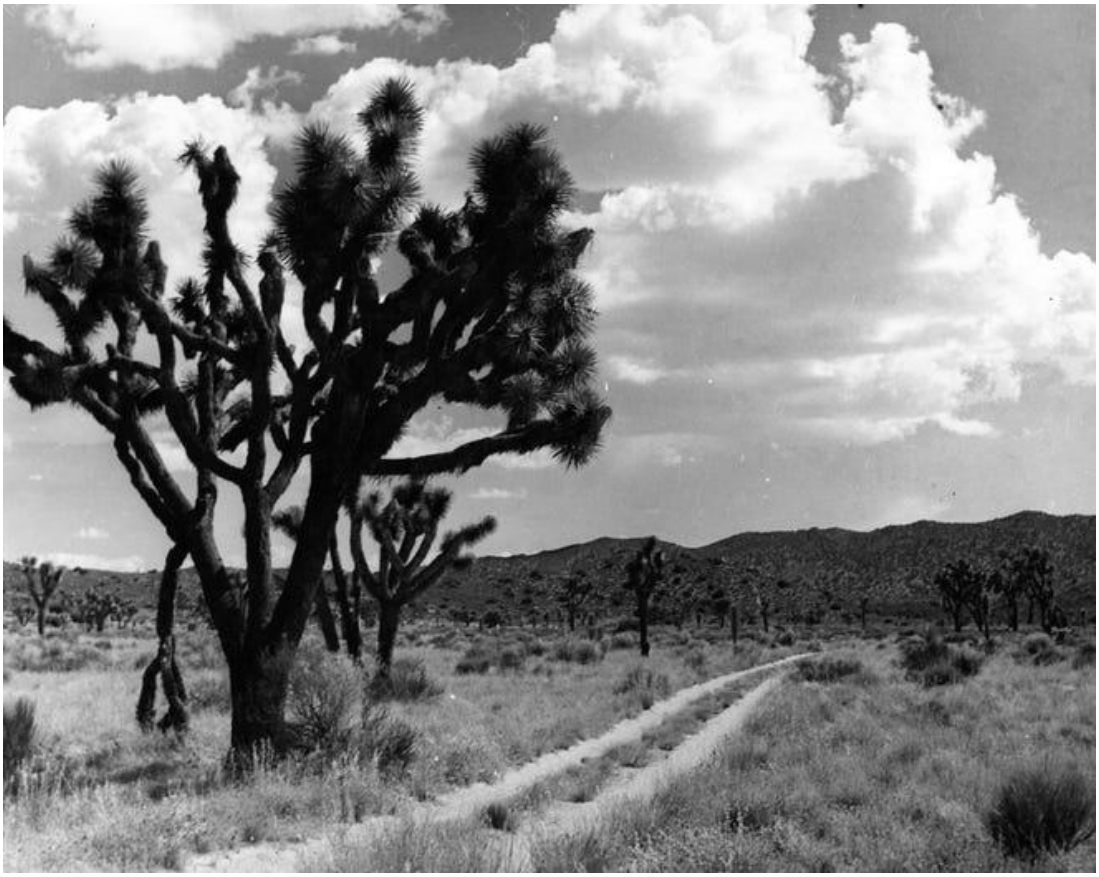
Some commenters pointed to other endangered or extinct species that they said were once "abundant and widespread," from the desert tortoise to the giant sloth.

Opponents of the listing, including elected officials representing high desert cities, real estate and construction trade groups, construction unions, and chambers of commerce, as well as representatives of solar energy developers, argued that existing local protections are sufficient for the western Joshua tree, that the tree is currently abundant, and that the listing would stymie renewable energy and housing development. The Fish and Game Commission also received over 1,700 written public comments regarding the potential listing ahead of the meeting, with most comments in support of the petition and just over 250 opposed.

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
Civil Engineer: AZ#16969, CA#36293 & NV #7441, Land Surveyor CA#5413 & NV#7441, Real Estate Broker CA#836955, QSD/P CA#21595

State should step in to protect Joshua trees



Brendan Cummings, Special to CalMatters June 16, 2022,

Editor's note: The California Fish and Game Commission failed to come to a majority decision on Thursday on whether the western Joshua tree should be listed as threatened under the California Endangered Species Act. The matter will be reconsidered by the panel this fall. Commission Vice President Erika Zavaleta and President Samantha Murray supported listing the iconic species as threatened, but commissioners Jacque Hostler-Carmesin and Eric Sklar said they wanted to delay the decision and encouraged all involved parties to work on a range-wide conservation plan in the meantime, although both indicated they would likely support listing the species at a future date. The fifth commissioner position is vacant.

Our state is widely viewed as a climate leader, but California never has protected a single plant or animal under its endangered species law because of the threat of climate change.

That could have changed this past week, when the state's Fish and Game Commission met to decide whether to list western Joshua trees under the California Endangered Species Act.

Commissioners could have decided to safeguard Joshua trees, offering proof of California's commitment to fighting climate change and ensuring that the iconic plant survives for future generations.

Or they could have followed the wishful thinking of the state Department of Fish and Wildlife, which in March discounted the objections of independent scientific peer reviewers to recommend against protecting Joshua trees.

A decision remains in limbo.

From my San Bernardino home in Joshua Tree, I've watched the slow-motion extinction of these sentinels of the high desert as they are killed off by climate change, development, and wildfire. These are problems for many species, but the Joshua tree is particularly vulnerable.

Reproduction and growth for these trees isn't easy. They only flower in certain years, then need to be pollinated by their symbiotic yucca moth. The tree's seeds need to be dispersed by rodents, without all of them being eaten. Those seeds lucky enough to sprout then must escape hungry jackrabbits and survive desiccating summers until they are robust enough to withstand the Mojave Desert's demanding conditions.

And that was before climate change started making life so much harder.

ALTEC Land Planning **(760) 242-9917**
19531 U.S. Highway 18 GingereColeman@gmail.com
Apple Valley, CA 92307 RandyAICP@gmail.com

Ginger Coleman, MPA, Director of Community Relations & Environmental Planning
Randy Coleman: AICP, CCIM, MIRM, Certified Wildlife Biologist #43090, Certified Arborist #WE-8024A, CDFW: SCP #11586
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In 2019, I petitioned the California Fish and Game Commission to protect western Joshua trees under the state's Endangered Species Act. Nearly two decades earlier, I led the legal effort at the Center for Biological Diversity that forced the Bush administration to list polar bears as threatened under the federal Endangered Species Act due to climate change.
If the Bush administration could recognize climate change and take steps to protect vulnerable species, surely California can, too. Sadly, the Department of Fish and Wildlife's recent report on western Joshua trees isn't what you would expect from a California agency in 2022.
It downplays the grave risks to these trees and ignores the science, inaccurately claiming there's no proven link between rising temperatures and Joshua tree declines and theorizing that "any changes in the range of western Joshua tree that are ultimately caused by climate change will likely occur very slowly, perhaps over thousands of years."

This reflects a profound misunderstanding of climate change and how quickly its effects are being felt. We don't have a thousand years to protect Joshua trees. Summer temperatures are rising so quickly that they will likely doom any new trees within two or three decades.
The department's report failed to account for exhaustive studies documenting the severe and accelerating harms of climate change. It ignored the fact that western Joshua trees in California are struggling through the worst drought in more than a millennium, and that such droughts could become the norm.
The report minimized the risk of fire, ignoring scientific warnings about irreversible effects and instead declaring that harm to Joshua tree habitat from fire is "temporary."
Fueled by invasive grasses, more area burned in the Mojave Desert in 2005 than in the 25 previous years combined, and in 2020, thousands of acres of Joshua trees were lost to fire in the Mojave.
To make matters worse, the higher-elevation areas where Joshua trees are most likely to survive warming temperatures also are the most vulnerable to fire.
While the department's report is flawed, the good news is that the Fish and Game commissioners don't have to follow it. Their vote is crucial to the survival of western Joshua trees, and it's a litmus test for how seriously California is taking climate change.

Brendan Cummings is the conservation director at the Center for Biological Diversity.