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BIOLOGICAL BASELINE ASSESSMENT & PROTECTED NATIVE DESERT TREE, PLANT AND CACTUS REPORT

IN THE CITY OF VICTORVILLE, SAN BERNARDINO COUNTY

ASSESSOR'S PARCEL NUMBERS: 3128-621-04-0000

REPORT #: 1 OF 2 & DIGITAL - FOR CITY OF VICTORVILLE PLANNING DEPT.
REPORT #: 2 OF 2 & DIGITAL - FOR CLIENT

PARCEL 3 OF PARCEL MAP 2092, PMB 18/52
IN THE SOUTHEAST ¼ OF SECTION 10, T5N, R5W, SAN BERNARDINO MERIDIAN,
IN THE CITY OF VICTORVILLE, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA

PREPARED FOR:

THE RCH GROUP.
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PREPARED BY:

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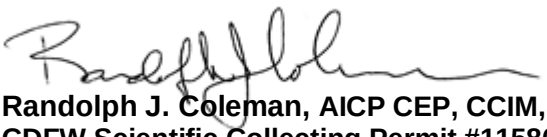
REPORT PREPARATION DATE:	**SEPTEMBER 27, 2020**
EFFECTIVE DATE OF REPORT:	**SEPTEMBER 30, 2020**
EXPIRATION DATE OF REPORT:	**APRIL 1, 2021 (REPTILE & MAMMAL SPECIES ONLY)**
EXPIRATION DATE OF REPORT:	**FEBRUARY 1, 2021 (ALL APPLICABLE BIRD SPECIES)**

DISTRIBUTION: 1 DIGITAL ORIGINAL TO CITY OF VICTORVILLE AND PAPER ORIGINAL TO CLIENT

I HEREBY CERTIFY THAT THE FINDINGS AND CONCLUSIONS PRESENTED IN THIS REPORT ARE ACCURATE TO THE BEST OF MY KNOWLEDGE.



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

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The RCH Group. SEPTEMBER 27, 2020
c/o Luis Rosas, Project Manager
11060 White Rock Road, Suite 150 A
Rancho Cordova, CA 95670

RE: BIOLOGICAL BASELINE ASSESSMENT & NATIVE PLANT REPORT - [APN 3128-621-04-0000]

The RCH Group has requested a Biological Baseline Assessment (Assessment) and Protected Native Desert Tree and Plant Report (Report) to analyze the significant impacts that may occur to the biological resources on the 8.52± acre Site, north side of Mojave Drive, east side of Mesa Linda Avenue, east of US 395, west of Interstate 15, desert area of San Bernardino County, as mapped on the Adelanto (2018)-CA 7.5' Quad USGS.

The purpose of this Assessment and Report is to provide a current Site Review to be on file with the City and made a part herewith, pursuant to your authorization, has made investigations and analyses consistent with the property type and has analyzed the existing information and prepared an Assessment and Report for biological resources (presence and/or absence). Focused surveys completed for Desert Tortoise *(Gopherus agassizii)*, American Badger *(Taxidea taxus)*, Desert kit fox *(lupus candidia)* and Burrowing owls *(Athene cunicularia)*. Site review for Mohave Ground Squirrels *(Xerospermophilus mohavensis)*, Sharp-shinned Hawk *(Accipiter striatus)*, all Owls and Hawks, Loggerhead Shrike *(Lanius ludovicianus)*, LeConte's Thrasher *(Toxostoma LeContei)* and other delineated birds. Also, a "Protected Native Desert Tree and Plant Report" is inclusive and performed using accepted protocols, including the following:

- Pedestrian field protocol surveys of the Site were conducted (inspections of the Site were conducted from Sept. 03 and 04, 2020 with no other visits to the Site for Land Planning, Civil Engineering, Land Surveying and/or for Desert Annuals [Spring (75%) & Autumnal (25%)] review purposes.
  - The Site personally walked by Randolph J. Coleman;
    - **Scientific Collecting Permit from California Department of Fish & Wildlife, #11586;**
    - **Certified Wildlife Biologist, #43090;**
    - **Certified Arborist and Tree Risk Assessment Qualified, WE #8024A;**
    - **Qualified Storm Water Developer/Planner – QSD/P #21595 (by CASQA);**
  - A pedestrian field survey of the project Site, Zones of Influence, buffer, and adjacent properties was conducted following established protocols, as applicable or as described;
  - There has been no recent scattered rainfall prior to the field survey. If recent rains occur, regardless of the time of year, is a prime timeframe for various native (and potentially rare) desert annual plants, Tortoise, Owls, and all desert species to be looking for precious water resources;
- Review of California Environmental Quality & Endangered Species Acts (CEQA/CESA) information;
- Review of recent CDFW correspondence with the local jurisdiction;
- Review of the California Department of Fish & Wildlife (CDFW) and California Natural Diversity Data Base (CNDDB-RareFind3) for sensitive species, excluding riparian species, since this Site is not within the Mojave River riparian habitat or manmade riparian habitat (i.e. city parks, school sites, golf course);
- Review of recent EA/EIS/EIR/IS's, Environmental/Biological Reports from ALTEC 's offices; and
- Review of the City of Victorville General Plan, City laws and related Reports and Mapping.

If there are significant delays with processing any entitlement applications or any clarifications, an update would be appropriate prior to the completing the CEQA Initial Study and sending it to the State Clearing House for CEQA processing (i.e. Dept. of Fish & Wildlife review for Biological issues). The Consulting Arborist and Certified Wildlife Biologist would like to have the opportunity, at a minimum, to provide an Addenda Letter to the Local Agency within six (6) month prior to report expiration dates for the Clearance Letter. This has been discussed previously with City Staff to avoid future issues relative to the City preparation of the CEQA Initial Study being sent to CDFW review process after expiration, near expiration or prior to final approval.

California Department of Fish & Wildlife: The responding "Trustee Agency" for fish and wildlife resources (CDFW Code §711.7, §1802 & CEQA Guidelines §15386(a)) of the state, to designated rare or endangered native plants, and to game refuges, ecological reserves, and other areas administered by the department. Also, a "Responsible Agency" regarding any discretionary actions (CEQA Guidelines §15381) required by CDFW, include the following:

- **State Lands Commission:** Regards to state owned "sovereign" land such as the beds of navigable waters and state school lands.
- **State Department of Parks and Recreation**: Regard to units of State Park System.
- **University of California:** Regards to Sites within the Natural Land and Water Reserves System.

Native Desert Plants – Federal, California and Local: The Endangered Species Act (ESA), California Endangered Species Act (CESA) and Local Agency laws cover native species and subspecies of plants (Cal. Fish & Game Code §2050 et seq.). Listings are based solely on science and the law requires recovery plans and designation of critical habitat, although critical habitat has never been designated. State agency consultation on projects affecting endangered species is required. Penalties for violation are $5,000 and/or a jail term of up to one year. The Native Plant Protection Act provides some protection for endangered or rare native plants of the state (Cal. Fish & Game Code §§1900-1913) and subject to review are the following:

The applicable State and City of Victorville Municipal Code has the following desert plants subject to review and other less common and annual plants are delineated in the body of this report:

(1) Desert native plants (stems two (2) inches or greater in diameter or six (6) feet or greater in height)
- Mesquite var. (*Prosopis var.)*
- Dalea/Smoketree var. (*Parosela spinosa and var.)*

(2) All species of the family Agavaceae
- Century Plant (*Agave deserti*)
- Mojave Yucca (*Yucca schidigera*)
- Parry Nolina/Nolina/Beargrass (*Nolina parryi*)

(3) ● Creosote Bush [10-ft min. rings] (*Larrea tridentata*) *(South American is Larrea divaricata)*

(4) ● Joshua Trees (*Yucca brevifolia*)

(5) ● Beavertail Cactus (*Opuntia basilaris var. brachyclada*) [by California Native Plant Society]

The Site and general area normally has a variety of perennials [California buckwheat (*Eriogonum fasciculatum* var. *polifolium)*, Linear-leaved golden bush (*Ericameria linearifolia),* Common Sagebrush (*Artemisia tridentata*), Rabbitbrush (*Chrysothamnus nauseosus*), Creosote Bush *(Larrea tridentata),* Mormon Tea *(Ephedra nevadensis),* Cutleaf Filaree *(Erodium cicutarium),* Boxthorn *(Lycium andersonii),* and annuals Filaree *(Erodium sp.). Invasive Plants are* Schimus *(Schimus barbatus),* Bromus *(Brome sp.),* Sahara Mustard, *(Brassica tournefortii)* and a limited native annuals due to the summer season and both the spring and autumnal annual season. All desert annuals are highly dependent upon localized rainfall and autumnal annuals can be exceedingly rare events due to the combination.

Pursuant to CDFW information (numerous discussions from 2002-2014 with Ms. Jones) indicates that five listed or sensitive species occur in the project vicinity, excluding riparian species (Site not within the Mojave River riparian habitat); and may be affected by the proposed project (Endangered, Threatened, or are considered Rare and maybe listed in the future [CESA & CEQA Guidelines §15065 and §15380]). [Impacts to rare species, regardless of listing status (Federal or State) may be considered significant under CEQA and require appropriate avoidance, minimization, and compensation measures (land, monetary or both).] The following species have been identified as "Species of Special Concern", requiring identification and protection, including all Raptors (Hawks and Owls) as requested pursuant to discussions with CDFW and other public agency staff since 1989 with the Desert Tortoise listing.

West Mojave Plan (WMP) and the **Record of Decision** (ROD – March 13, 2006), **Biological Opinion** (BO – January 9, 2006) and **Amended Biological** Opinion (ABO – Dec. 2007) and **EIR/EIS, Habitat Conservation Plans (HCP), Areas of Critical Environmental Concern (ACEC), Desert Wildlife Management Areas (DWMA), Off-Highway Vehicle, Alternative Energy Executive Orders and other issues:** All of these planning efforts by the US Department of Interior, Fish and Wildlife Service (USF&WS), California District Manager of the Bureau of Land Management (BLM) operational issues and any associated "Payment of Environmental Development Fees" may alter the requirements and mitigation outlined in this Assessment for potential compliance with all future laws and interpretations, guidelines and any subsequent judicial decisions regarding the Federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA). Attempts to be current with the relative issues of these ongoing and evolving planning efforts are made regarding endangered species and issues within Southern California, San Bernardino County, Desert regions, West Mojave Plan and various Sub-Planning Areas and specifically issues in the Victor Valley area.

Desert Tortoise: The Desert Tortoise, which is a Federal and California listed threatened species is known to occur throughout the region. This Tortoise is the largest reptile in the arid southwest and historically occupied a range that included a variety of desert communities in southeastern California, southern Nevada, western and southern Arizona, southwestern Utah, and through Sonora and northern Sinaloa, Mexico. Today, populations are largely fragmented, and studies indicate a steady and dramatic decline over most of its former range. Also, Tortoises have long been prized as pets, collecting of wild Tortoises has further reduced the population. Wildlife biologists estimate five to eight million Tortoises were taken from the desert by collectors between 1880 and 1970. In the early 1990's, an extended drought, and a highly contagious respiratory disease infected Tortoise populations, primarily in the western Mojave Desert region. This disease has had a significant adverse impact on Tortoise populations throughout the Mojave Desert. Coleman has not personally seen wild tortoises in this area since the mid 1980's; typically, distant northwest of the Site, however, is not in the area as much as in the past.

American Badger *(Taxidea taxus*[1]*):* The American Badger is currently designated by the California Department of Fish and Wildlife as a "Species of Special Concern" and has no current Federal Status. The American Badger is distributed throughout California and prefers drier regions with sandy loam soils to dig burrows.

Desert Kit Fox *(Vulpes macrotis arsipus)***:** The Desert kit fox is currently protected under California Code of Regulations, Title 14, Section 460 *Protected Furbearing Animals*. The Desert Kit Fox have no additional Federal or State designated status. The Desert kit fox is distributed throughout California and prefers drier regions with sandy loam soils to dig burrows.

Mohave Ground Squirrel (MGS): The MGS is known to have historically occupied areas in the northwestern Victor Valley region; information on current population levels for the species has increasing documentation (due to $1M± of MGS Trapping Surveys) indicating the lack of presence in the Victor Valley and the Site. The MGS is listed by CDFW as "Threatened", thereby giving species protection under the CESA. The species is known to occur in the western Mojave Desert in portions of four counties including Inyo, Kern, San Bernardino, and Los Angeles. The distribution of the MGS is quite limited as compared to the distributions of other species {White-tailed Antelope Squirrel [WTAG] *(Ammospermophilus leucurus)* and Round-tailed Ground Squirrel [RTGS] *(Spermophilus tereticaudus)*}. The MGS is found in several habitat types in the Mojave Desert including creosote bush scrub, saltbush scrub, and Joshua tree woodland communities. The MGS carries its tail over its back when running; the white underside helps reflect the sun's rays. It is preyed upon by American Badgers, foxes, snakes, Coyotes and Raptors.

[1] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2597&inline=1

Long-term drought conditions, degradation, and destruction of the species' habitat and isolation of populations core areas appear to be the primary factors in the species' decline. Coleman has never personally seen MGS in this general area since the late 1960's but to the west of the Helendale area and north of Adelanto, and along Highway 395 and northerly to the Ridgecrest area.

Burrowing Owl (*Athene cunicularia*) **and other Owls:** The Burrowing Owl and other Owls occur throughout the Victor Valley region; although, information on current population levels for these species is not well documented for the general region or the Site. These are migratory bird species protected by the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §703-711). The burrowing owl, specifically, is considered a "Species of Special Concern" by the CDFW, thereby giving the animal protection under the CESA. The CDFW Code §3503, §3503.5 and §3800 prohibit the take, possession, or destruction of birds, their nests, or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (Feb. 1 thru Aug. 31 annually).

Sharp-shinned Hawk *(Accipiter striatus)* **and other Hawks:** The Sharp-shinned Hawk and other Hawks are considered rare by CDFW; although, information on current population levels for these species is not well documented for the general region or the Site. This is a migratory bird species protected by the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §703-711). The Sharp-shinned Hawk, specifically, is considered a "Species of Special Concern" by the CDFW, thereby giving the animal protection under the CESA. The CDFW Code §3503, §3503.5 and §3800 prohibit the take, possession, or destruction of birds, their nests, or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle.

Loggerhead Shrike *(Lanius ludovicianus):* The Loggerhead Shrike is considered rare by CDFW; although, information on current population levels for the species is not well documented for the general region surrounding the Site. This is a migratory bird species protected by the MBTA of 1918 (16 U.S.C. §703-711). The Loggerhead Shrike is considered a "Species of Special Concern" by the CDFW, thereby giving the animal protection under the CESA. The CDFW Code §3503, §3503.5 and §3800 prohibit the take, possession, or destruction of birds, their nests, or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle.

LeConte's Thrasher *(Toxostoma LeContei)***:** The LeConte's Thrasher is considered rare and a "Species of Special Concern" by CDFW; although, information on current population levels for the species is not well documented for this Site. This is a migratory bird species protected by the MBTA of 1918 (16 U.S.C. §703-711) and under protection under the CESA. The CDFW Code §3503, §3503.5 and §3800 prohibit the take, possession, or destruction of birds, their nests, or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle.

NOTE: No Greater Roadrunners *(Geococcyx californianus)* or active or potentially active nests were observed in native plants on the Site during the field survey. Roadrunners are observed every year throughout the greater Victor Valley area and near CSU San Bernardino at newer construction in previous years (2011-2014).

SUMMARY INFORMATION

Assessments are completed to adequately determine the biological impacts of the project prior to preparation of environmental documentation (CEQA-IS Mitigated Negative Declaration, NOD, EIR, etc.) for the Site and according to protocols, shall be conducted and shall be specifically as Mitigations and Recommendations as part of the CEQA Initial Study during the jurisdictional approval process by the local agency. CDFW may then inform the local jurisdiction with legal entitlement authority of additional mitigation measures or information that should be incorporated into the documents (i.e. Conditions of Approval by the Planning Dept.) to address systematically biological issues. The Biological Assessment and Native Plant Report may be submitted to CDFW for separate review. The future CEQA Court Decisions and interpretations and implementations by CDFW, local agencies and current and subsequent Department of Interior Federal Register (i.e. "Petition to Down List" of the Arroyo Toad from Endangered to Threatened – March 27, 2014) and other related issues of the West Mojave Plan may or will continue to cause unknown changes to all environmental review processes.

Discussion of Streambed Alteration, Blue-Line Stream on USGS Maps and Upstream Stormwaters: "A Review of Stream Processes and Forms in Dryland Watersheds: CDFG - December 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 ultimately drains into the Mojave River.
- **USGS Blue-Line Stream:** The nearest are both easterly and westerly just over 1 mile and the dominant Oro Grande Wash running from the community of Baldy Mesa/Phelan and into the Mojave River is easterly of Interstate 15. These Wash's hydrology does not have the required volume of stormwater discharge to affect this Site in a 100-year event.
- **100-Year-Flood Plain Designation:** The Site is not within 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.
- **Mojave River & Riparian Corridor:** The Mojave River is the dominate blue-line stream of the Western Mojave Desert (tributary drainage area 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 from the Site at Baker. The Colorado River is the eastern dominate of the Eastern Mojave Desert.
- **Discussion of Ephemeral Natural Drainage Course(s):** The Site does not have any "Significant Native or Altered Ephemeral" drainage course(s) bisecting the Site. The City of Victorville (Upstream Development or Road improvements) typically concentrates the flows of these natural "Ephemeral Drainage Courses".
- **OTHER**
  - **Aspect & Topography Issues:** The topography has a 1.1±% slope and a local customary aspect (northeast) and ultimate drains into the Mojave River. The local customary aspect (northeast) has a lower level of erosivity potential, sedimentary transport, and debris deposition during storm events.
  - **Road Issues:** Typically, north-south roads bisect sheet flows and natural drainage courses and re-route stormwater 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 then continue in a newer location in the local customary (north-northeast) aspect to the Mojave River.
  - **Hydrology Report & Issues:** A Report was not provided/prepared, therefore no relative information.
  - **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 "significant" potential effect of the Site.

SUMMARY INFORMATION - continued

Wildland Fire has a long history is this general area to the south because of the higher density of vegetation and increases in invasive grasses and other plant species have historically and will continue to impact native desert adversely. The site has not had a historical wildland fire based upon the existing mosaic of native vegetation.

Habitat Fragmentation has both natural (i.e. Mojave 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, 66, 247 and 395, Interstates 15 and 40, California Aqueduct, Railroad, Utility Corridors, all types of military, public facilities, agriculture, residential, industrial, commercial development that limit overall terrestrial migration and gene pool diversity in the Palmdale/Lancaster, Victor Valley (Apple Valley, Adelanto, Hesperia, Victorville) and surrounding communities [Spring Valley Lake, Helendale, Silver Lakes, Oak Hills, Pinion Hills, and Phelan) since the "Post World War II Era".

Special Status for Federal, State of California and Local species are now legally identified, as following:

- **Federal Endangered** consists of animal or plant species, subspecies, or varieties in danger of extinction throughout all or a significant portion of their range. These are considered "Federally-listed" or "listed" because a final rule has been published in the *Federal Register*.
- **Federal Threatened** consists of species, subspecies, or varieties likely to become endangered within the foreseeable future throughout all or a significant portion of their range. These are considered "Federally-listed" or "listed" because a final rule has been published in the *Federal Register*.
- **Federal Proposed** endangered or threatened are those species, subspecies, or varieties for which a proposed regulation, but not a final rule, has been published in the *Federal Register*.
- **Federal Candidate** species, subspecies or varieties are being considered for listing as endangered of threatened, but a proposed regulation has not yet been published in the *Federal Register*.
- **California State Endangered** animals or plants are in serious danger of becoming extinct throughout all, or a significant portion, of their range due to one or more causes, including loss of habitat, over-exploitation, competition, or disease.
- **California State Threatened** animals or plants, although not presently threatened with extinction, are likely to become endangered in the foreseeable future without special protection and management efforts.
- **California State Rare** plants or animals, although not presently threatened with extinction, are in small numbers throughout their range that they may become endangered if their present environment worsens.
- **Bureau of Land Management Sensitive** animals or plants are not on federal or state lists as endangered or threatened but are designated by the BLM State Director for special management consideration.

GRANT RESEARCH INFORMATION:

San Bernardino County received a $400,000.00 Grant (March 2014) to study the environmental effects of Alternative Energy projects and issues brought up at Planning Commission are the following:

- Photovoltaic Panels and their "Lake Effect" for Bird Impacts Mortality and Injury
- Wind projects blades impacting birds (i.e. Vultures, Golden Eagles, and threatened bat species)
- Thermal projects (i.e. Brightsource's Power-Tower literally burning birds at new projects at Ivanpah
- Alluvial & Aeolian - Erosion from altered natural stormwater courses and wind-blown dust issues
- Carbon Sequestration - Soil-surface disturbances issues
- Fluvial –The delicate combination of soils and water movement (Sand Dunes type issues)
- Wildlife Linkages for species movement and diversity of genetic issues

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SUMMARY INFORMATION - continued

Desert Tortoise *(Gopherus agassizii):* No Tortoises or active/potentially active burrows were encountered on the Site during the field survey. Also, no other signs (e.g. scats, tracks, shell fragments) were found, which indicates utilization of the Site. The "take" of this species, which also includes "to harass, harm, pursue, etc.", is prohibited. Additionally, Tortoises are not typically found at elevation above 3,300 feet and the elevation at this Site is 3026± to 3011± feet. Coleman has personally seen numerous tortoises in this area from 1964 til the mid 1980's as a nearby resident, surveying, and biological assessments on many nearby sites. The Addenda includes Table 1 - Site Survey Summary for the Desert Tortoise (modified for other relative species per CDFW)

MITIGATION AND RECOMMENDATION: Prior to any grading activities after APRIL 1, 2021 and if there is a lapse of 30 days of construction activities on the Site thereafter, an assessment "Only On-Site and 500-foot buffer" shall be completed and a **Clearance Letter** shall be provided to the Local Agency prior to any land disturbance. [This Site has no legal jurisdictional approvals for development, at this time, and another Site review will be required prior to development.]

OTHER INFORMATION: If Tortoises are observed on the Site in the future, all activities shall be stopped and CDFW contacted to discuss potential mitigation measures.

American Badger *(Taxidea taxus*[2]*)*
Federal Status - None; State Status – None
Distribution – Throughout California, most abundant in drier open stages of most shrub, forest, and herbaceous habitats.
Habitat – Found in grasslands and open areas with grasslands (i.e. parks, farms) with available fossorial rodents, some reptiles, insects, eggs, birds, and carrion. They prefer prairie regions with sandy loam soils to dig burrows.

CONCLUSION, Discussion and Recommendation: No American Badgers or active/potentially active burrows or their habitat were located during site surveys and 500-foot buffer during the field survey. Also, no other signs (e.g. fur, fossorial bones, or middens) were found, which would indicate habitat or other historic or recent utilization of the Site or buffer areas. American Badger is considered a "Species of Special Concern" by CDFW. While the site contains sandy loam soils, no grasslands are present. No additional surveys are required.

Regardless, if an American Badger are observed on the Site in the future, all activities shall be stopped and ALTEC shall be contracted to discuss potential mitigation measures with USFWS and CDFW.

MITIGATION & RECOMMENDATION:

No less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities, CDFW will conduct a survey to determine if American badger den sites are present at the site. If dens are found, they will be monitored for badger activity. If CDFW determines that dens may be active, the entrances of the dens will be blocked with soil, sticks, and debris for three to five days to discourage the use of these dens prior to project disturbance activities. The den entrances will be blocked to an incrementally greater degree over the 3 to 5-day period. After the qualified CDFW biologist determines that badgers have stopped using active dens, the dens will be hand-excavated with a shovel to prevent re-use during construction. No disturbance of active dens will take place when cubs may be present and dependent on parental care, as determined by the Project Wildlife Biologist or other qualified CDFW biologist. Regardless, if an American Badger is observed on the Site in the future, all activities shall be stopped and USFWS and CDFW contacted to discuss potential mitigation measures

[2] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2597&inline=1

SUMMARY INFORMATION – continued

Desert Kit Fox *(Vulpes macrotis arsipus)*: No Desert kit fox or active/potentially active burrows were encountered on the Site and 500-foot buffer during the field survey. Also, no other signs (e.g. fur, fossorial bones, or middens) were found, which would indicate habitat or other historic or recent utilization of the Site. Desert Kit Fox have no designated status, but are protected under California Code of Regulations, Title 14, Section 460 *Protected Furbearing Animals.*

CONCLUSION, Discussion and Recommendation: No Desert Kit Fox or active/potentially active burrows or their habitat were located during site surveys and 500-foot buffer during the field survey. Also, no other signs (e.g. fur, fossorial bones, or middens) were found, which would indicate habitat or other historic or recent utilization of the Site or buffer areas. Therefore, no additional surveys are required.

Regardless, if Desert Kit Fox are observed on the Site in the future, all activities shall be stopped and ALTEC shall be contracted to discuss potential mitigation measures with USFWS and CDFW.

MITIGATION AND RECOMMENDATION IF DESERT KIT FOX ARE LOCATED IN FUTURE SURVEYS:

a. Project Wildlife Biologist shall conduct pre-construction surveys no less than 14 days and no more than 30 days before the commencement of activities to identify potential dens more than 5 inches in diameter.
b. If potential dens are located within the Proposed Project's work area and cannot be avoided during construction activities, a qualified biologist will determine if the dens are occupied.
c. If occupied dens are present within the work area, their disturbance and destruction will be avoided. Exclusion zones will be implemented following the current USFWS procedures (2011).
d. CDFW will notify USFWS immediately if a natal or pupping den is found in the survey area and will present the results of pre-activity den searches within 5 days after these activities are completed and before the start of construction activities in the area.
e. Construction activities will be conducted at a time that is least likely to affect the species (i.e., after the normal breeding season of December through September) (Ahlborn 1999). This timing will be coordinated with USFWS.
f. CDFW, in coordination with USFWS, will determine if desert kit fox den removal is appropriate. If unoccupied dens need to be removed, the USFWS-approved biologist will remove these dens by hand-excavating them in accordance with USFWS procedures (USFWS 2011).
g. Additional conservation measures will be coordinated with USFWS and DFW, and may include replacing dens, installing off-site artificial dens, acquisition of compensatory habitat, or other options to be determined. Compensation may include dedicating conservation easements, purchasing mitigation credits, or other off-site conservation measures, and the details of these measures will be part of the mitigation plan and must occur with full endowments for management in perpetuity. The plan will include data on responsible parties for long-term management and requirements, holders of conservations easements, and other details, as appropriate, for the preservation of long-term viable populations.

Mohave Ground Squirrels *(Xerospermophilus mohavensis):* MGS were not encountered on the Site during the field survey. Coleman has never personally seen MGS in this general area since the 1970's. Typically, the mainly solitary MGS aestivates and hibernates when the weather is at the extremes and when food is scarce. (The White-tailed Antelope Squirrel [WTAG], which occurs within its range, remains active during these periods.) Although, the MGS is also known to occur in the northern Victor Valley region, it is not known to have ever inhabited this Site. [The closest long-term sightings of MGS are northeasterly in T6North, R5West, Section#11, just north of the Southern California Logistics Airport (George AFB in continuous use since the 1940's). The recent sighting of an MGS was from a trapping in 2004 by CalTrans at Colusa and Highway 395 (T6N, R5W, Section#8; as reported by Ms. Jones on 09-17-04)] but little new local approval activity since 2008.

SUMMARY INFORMATION - continued

MITIGATION AND RECOMMENDATION: No Mitigation is required based upon current Site conditions.

OTHER INFORMATION: If MGS are observed on the Site in the future, all activities shall be stopped and CDFW contacted to discuss potential mitigation measures. [If CDFW considers the Site as critical habitat, a focused trapping study costing about $25,000 ($25,000± for each grid and a maximum area of 80 acres per grid) between the various costs related with process could be required. The MGS trapping is during the spring season with numerous protocols (starting in April with the first of three –(3) trappings lasting one week each) and the timeframe to satisfy all responsible agencies is late August for CDFW response at a minimum. Also, a 2081 Permit [incidental take permit under the CESA] would have to be obtained. Mitigation for a 2081 Permit could include acquisition of compensatory habitat at a minimum 1:1 ratio. Assuming the associated costs are $2,000 per acre; plus, associated costs of Habitat Management Endowment ($200/acre) and Enhancement ($95/acre) for fencing and other potential Site improvements, or a minimum of $2,500 per acre for estimating. The estimate to obtain a 2081 Permit is up to six- (6) months.

Burrowing Owl *(Athene cunicularia)* **or other owls:** No owls or active/potentially active burrows or nests were encountered on the Site and 500-foot buffer during the field survey. Also, no other signs (e.g. white-wash scats, feathers, cough pellets, fossorial bones, or fragments) were found, which would indicate habitat or other utilization of the Site. The CDFW Code §3503, §3503.5 and §3800 prohibit the take, possession, or destruction of birds, their nests, or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (February 1 through August 31annually). Coleman has observed numerous (400+) Burrowing owls in the Victor Valley during the last 40 years and no effort specifically were made to locate the burrows at that time.

MITIGATION & RECOMMENDATION: Prior to any grading activities after FEBRUARY 1, 2021 and if there is a lapse of 30 days of construction activities on the Site thereafter, an assessment "Only On-Site and 500-foot buffer" shall be completed and a **Clearance Letter** shall be provided to the Local Agency prior to any land disturbance. [This Site has no legal jurisdictional approvals, and another review will be required.]

OTHER INFORMATION: Potential $10,000 between the various associated costs and three months.

OTHER BIRD SPECIES OF CONCERN, INCLUDING ALL OTHER HAWKS & RAPTORS:

No Sharp-shinned Hawk *(Accipiter striatus)* **or other Hawks** or active/potentially active nests were observed in native plants on the Site during the field survey and the Site has limited habitat potential.

No LeConte's Thrasher *(Toxostoma LeContei)* or active/potentially active nests were observed in native plants on the Site during the field survey and the Site has limited habitat potential.

No Loggerhead Shrikes *(Lanius ludovicianus)* or active/potentially active nests were observed in native plants on the Site during the field survey and the Site has limited habitat potential.

MITIGATION & RECOMMENDATION: No other signs (e.g. white-wash scats, feathers, scattered bones, or fragments) were found, which would indicate habitat or other utilization. The CDFW Code §3503, §3503.5 and §3800 prohibit the take, possession, or destruction of birds, their nests, or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle.

Population levels for these species are expected to be relatively low in the Victor Valley based upon current data and the project is not expected to have any effect on these species. However, the mobility of these species does not preclude these species from occurring on the Site in the future. If these species are detected on the Site in the future, all activities shall be stopped and USFWS and CDFW contacted to discuss potential mitigation measures.

SUMMARY INFORMATION - continued

OTHER HAWKS AND OWLS AND BIRD INFORMATION:

Other Hawks, Owls and Raptors species are widespread in the Mojave Desert region and many live year-round in the Victor Valley and many other species migrate through and some now spend winters in the Victor Valley due to available food, shelter, nesting and water resources provided historically only by the Mojave River Riparian, scattered Dry Lakes and Springs, and specifically more recently by manmade riparian alternatives (recreational facilities, golf courses, California Aqueduct and Lakes, county, regional, and city parks, perimeter schools, agricultural and equestrian areas) of the Mohave Desert and can be observed almost daily where food, water, shelter, nesting and roosting opportunities are provided:

YEAR-ROUND RESIDENT SPECIES:

Accipitridaes:	**Red-tail hawk** *(Buteo jamaicensis)*
	Cooper's hawk *(Accipiter cooperii)*
Falconidae	**American kestrel** *(Falco sparverius sparverius)*
Strigidae	**Great Horned owl** *(Bubo virginianus)*
Tytonida	**Barn owl** *(Tyto alba)*

Other species migrate through for food, rest and water, and a few errant species follow winter and summer storms, and a few get lost occasionally from typical migratory paths (i.e. a windfall for local birders - Scissor-tail Flycatcher at Lucky Park in 29 Palms in 2010 timeframe).

The overall population levels for these species area expected to be and remain relatively low in the Victor Valley based upon current data. It is noted that these species have been observed on an irregular basis along the Mojave River, "Local Mountain or Manmade Riparian", Mojave Desert Intermontane, and specifically during wildland fires in the local San Bernardino or San Gabriel Mountain ranges.

LOCAL AREA MIGRANT SPECIES:

Accipitridaes:	**Osprey** *(Pandion haliaetus)*	**Northern harrier** *(Circus cyaneus)*
	Swainson's hawk *(Buteo swainsoni)*	**Rough-legged hawk** *(Buteo lagopus)*
	Golden eagle *(Aquila chrysaetos canadensis)*	
	Bald eagle *(Haliaeetus leucocephalus) NOTE: observed during local mountain fires*	
Falconidae	**Prairie falcon** *(Falco mexicanus*	
Strigidae	**Long-Eared owl** *(Bubo otus tufts)*	**Western Screech owl** *(Otus kennicottii)*
	Flammulated owl *(Otus flammeolus)*	**Northern saw-whet owl** *(Aegolius acadicus)*

The mobility of these species does not preclude them from occurring on a site, in the future, if resource opportunities (water, food, shelter, and nesting) are available; typically, along the Mojave River and manmade riparian. This Site does not have any of these characteristics; therefore, this Site is not expected to have any effect on these species.

MITIGATION & RECOMMENDATION: Prior to any grading activities after FEBRUARY 1, 2021 and if there is a lapse of 30 days of construction activities on the Site thereafter, an assessment "Only On-Site and 500-foot buffer" shall be completed and a **Site Clearance Letter** shall be provided to the Local Agency prior to any land disturbance. NOTE: [This Site has no legal jurisdictional approvals for development, at this time, and another Site review will be required prior to development.] If these species are occupying the Site in the future, all activities shall be stopped and CDFW contacted to discuss potential mitigation measures.

SUMMARY INFORMATION - continued

NOTE: No Greater Roadrunners *(Geococcyx californianus)* or active or potentially active nests were observed in native plants on the Site during the field survey. Roadrunners are observed every year throughout the greater Victor Valley area and near CSU San Bernardino at newer construction in previous years.

FEDERAL, CALIFORNIA and LOCAL PROTECTED NATIVE PLANTS:

The Site is in a single ecotonal zone and has a relatively high, but typical mix of vegetation due to mosaic of historical wildland fires in the general areas. The Site has no "Blue Line" or significant natural drainage courses and the site generally has a consistent slope and aspect to the north-northeast and a slope of 1.1±% and ultimately drains into the Mojave River. The nearest Blue-Line Stream is the Oro Grande Wash west of I-15.

The Site is in the northwestern portion of the City of Victorville and has a mix of residential, industrial, and commercial, along with Interstate 15, Highway 395, California Aqueduct, and high voltage transmission lines in the immediate vicinity. The Site is impacted by numerous paved and dirt roads and trials used by HOV, numerous large dogs (scat, digging holes and tracks) were also observed in the general area.

All Joshua's, all species of the Agavaceae family (Century Plants, Nolinas and Yuccas), Creosote Rings [with a diameter of ten feet or greater], Dalea and Spinosa (smoke tree), all species of the genus Prosopis (mesquites) and Beavertail Cactus "short-Joint" are searched for and located. (See Native Plant Map for more information.)

NATIVE DESERT PLANTS ENCOUNTERED WITHIN THE LIMITS OF THE PROPOSED PROJECT.

{4}	**Joshua Tree** *(Yucca brevifolia)* [2 feet or higher in height]
[0]	**Beavertail Cactus** *(Opuntia basilaris* "short-joint" var. brachyclada]
	No **Beavertail Cactus** *(Opuntia basilaris) were located on the Site*
/0/	**Creosote Rings** [with a diameter of ten feet or greater]

POTENTIAL NATIVE DESERT PLANTS PROPOSED FOR RELOCATION (LOCATED IN TABLE 2):

{-2-}	**Joshua Trees** are proposed to be relocated along landscaping planter, Retention areas, open space, perimeter roads and/or selected areas at the time of site development. Due to the available amount of healthy and younger Joshua Trees – only Joshua's with a range in height from 2-feet to 10-feet are proposed to be relocated at this time and ALTEC reserves the right to review the Site with Final Engineering Plans for Street Improvements and Grading Plans for the Site's development prior to development [small Joshua's with a height up to 2-feet and 12-feet or taller and additional fire damaged and the Dying to Dead Standing Joshua's are not proposed to be relocated].
[-0-]	**Beavertail Cactus** (*Opuntia basilaris*) [No found "short-joint" var. *brachyclada*]
/-0-/	**Creosote Rings** *(Larrea tridentata),* [with a diameter of ten feet or greater] These Creosote Rings are not common in this specific area.

Mojave Yucca Note: Due to the danger to pets and children (e.g. blind) and the difficulty of these plants being clones (dead to healthy) with various levels of fungus damage and beetle damage increased from relocation activities and having intertwined root corms with dead, dying and healthy plants, no relocation activities are typically planned.

Cholla Note: Due to the danger to pets and children (e.g. blind) of these plants continuously dropping cactus joints, no relocation activities are typically planned.

There was no evidence of any other young and healthy Joshua Trees or other native plants meeting the parameters of the Local Agency and this Site appears to be in compliance with Federal, State and County Standards. See future Design Plans for further locational information and proposed site layout areas.

SUMMARY INFORMATION - continued

LOCAL NATIVE DESERT PLANTS:

TYPICAL TRANSPLANTING AND OTHER INFORMATION:

- An estimate of 90 days is required prior to any grading and grubbing activities.
    - Proper "Native Plant Permit" and current requirements shall be attained from the Local Agency.
    - ALTEC LAND PLANNING shall be contacted for latest requirements, payment of consulting fees, scheduling of temporary water meter and scheduling with subcontractors and other personnel.
- Relocation activities for designated native desert plants are shown in Table 2 and attached Maps.
- Relocation activities for designated native desert plants shall be on-Site in designated areas and landscaping planters along the perimeter of the Site, as shown on the improvement plans, if available.
- See Landscaping and Grading Plans at the time of development for further details, if available.
- A Tree Spade (e.g. min. of GS44) shall be used for all trees over 8-feet and up to the maximum size of tree that can be transplanted without damaging the tree or the corm or as directed by consultant.
- Bonding Requirements for Subdivision Tract Recording is currently estimated to be $500 per proposed relocated Joshua Tree and $100 per proposed relocated Beavertail Cactus, as applicable and other costs associated with other requirements.
- Potential mitigation for Joshua trees or other native plants is estimated at $500 per specified individual specimen considering the various lump sum costs associated with this process per Site.
    - Preparation of Final Native Plant Transplanting Report
    - Tree Spade and operator costs
    - On-Site Special Inspector during all transplanting activities
    - Water meter rental and water usage
    - Field Inspector, Supervisor and Technician(s) for assisting transplanting activities
    - Renting other equipment, as required, to complete the "Relocation Activities", etc.)
    - Interim Relocation issues and challenges.
- Large piles of vegetation shall be avoided due to potentially hazardous conditions and shall be properly and immediately disposed of or prior to the end of each workday unless specifically being used as part of a "Restoration Project."
- Due to Site grading requirements (cut and fill) and development and phasing, an interim transplanting location may be needed prior to final relocation area (e.g. Retention Basin, Landscaped or Open-Space areas) and this requires the native plants to be relocated twice and essentially doubles the total cost.
- The plants shall be monitored over a three – (3) year period and additional measures implemented (e.g., monthly irrigation) by a contract with the property owner to ensure the best-survival of the plants.
- All relocated plants shall be relocated and placed in the ground immediately upon relocation activities and shall not be left in a pile, boxed or any other manner.

SUMMARY INFORMATION - continued

SUMMARY:

The site is generally within in the Joshua Tree Woodland ecotonal zone and has no significant minor natural drainage courses. The Site perimeter and interior dirt trails are used by vehicles, HOV, dogs and students and cumulatively cause localized and regional habitat fragmentation due to new development in the Victor Valley.

Based on the best available information, ALTEC asserts that no further investigation of the site is warranted at this time and the implementation of the proposed improvements on the site would result in a zero - (0) % removal for the Desert tortoise, American badger, Desert kit fox, Mojave ground squirrel, Burrowing owl and all other Owls, Sharp-shinned Hawk and all other Hawks, LeConte's Thrasher, Loggerhead Shrike or associated critical habitat. Biological Baseline Assessments are typically reviewed yearly due to impacts from evolving implementation of the West Mojave Plan and other planning efforts (cause changes to current process), manmade development and natural (fire and/or flood) conditions and any judicial decisions; therefore, the following will be required. It is noted Birds are specifically reviewed during the Breeding season.

MITIGATION AND RECOMMENDATION:

- Site Assessment after APRIL 1, 2021 for all reptile and mammal species.
- Site Assessment after FEBRUARY 1, 2021 for Burrowing owls and all other referenced bird species and if there is a lapse of 30± days of construction activities on the Site thereafter.

MITIGATION & RECOMMENDATION: Prior to any grading activities after FEBRUARY 1, 2021and if there is a lapse of 30 days of construction activities on the Site thereafter, an assessment "Only On-Site and 500-foot buffer" shall be completed and a **Clearance Letter** shall be provided to the Local Agency prior to any land disturbance. If these species are occupying the Site in the future, all activities shall be stopped and CDFW contacted to discuss potential mitigation measures.

It is noted that for all bird species, these migratory bird species are protected by the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §703-711) and under protection of the CESA.[3] The CDFW Code §3503, §3503.5 and §3800 prohibit the take, possession, or destruction of birds, their nests or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle.

NATIVE DESERT PLANTS PROPOSED FOR RELOCATION:

{-2-} **Joshua Trees** are designated for potential relocation and ALTEC reserves the right to review the Final Design Plans for Street Improvements, Landscaping Plans and Grading Plans prior to development and ALTEC will designate the healthiest proposed relocation of available Joshua's.

BONDING MITIGATION RECOMMENDATION IS $ 500.00: The Site has {-2-} proposed Joshua Trees for relocation activities and the associated costs and time to provide Supervision, On-Site Inspector, field technicians, tree spade services, water meter usage costs, other potential rental equipment or subcontracting costs is estimated to be a total of $2,000 plus $250 per tree for a total estimate **BONDING of $ 500.00.**

OWNER RESPONSIBILITY: The owner has total (civil and financial) responsibility to comply with all Local Native Plant Ordinance and applicable City, State, and Federal Agency requirements.

The owner shall water these plants once per month for a minimum of 3 year after relocation and may be part of a Landscaping Maintenance Assessment District or Contractual Maintenance with the local agency.

[3] https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php

SUMMARY INFORMATION - continued

OTHER INFORMATION:

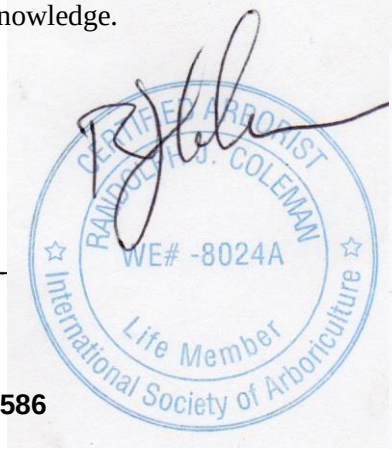
- The Site has no current legal entitlements for development and a Site Plan for a Mini-Storage Facility is in process for submittal to the City of Victorville. Due to the lack of City Approvals and timeframe for approvals, no permitting or grading activities shall commence prior to another Site review for all bird species and probable animal species.
- Bird species may have project-related disturbance of active nesting territories during critical phases of the nesting cycle (February 1st through August 31st annually).
- A future Site review will be required prior to any grubbing, borrow pit, stockpiling or any other grading or construction activities (or 60± days from field survey update, pursuant with previous conversations with CDFW staff).
- ALTEC staff have no personal or financial responsibility for the relocation or long-term maintenance of any Native Plants (i.e. Joshua Trees, Yucca, or Beavertail ["short-Joint"]), etc.; nor personal or financial responsibility if these native plants are destroyed inadvertently, purposely, by unintended consequences or damaged in any other manner.

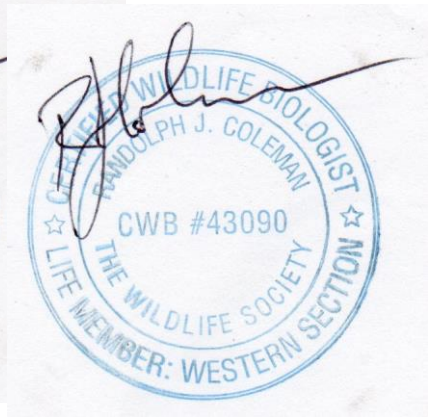
The report must have a wet signature and stamp in original ink, non-copied, to be an authorized copy of this report. Any attached "Full Size Maps" shall also require a wet signature and stamp, if applicable. Any additional copies of this report are an additional fee for preparation and original signature if ordered and prepaid within 30-days. Any attempt for assignment of this Assessment to any different person or entity shall make this Assessment void and will require a separate negotiated fee. Current practices required by the Local Agency and CDFW for the preparation and field survey requirements and monitoring are subject to change at any time.

Please review the complete Biological Baseline Assessment (Assessment) and Protected Native Desert Tree and Plant Report (Report) in its entirety to better understand the conclusions presented. ALTEC appreciates the opportunity to furnish this Assessment and Report. Please do not hesitate to contact us if you have any questions or request additional services. It is your responsibility to read the report and inform the consultant of any errors or omissions you are aware of prior to utilizing the report or making it available to any third party.

If this is not signed in original ink, stamped, dated, and numbered (e.g. #1 of 2 –City Planning and #2 of 2-Client) original, this copy is unauthorized. I hereby certify that the findings and conclusions presented in this assessment are accurate to the best of my knowledge.

Respectfully submitted,





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

EXECUTIVE SUMMARY

PROJECT DESCRIPTION: The project is proposed to allow for the development of a Mini-Storage Facility and provide a Biological Baseline Assessment (Assessment) and Protected Native Desert Tree and Plant Report (Report) to analyze the significant impacts that may occur to the biological resources on the Site for the Client and Local & Regulatory Agency(s) review processes.

ASSESSOR'S PARCEL: APN 3128-621-04-0000

LEGAL DESCRIPTION: Parcel 3 of Parcel Map 2092, PMB 18/52 in the Northwest ¼ of Section 10, T5N, T5N, SBM, in the City of Victorville, County of San Bernardino, State of California

SOILS & TOPOGRAPHY: Soils are Younger Alluvium [gravels, sands, clay, and silt. Unconsolidated to moderate consolidated. Low to moderate permeability] and has a slope of about 1.1±% and drains to the Mojave River via a combination of manmade and natural drainage courses.

SPECIAL ZONES: The subject is not located in a California Coastal Zone, Alquist-Priolo Seismic Zone, or a Critical Habitat Zone. **NOTE:** The site is 17+ miles from the San Andreas Fault, which also runs in the Cajon Pass area to the south.

FLOOD HAZARD: No "Blue Line" is located on Site based upon the USGS Quad Map and the site does have a significant natural drainage course.

MOJAVE GROUND SQUIRREL: None - No Mitigation is required based upon current Site conditions.

DESERT TORTOISE, AMERICAN BADGER, DESERT KIT FOX, BURROWING OWL, SHARP-SHINNED HAWK, LECONTE'S THRASHER, LOGGERHEAD SHRIKE & OTHER RAPTORS (HAWKS & OWLS):

MITIGATION & RECOMMENDATION: Prior to any grading activities after FEBRUARY 1, 2021 for Burrowing owls and all other referenced bird species and April 1, 2021 for Tortoises and all other referenced animal species, a Site Review shall be completed and if there is a lapse of 30± days of construction activities on the Site thereafter. A Clearance Letter shall be prepared and provided for the City.

NATIVE DESERT PLANTS: **Relocation Required:** {-2-} Joshua Trees and will personally relocate any other Cacti to an off-site location, when needed.

LOCAL AGENCY: The City of Victorville has the Local Jurisdictional Authority for the Legal Entitlement Planning, Engineering and Building processes. The City also shall have the applicable reviewing authority for any transplanting activities or commercial harvesting of desert native plants and all transplanting activities shall conform to all applicable codes, laws, and field procedures from the local jurisdiction. At the time of transplanting the local jurisdiction shall be contacted for the latest requirements.

REPORT EXPIRATION: FEBRUARY 1, 2021 for all indicated Bird Species.
APRIL 1, 2021 for all reptile and mammal's species.

INTRODUCTION

Biological surveys were conducted in the City of Victorville, San Bernardino County, California to evaluate the site for the presence/absence of Desert tortoise (*Gopherus agassizii*), American badger *(Taxidea taxus)*, Desert kit fox *(lupus candidia)* Mohave ground squirrel (*Xerospermophilus mohavensis*), Burrowing owl (*Athene cunicularia*), Sharp-shinned hawk (*Accipiter striatus*), LeConte's thrasher (*Toxostoma LeContei*), Loggerhead shrike *(Lanius ludovicianus)* and all other Raptors (Hawks and Owls). Surveys for these species were conducted as per guidelines established by U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFW). This report provides a summary of the results of the surveys. The results are part of the baseline data necessary for consideration of the proposed project by the Local Agency and other regulatory agencies.

Project Description and Location

The project is proposed to allow for the development of a Mini-Storage Facility.

The Site is 8.52± acres in size and is located west of Interstate 15 and Route 66, east of U.S. Highway 395 (Three Flags Highway), north of U.S. Highway 18, North side of Mojave Drive, East side of Mesa Linda Avenue, and in the City of Victorville in San Bernardino County. Portions of the Site are disturbed by off-road vehicle use and the dumping of construction and yard debris on the Site by residents of the surrounding area. The property is located west of a LADWP 500-kV transmission corridor from Hoover Dam and Los Angeles. This area is in the northwestern portion of the City of Victorville with nearby regional commercial uses, newer schools, and scattered Single Family subdivisions in the general area. The elevation of the site is about 3026± to 3011± feet and the site is relatively flat with a 1.1±% slope to the north-northeast and ultimately drains into the Mojave River. There are no prominent ridges or significant natural drainage sources on the site.

Site Overview, Areal Geology and Resume Summary

The Site is in a single ecotonal zone and has a relatively limited, but typical mix of vegetation in the general areas. The Site has no "Blue Line" but does have drainage sheet flow on the site to the northeast. The site generally has a consistent slope and aspect to the north-northeast and a slope of 1.1±% and ultimately drains into the Mojave River. The Site is 16± miles from San Andreas Fault to the south in the Cajon Pass area.

The Site is in the northwestern portion of the City of Victorville and has a mix of vacant properties, along with residential and commercial, along with U.S. Highway 18 and 395 and high voltage 500 kV transmission lines in the general vicinity. The Site is impacted by numerous dirt roads and trails used by OHV, scattered debris on site and generally along dirt roads, along with recent canine/coyote holes (scat, digging holes and tracks) were observed in the general area. The Site is east of U.S. Highway 395, north of Highway 18 and North side of Mojave Drive, East of Mesa Linda Avenue, and west of Interstate 15 and at the northerly edge of the semi-alpine transition zone of the San Bernardino and San Gabriel Mountains and the Mojave Desert. Victorville and Hesperia were originally divided into parcels in 1888 along the Railroad corridor, following historical wagon trails and west of Interstate 15 (Route 66 - Old Trails Highway), further developed into a military community in 1940's through 1980's. Subsequently, since the 1980's, numerous national, regional, and local builders bought raw acreage and developed housing, particularly along Interstate 15 and Highway 395 and other local areas.

The "Areal Geology", assessing the Mojave River Ground Water Basins Investigations, by the Department of Water Resources states: Soils consist of Qoy – Younger Fan Deposits [Boulders, poorly sorted gravels, sands, and silt. Local caliches' cement, unconsolidated to moderately consolidated. Low to moderate permeability] and have a slope to the northeast of 1.1±% and ultimately drains to the Mojave River. The Soil Survey of San Bernardino County – Mojave River delineates the Site as #106 – "Bryman sands, 0 – 2% Slope". A blue line is not shown on the Site and the USGS Quad sheet show others just over 1-mile to the east and the west.

Consultant has completed the following environmental education, workshops, licenses, and designations:

- **Tree Care for Birds & Other Wildlife** *(Arizona/California/Nevada & Hawaii)* - International Society of Arboriculture
2020 - **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 - **Tree Risk Assessment Qualified** (International Society of Arboriculture – Certified Arborist WE#-8024A)
- **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 - **Yellow Billed Cuckoo (*Coccyzus americanus)* Workshop** (Kern 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)
- **Tree Risk Assessment Qualified** International Society of Arboriculture (WE#-8024A – Renewed in 2018)
2012 - American Planning Association Annual Conference (4 Days - Los Angeles)
- **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 Autumn Annuals – Dr. James Andre & Dr. Tasha La Doux - Calif. Native Plant Society @ 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 Sec.
2009 - **Western Pond Turtle, California Tiger Salamander & Red-legged Frog Workshop** (CSU Sonoma)
- **Wildlife Management & Ecosystem Management** (Dr. Barrow, UC Riverside Research Center/3-unit courses)
- **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/[Tree Risk Assessment Qualified]** WE#-8024A – Int. Society of Arboriculture (+60hours CE)
- **Riparian Ecology & Plant Identification Workshop (**CNPS - Ventura River)
- **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. California Native Plant Society's (CNPS) Vegetation Program. Author of Manual of California Vegetation and Terrestrial Vegetation of California, among other books and resources)
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

METHODOLOGIES AND PROTOCALS

Pedestrian surveys were conducted during Sunset of September 27 and Sunrise of September 28, 2020 by R.J. Coleman (Certified Wildlife Biologist #43090, Certified Arborist /Tree Risk Assessment Qualified WE#8024A, and Scientific Collecting Permit #11586 from CDFW) to verify the absence/presence of the identified species.

It should be noted that although none of the identified bird species were located during surveys, the proposed project is not within the Mojave River riparian corridor or a significant ephemeral riparian corridor like the Ore Grande Wash and other larger washes in the transmontane areas of the Mojave Desert. Therefore, this Site has no potential habitat for nesting birds during the breeding season for riparian corridor species of concern. Regardless of the site status, mitigation measures have been included to require additional site surveys to address construction activities after February 1st 2021 (beginning of the nesting season is designated as February 1st and ending August 15th), or being delayed 30 days or more, after construction activities begin to verify site conditions have not changed.

ON-SITE SURVEY

Recent documentation from the U. S. Bureau of Land Management, USFWS, and CDFW were consulted to determine to what extent Desert Tortoises and all referenced species (e.g. MGS, Burrowing Owls) have been observed in the area. In addition, Biological Baseline Assessments prepared by ALTEC for other projects in the area were reviewed prior to commencement of the field surveys. Following the literature review, the Site was visited by consultant. The field survey of the Site is inclusive of the right-of-ways and consists of a series of traverses that are walked in a north-south direction until the entire Site had been thoroughly checked for Tortoise sign (e.g. Tortoises, burrows, tracks, scats) and other referenced species at 30 (10± meter) foot intervals and a closer, more detailed examination is given to areas of irregular topographical features such as localized high-points, washes and other localized low-points, erosion channels, elevated clumps or rings of vegetation, bases of bushes and other perennial plants, since tortoises tend to burrow into small hills and banks such as those at the base of woody plants, Creosote and Junipers or other manmade topographical considerations. The Site survey is designed to provide one hundred percent (100%) coverage within the internal boundaries of the proposed project to locate the following:

OFF-SITE SURVEY

The zone of influence **(ZOI)** includes parallel transects of 100, 300, 600, 1200 and 2400-feet for Tortoises and transacts in 100-foot increments and up to 500 feet for Burrowing owls and all bird other species. The zone of influence was completed until being bisected by development and fencing and the property boundaries were available prior to the Site survey. This Site has been previously reviewed for biological resources within Zone of Influence/Buffer areas for nearby Sites being reviewed by Coleman at the time of planning approvals in 1990-2020 timeframe, along with numerous surveying and engineering projects since the 1973 timeframe.

RESULTS-LITERATURE REVIEW

ANIMAL PROTECTION

This Assessment was prepared pursuant to the California Environmental Quality Act of 1970 (California Pubic Resources Code §21000-21178 and Title 14 CCR, §753, and Chapter 3, §15000-15387) and the conclusions of this report represent the results of a Site assessment from a field survey to determine the biological baseline required for potential remediation of the proposed project on the Site by the local jurisdiction and additional governmental agencies. Literature was reviewed to identify the species that would require a site assessment to prepare this Report.

The City of Victorville General Plan Resources Section (pp 10-11) identifies species to be evaluated for biological resources reports. It is noted many of these species are riparian species, bird migration paths along riparian corridors, and these species include:

Amphibian
- Arroyo Toad *Bufo microscaphus californicus*

Gastropod
- Victorville Shoulderband *Helminthoglypta mohaveana*

Reptile
- Desert tortoise *Gopherus agassizii*
- Western Pond Turtle *Clemmys marmorata*
- Coast Horned Lizard *Phrynosoma coronatum*

Mammal
- Mojave Ground Squirrel *Spemophilus mohavenses*
- Mojave River Vole *Microtus californicus mohavensis*
- Pallid Bat *Antrozous pallidus*

Bird
- Bald Eagle *Haliaeetus leucocephalus*
- Yellow-billed Cuckoo *Coccyzus americana*
- Willow Flycatcher *Empidonax traillii*
- Least Bell's Vireo *Vireo bellii pusillus*
- Northern Harrier *Circus cyaneus*
- Sharp-shinned Hawk *Accipiter striatus*
- Cooper's Hawk *Accipiter cooperii*
- Ferruginous Hawk *Buteo Regalis*
- Golden Eagle *Aquila chrysaetos*
- Prairie Falcon *Falco mexicanus*
- Burrowing Owl *Athena cunicularia*
- Long-eared Owl *Asio otus*
- Brown-crested Flycatcher *Myiarchus tyrannulus*
- Loggerhead Shrike *Lanius ludovicianus*
- Bendire's Thrasher *Toxostoma Bendirei*
- Le Conte's Thrasher *Toxostoma lecontei*
- Yellow Warbler *Dendroica petechia*
- Yellow-breasted Chat *Icteria virens*
- Summer Tanager *Piranga rubra*
- Tricolored Blackbird *Agelaius tricolor*

There are numerous additional species identified by the CNDDB as occurring in the general region. A review of the locations and habitats of these species revealed that many of them require water, riparian areas, consistent seasonal drainage, woodlands, forests, mountains, Sonoran Desert habitat, or are in exceedingly small numbers in extremely specific areas of the State. These species are not included within the Report but are included for discussion purposes. The remaining additional species evaluated in this report include:

Birds
- American peregrine falcon *Falco peregrinus anatum*
- Arizona bell's vireo *Vireo bellii arizonae*
- Bell's sage sparrow *Artemisiospiza belli belli*
- Black-tailed gnatcatcher *Polioptila melanura*
- California gull *Larus californicus*
- Coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*
- Crissal thrasher *Toxostoma crissale*
- Gila woodpecker *Melanerpes uropygialis*
- Gray vireo *Vireo vicinior*
- Harris' hawk *Parabuteo unicinctus*
- Lucy's warbler *Oreothlypis luciae*
- Southwestern willow flycatcher *Empidonax traillii extimus*
- Vermilion flycatcher *Pyrocephalus rubinus*

Reptiles
- Coastal whiptail *Aspidoscelis tigris stejnegeri*
- California glossy snake *Arizona elegans occidentalis*
- Orange-throated whiptail *Aspidoscelis hyperythra*
- Red-diamond rattlesnake *Crotalus ruber*

Mammals
- California leaf-nosed bat *Macrotus californicus*
- Dulzura pocket mouse *Chaetodipus californicus femoralis*
- Pocketed free-tailed bat *Nyctinomops femorosaccus*
- Western yellow bat *Lasiurus xanthinus*
- Southern grasshopper mouse *Onychomys torridus ramona*
- Townsend's big-eared bat *Corynorhinus townsendii*
- Western mastiff bat *Eumops perotis californicus*

PLANT PROTECTION

This Assessment and Report were prepared pursuant to the California Native Plant Protection Act of 1977 (§1904) and the conclusions of this Assessment and Report represent the results of a Site assessment from a field pedestrian survey to determine the biological baseline required for potential remediation of the proposed project on the Site by the local jurisdiction and additional governmental agencies.

CNPS LISTS List 1B: Plants are rare or threatened or endangered in California or elsewhere.

THE CNPS R-E-D CODE

R (Rarity)	3 - Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.
E (Endangered)	2 - Endangered in a portion of its range
D (Distribution)	3 - Endemic to California

FEDERALLY LISTED PLANTS

C2	Threat and/or distribution data are insufficient to support federal listing.

Beavertail Cactus "short-joint" *(Opuntia basilaris var. brachyclada*) was not observed and one-(1) regular Beavertail Cactus *(Opuntia basilaris)* was observed on the Site. However, all varieties of Beavertail Cactus are proposed to be relocated along with the appropriate Joshua Trees, if encountered.

Management Status:

Federal:	**C2** (USFWS Species of Concern)
California:	**S1.2, G5T1** (CDFG, 1998)
CNPS:	**List 1B, R-E-D code 3-2-3** (Skinner and Pavlik, 1994)

Desert Trees and *Joshua Trees* can have a variety of issues that create difficulties with relocation alternatives.

Binj	*Basal Injury*	**Dleg**	Dogleg	**InjO/N**	Injury – Old/New
B/I	*Beetle and insect damage*	***DS***	*Dead Standing*	***L***	*Lean/Leaning*
CoD	CoDominate Trunk(s)	**Du**	Dusty	***LB***	*Low Branches*
Cr	Crowded	***F***	*Fungus damage*	***MC***	*Multiple Clones*
Db	Dieback	**G**	Grainery Tree	***OB***	*Over Balanced*
Dbh	Diameter at 4.5'	**Hf**	Health Fair	***OM***	*Over Mature*
DC	*Dependent Clone*	**Hok**	Health OK	***OT***	*Over Tall*
DK	Decay	**Hp**	Health Poor	***S***	*Seedling (<2')*
DL	*Down Live*	**IB**	Included Bark	**Tcrk**	Torsional Crack

PROTECTED NATIVE DESERT TREE AND PLANTS:

Native Desert Plants searched for on-Site, reviewed in this report are the following:

- Joshua Trees *(Yucca brevifolia)*
- Beavertail Cactus *(Opuntia basilaris var. brachyclada)*
- Creosote Bush [10-ft min. rings] *(Larrea tridentata)*
- Parry Nolina/Beargrass *(Nolina parryi)*
- Mojave Yucca *(Yucca schidigera)*
- Century Plant *(Agave deserti)*
- Dalea/Smoke Tree *(Parosela spinosa, var.)*
- Mesquite Tree *(Prosopis var.)*

PERSONAL WILDLAND FIRE OBSERVATION BY RANDY COLEMAN:

Typically, in an historic burn area (50 years to 150 years), many of the existing living Joshua's in these historic burn areas are Fire Clones from the original Joshua's that was living during these less infrequent and less intense historic fires with only native plant species providing the fuel for the fire. These original Joshua's survived these historical fires but tend to be completed killed by the recent fires where the invasive grass species create a hotter, more intense, and more frequent wildland fire pattern. The long-term effects from the historic fire create larger diameter trunks and corms (underground Bulb and roots of the tree), which cause a significantly wider trunk and wider diameter root system just underneath (one to two feet) the surface of the ground at the base of each Joshua's. The clones create the situation that the long-term prospects of survival after transplanting for some of these trees is negatively affected because the tree spade damages the corm and root ball or the weight of the remaining tree trunks damages or splits the corm allowing beetles to enter the tree and the tree will die.

During the transplanting activities, all the healthy Joshua's that are not transplanted will have a corm too large or odd shaped or are too large of a tree for the Tree Spade to move. The historical fire ultimately creates larger diameter trunks and corms, while the actual height of the tree is not the deciding factor for transplanting. Transplanting young healthy Joshua's with an excellent chance of survival is the goal.

JOSHUA'S UNDER 3 FEET (SEEDLINGS) have been observed during the last 40 years to grow in abundance on local Wildland Fire Sites due to the much higher and consistent moisture events, lack of squirrels eating the seeds and competing native vegetation for rainfall, other than the dominant and invasive plant species. Also, the Victor Valley receives annual rainfall (also dew and snow), and twice the average rainfall than most other areas of the Mojave Desert and this allows the Joshua's to grow at more than twice the rate. Therefore a 3-foot Joshua will likely be at less than half of the age, or younger, than another Joshua's located farther into the Mojave Desert. These extant Joshua Tree locations must survive and experience multi-year droughts and half the moisture on an average and normalized basis. Therefore, most of these Victor Valley Joshua seedlings will not survive the stress of the relocation process during the first 5 years of relocation without substantial efforts.

The **Beavertail Cactus -"Short-Joint"** *(Opuntia basilaris var. brachyclada)* is determined to be sensitive by the California Native Plant Society (CNPS) (Smith and Berg, 1988), is typically found in some areas of the Victor Valley. The extent of the possible regional loss of this rare plant species can only be speculated. Before any areas are graded for development, all "short-joint" Beavertail specimens should be salvaged, if encountered during any grading process. Salvaging shall be primarily by transplanting in a suitable native habitat on-Site, or preserved in a Botanical Garden, like University of California at Riverside, Rancho Santa Ana in Claremont, or other similar facilities. This Beavertail (var. *brachyclada*) is listed by CNPS and typically found on dry desert slopes of the San Gabriel and San Bernardino Mountains. Typically bloom April thru June, subject to warm ambient temperatures coupled with the required timing and amount of rainfall. Long-term drought conditions and the effects of the El Nino years or extended drought conditions alter any ordinary conditions.

Literature was reviewed to identify the species that would require a site assessment to prepare this Report.

The City of Victorville General Plan Resources Section (pp 10-11), and Municipal Code Chapter 13.33, entitled *Preservation and Removal of Joshua Trees*, identifies species to be evaluated for biological resources reports. These species are:

- Small-flowered Androstephium *Androstephium breviflorum*
- Booth's Evening-Primrose *Camissonia boothii ssp. Boothii*
- Desert Cymopterus *Cymopterus deserticola*
- Mojave Monkeyflower *Mimulus mohavensis*
- Short-jointed Beavertail *Opuntia basilaris var. brachyciada*
- San Bernardino Aster *Symphyotrichum defoliatum*
- Joshua Tree *Yucca brevifolia*

There are numerous additional species identified by the CNDDB as occurring in the general region. A review of the locations and habitats of these species revealed that many of them require water, riparian areas, consistent seasonal drainage, woodlands, forests, mountains, Sonoran Desert habitat, or are in exceedingly small numbers in extremely specific areas of the State. These species are not included within the Report but are included for information purposes. The remaining additional species evaluated in this report include:

- Ash-gray paintbrush *Castilleja cinerea*
- Santa Ana River Woollystar *Eriastrum densifolium ssp. sanctorum*

PERSONAL AVIAN AND RIPARIAN OBSERVATIONS IN THE MOJAVE DESERT BY RANDY COLEMAN:

Historical Avian Flyways:

With the ever-changing conditions along the historical avian flyways in the Mojave Desert areas, Los Angeles Department of Water and Power bringing water resources from the eastern Sierra's (i.e. Mono Lake) and the Colorado River, El Nino and Drought events, and with its historical natural and dry lakes; the wetlands and riparian corridors are becoming less or more useful, at various locations, due to ever-changing climate issues and anthropogenic alterations.

Anthropogenic Alterations providing year-round water resource Examples:

The Victor Valley Wastewater Reclamation Authority [VVWRA] is reportedly treating 10.7± million gallons per day. Additionally, VVWRA is releasing a portion of this amount with tertiary-level treated wastewater directly into the Mojave River. This highly treated wastewater is cleaner than regulatory requirements and cleaner than the background levels for nitrogen and other salt nutrient considerations. These cleaner water resources are creating a significant additional surface infusion which has increased the amount of surface water and riparian forest (7± miles) downstream to the Helendale area. This anthropogenic alteration has created a very stable water resources for both animals and plants. This has increased the opportunity for riparian dependent species of plants, birds and animals for food and water resources, nesting, and roosting. This treated wastewater amount has been variable over the last 5 years because of newer sub-regional wastewater treatment facilities constructed in the City of Victorville, Apple Valley and the newest being in the City of Hesperia striping out water for community recycling purposes. Higher costs for potable water has severely decreased the amount of potable water being used for residential, commercial, and public facilities with conversion of grass to drought oriented plant and rock landscaping. For example, Yellow billed cuckoo and Southwestern willow flycatcher are being observed downstream from VVWRA. The increase surface water also allows Beavers to create dams which create additional habitat for many species (i.e. riparian birds, Western pond turtle) that have been dependent upon the three major surface-water locations along the Mojave River, being the Upper and Lower Narrows and Afton Canyon (Lake Mannix at the end of the Pleistocene Epoch about 11,700 years ago).

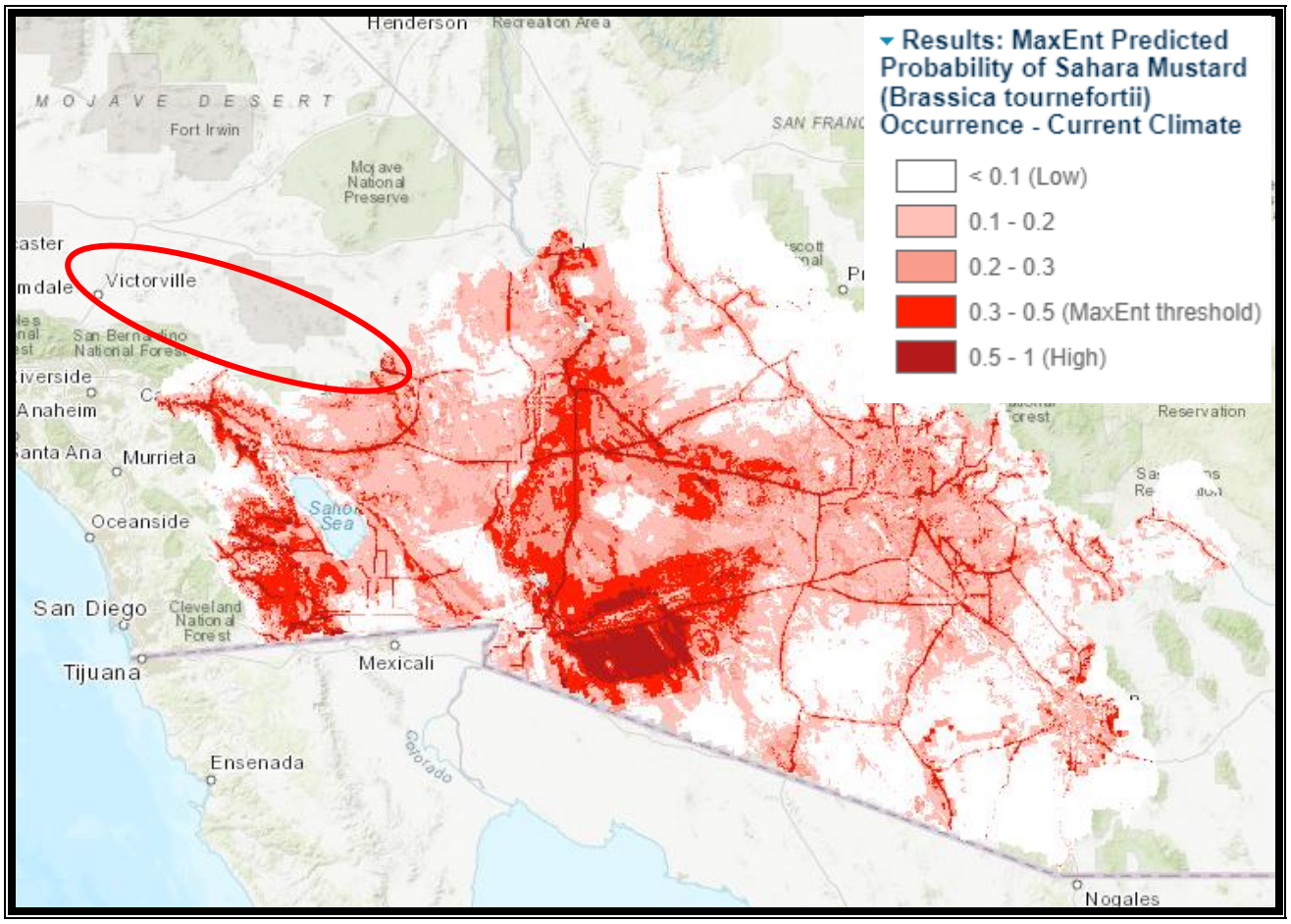
Additionally, manmade lakes and riparian forest alternatives (i.e. golf courses, lakes, improved management of existing desert springs and park facilities by various public agencies, increasing knowledge of native residential landscaping and improving Arborist related tree alternative and tree-trimming activities with bird and bat nesting pre-construction surveys) that can provide water, food, roosting and nesting resources. We have been observing for many years numerous bird and other animal species using these riparian alternatives successfully. Summer Tanagers, Great & Long-eared owls, Yellow-shafted flickers, Rufous hummingbirds, Swainson's Hawks and other migrating bird species and many other animals using alternatives riparian areas year-round, such as the Jess Ranch/Apple Valley/Spring Valley/Silver Lakes Golf Courses and adjacent residential yards.

The Mojave Water Agency has a facility for California Aqueduct (untreated) water in the Deep Creek area to be released and creates a relatively minor amount of surface waters (5.5± miles non-riparian forest) to recharge aquifers of the Mojave River.

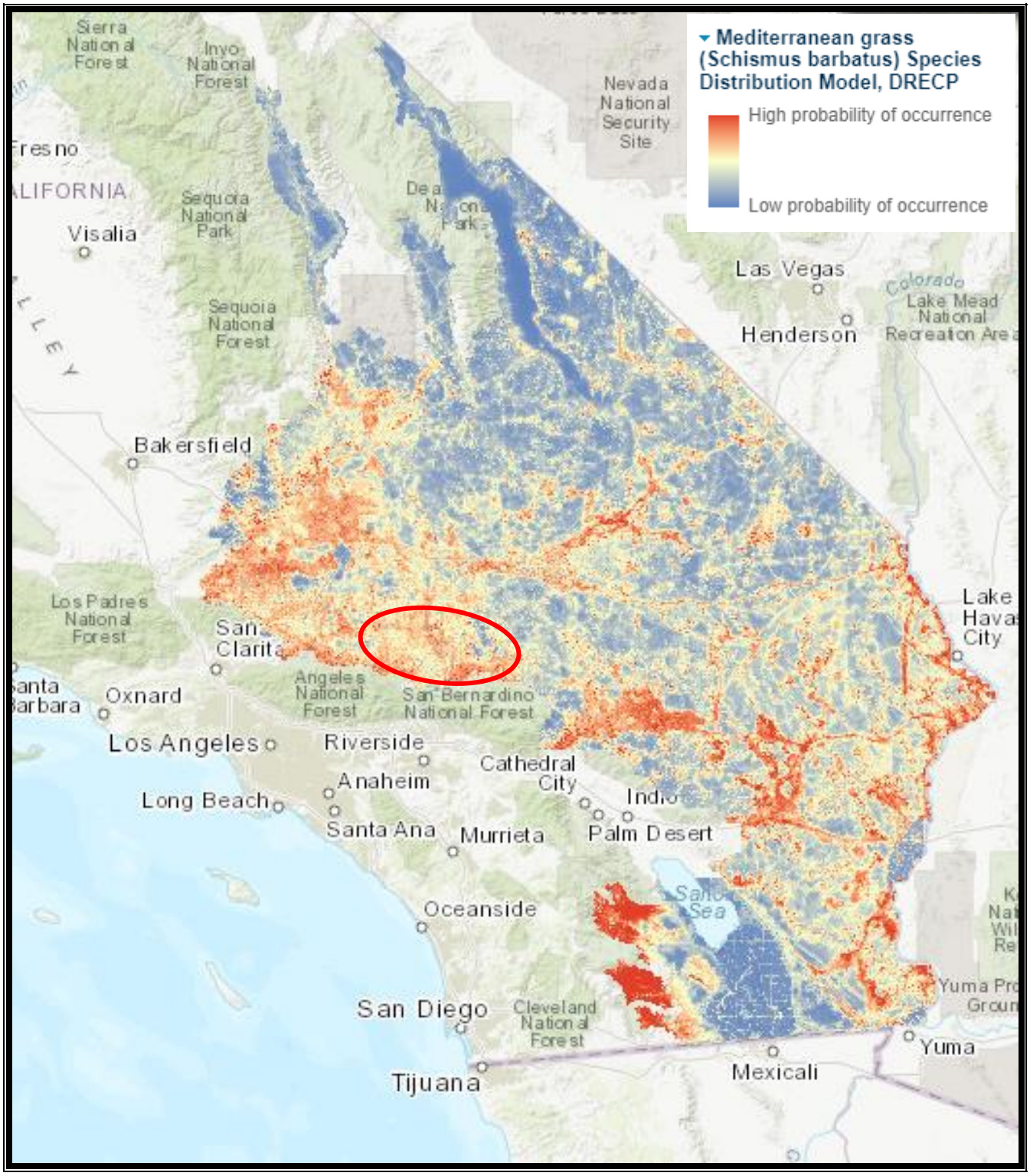
Invasives: Saharan Mustard (Brassica tournefortii) Species Distribution Model, DRECP

IT IS NOTED THAT SAHARAN MUSTARD COVERS THE VICTOR VALLEY AREA
FOR ABOUT THE LAST 20 YEARS
FROM PERSONAL OBSERVATIONS, INDICATING
THIS SPECIES IS FAST MOVING ESSENTIALLY FOLLOWING THE
HIGHWAYS (18, 247, 62) TO REACH THE VICTOR VALLEY AND FUTURE LOCATIONS ALONG HIGHWAYS
THROUGHOUT THE GREATER MOJAVE AND SONORAN DESERTS.

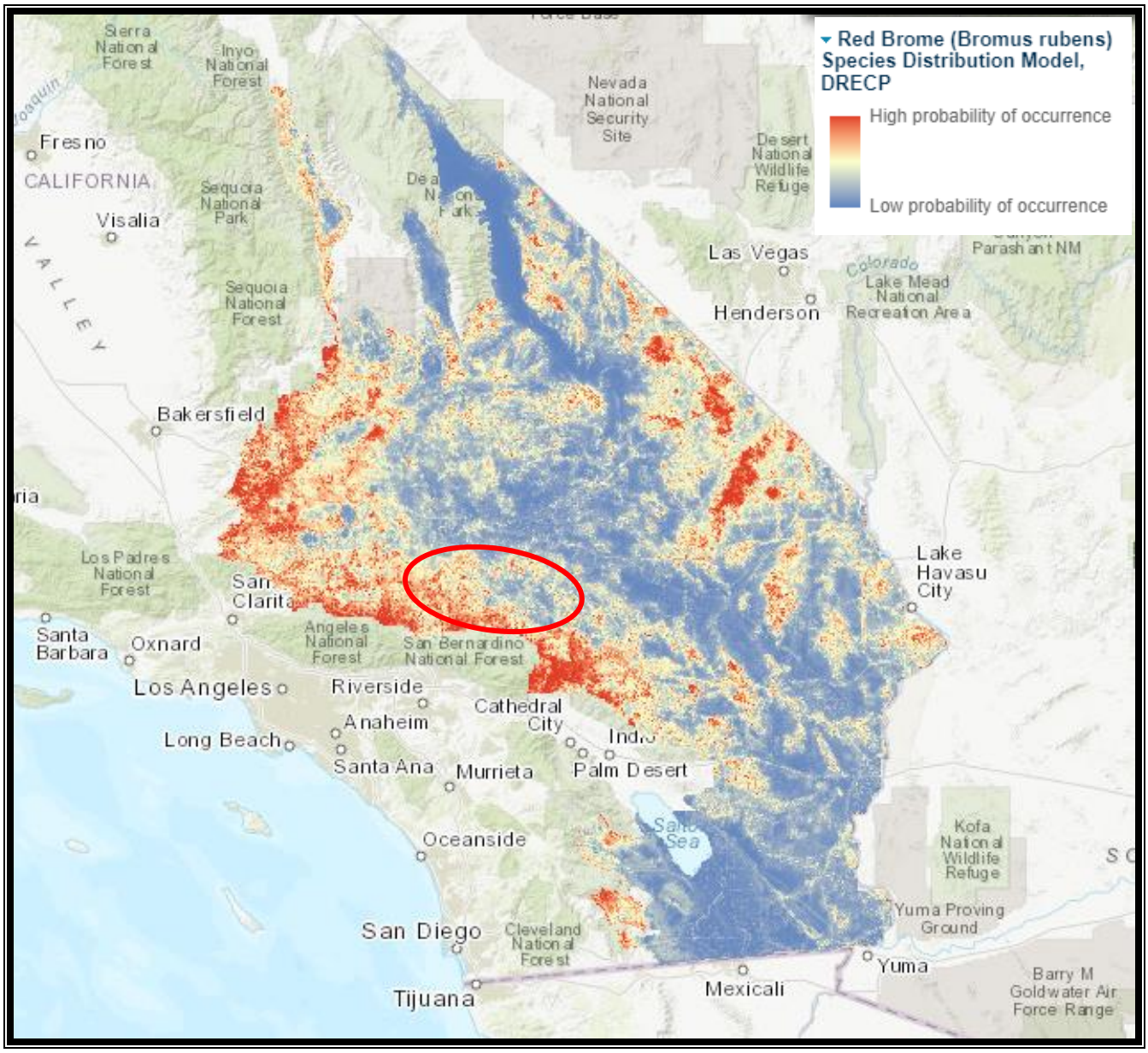
{THIS SPECIES IS ASSUMED TO HAVE ARRIVED IN 1928 WITH DATE PALM TREES BEING IMPORTED FROM THE MEDITERRANEAN TO THE COACHELLA VALLEY AND THEN HAS SPREAD ALONG THE HIGHWAYS; ALSO SMOG GENERATED FROM VEHICLES THEN DEPOSITED ON THE NATIVE SOILS PROVIDES NITROGEN ACTING AS A FERTILIZER FOR THIS AND OTHER INVASIVE SPECIES ALONG THESE HIGHWAYS, AS OBSERVED BELOW}



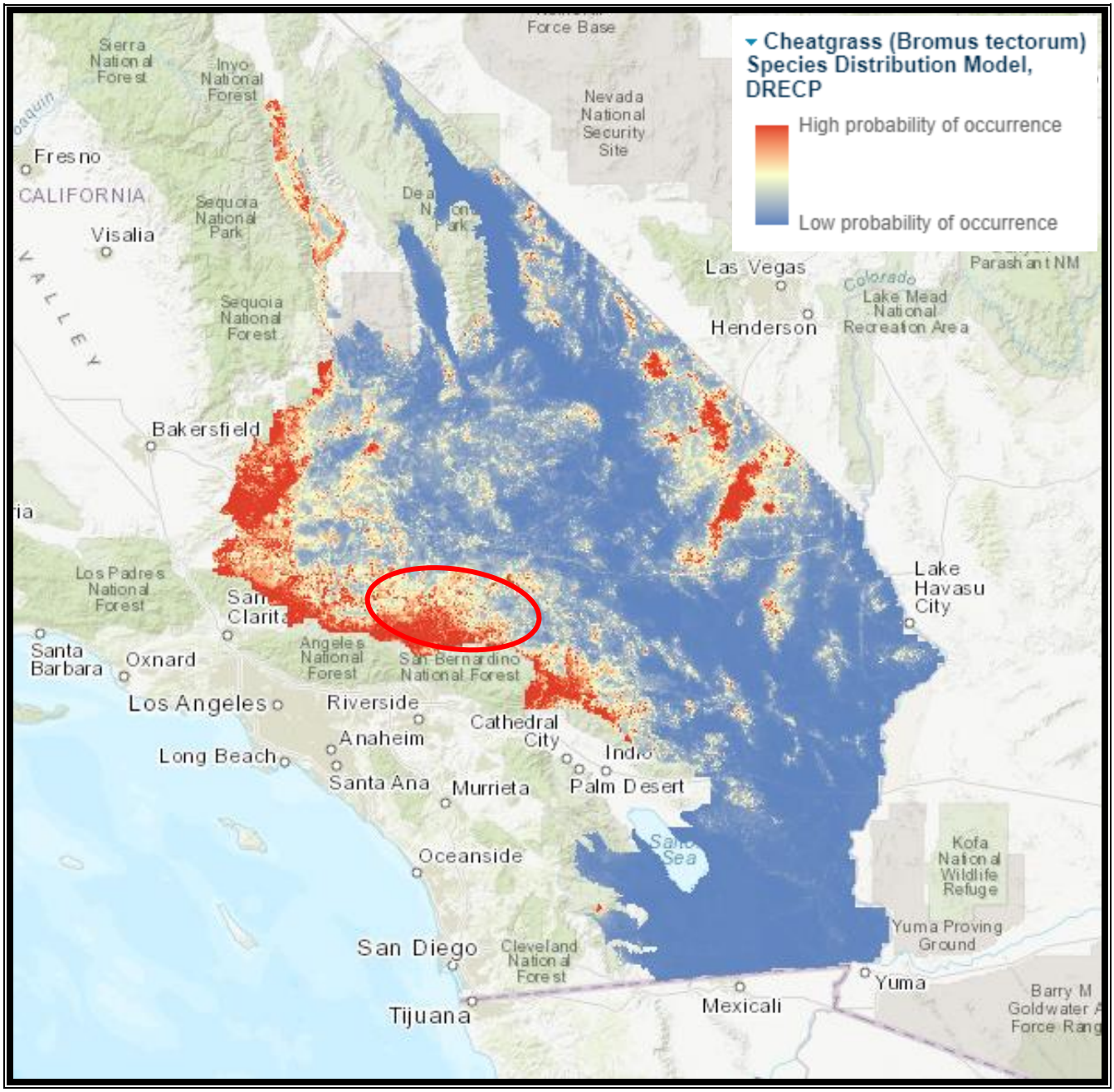
Invasives: Mediterranean Grass (Schismus barbatus) Species Distribution Model, DRECP



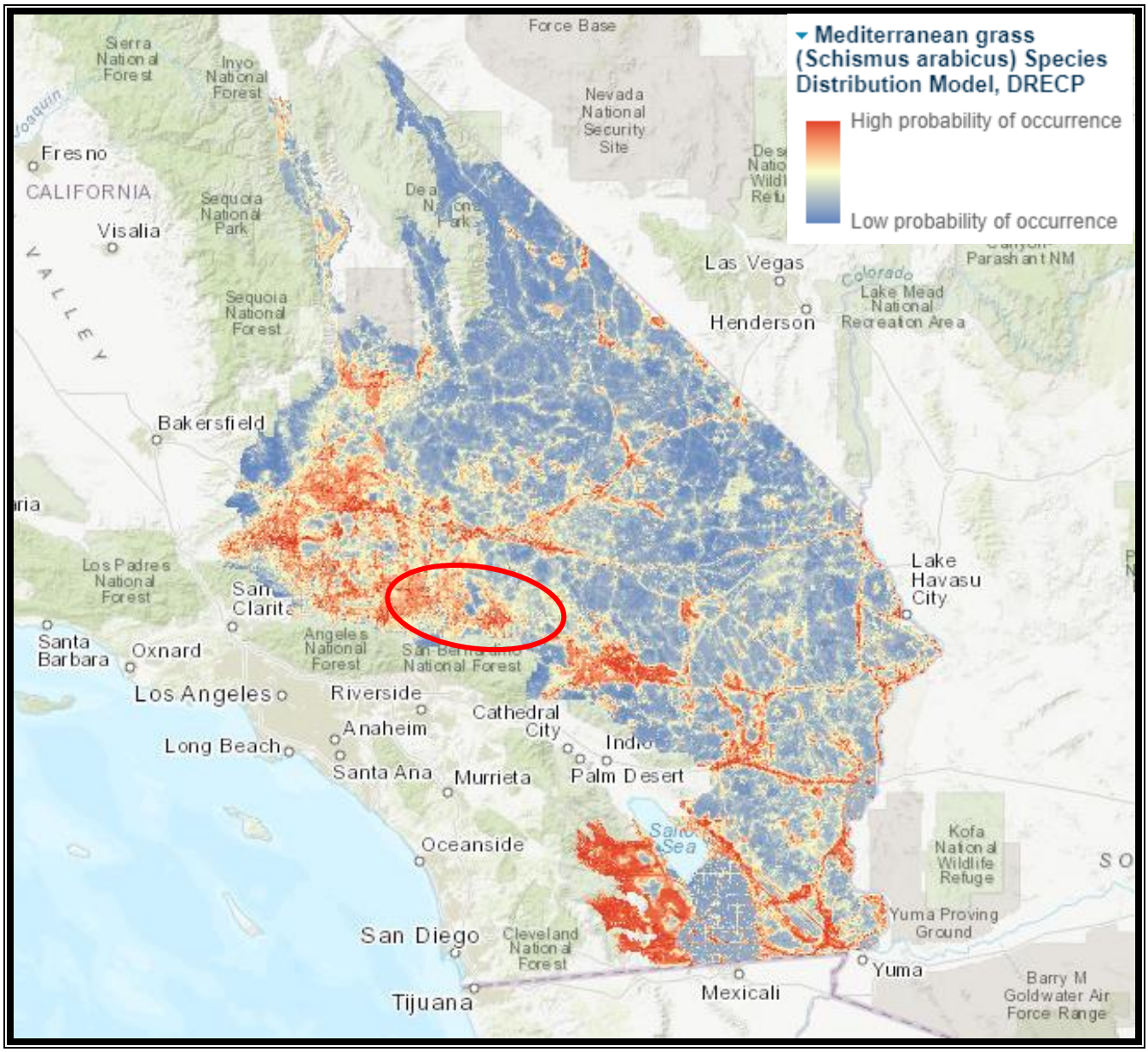
Invasives: Red Brome (Bromus rubens) Species Distribution Model, DRECP



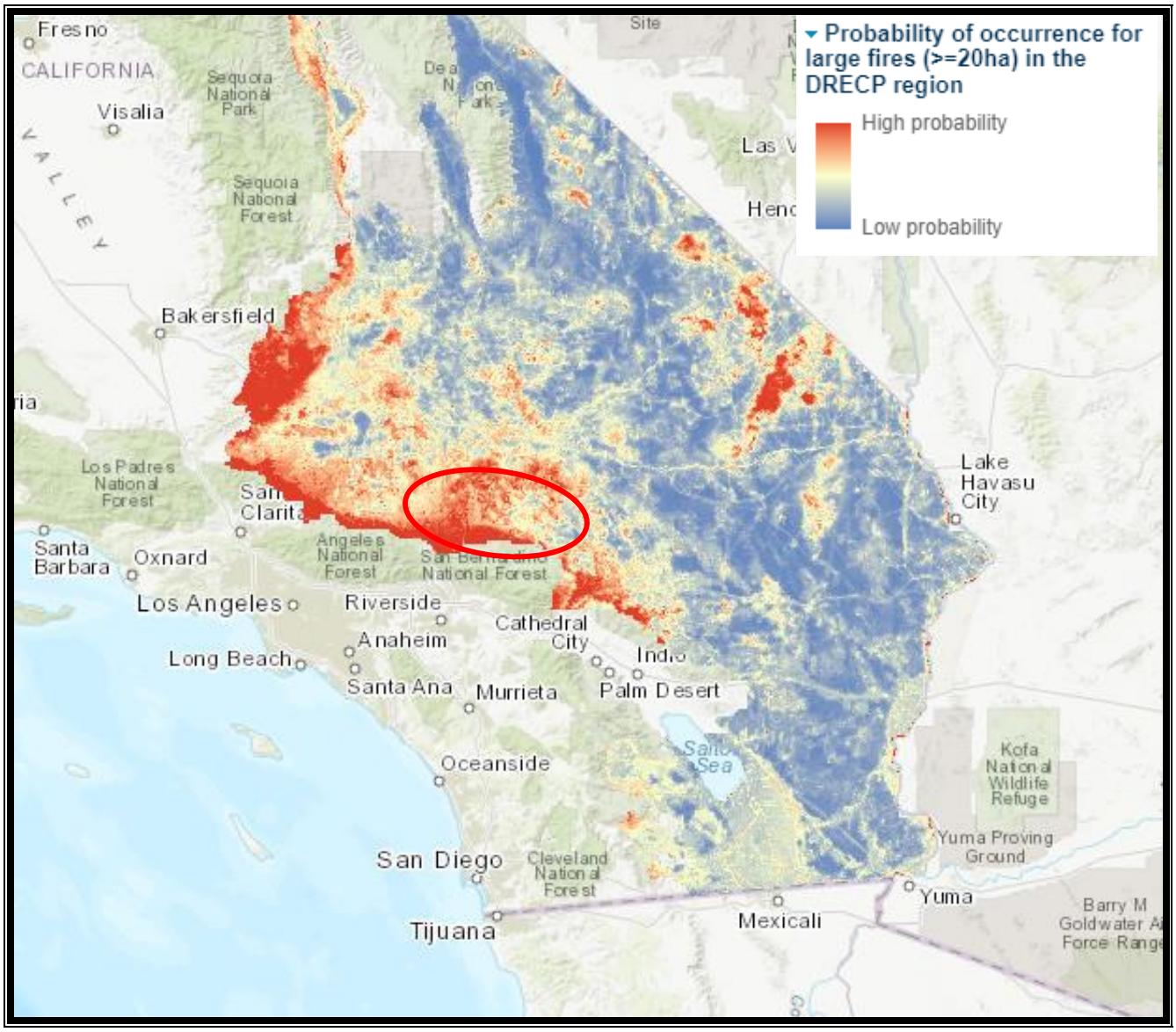
Invasives: Cheatgrass (Bromus tectorum) Species Distribution Model, DRECP



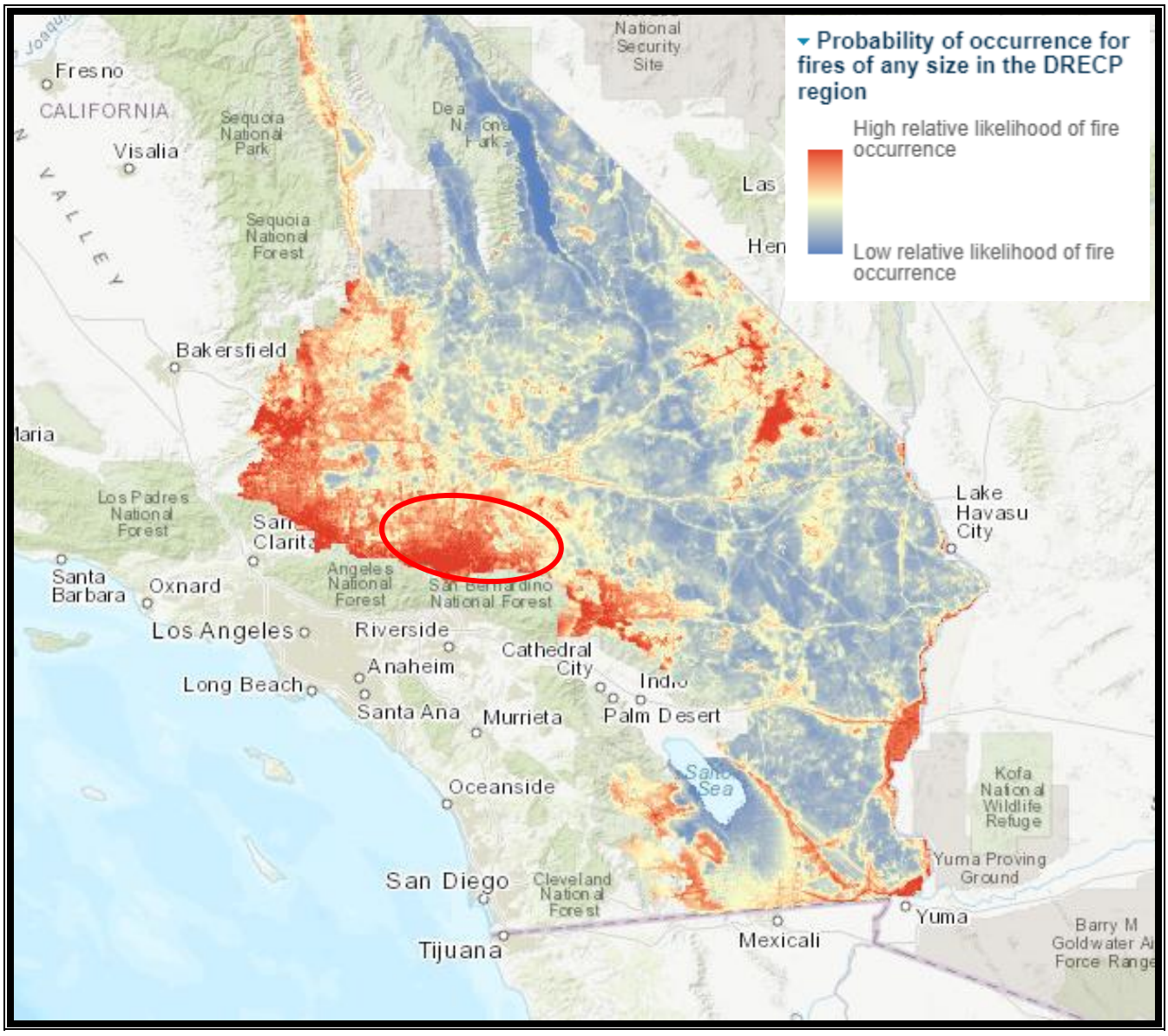
Invasives: Mediterranean Grass (Bromus arabicus) Species Distribution Model, DRECP



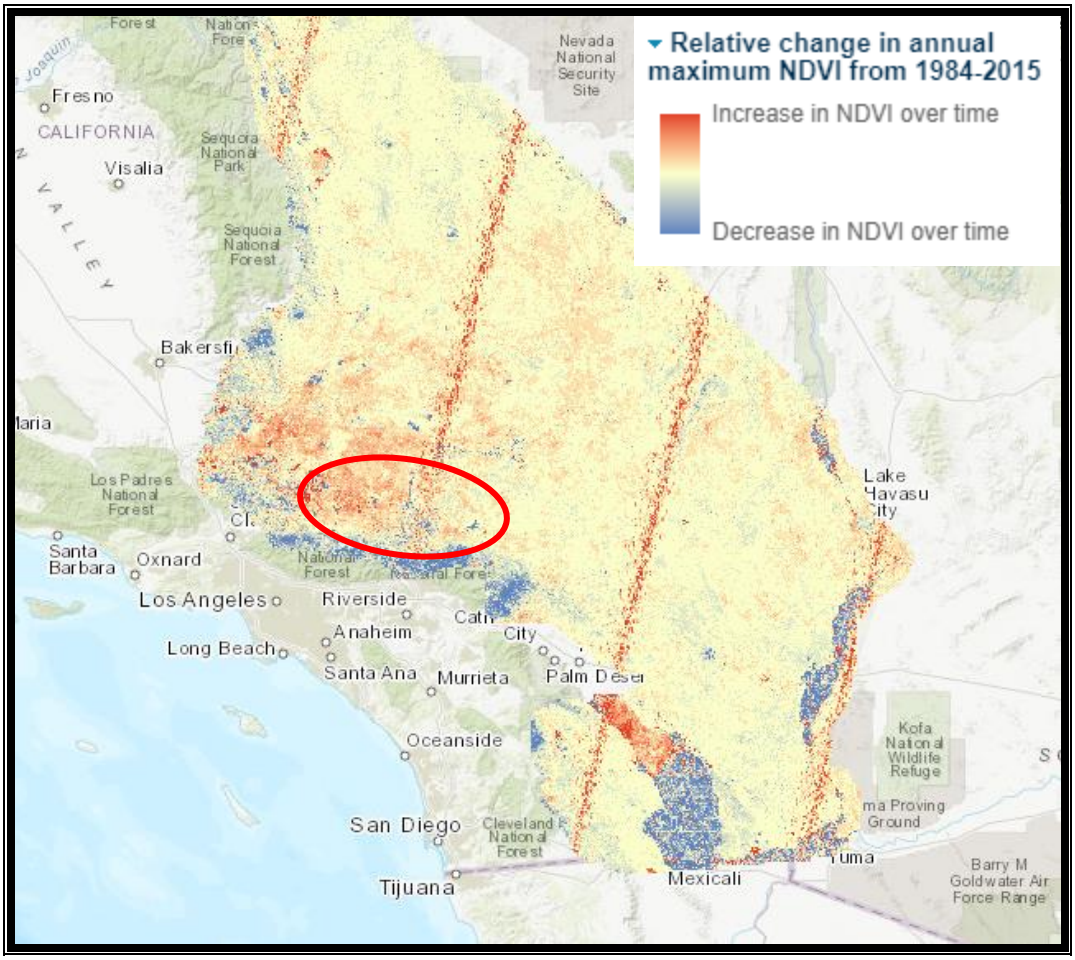
Probability of occurrences for large fire: Mediterranean Grass (>20ha/49 acres) DRECP Region



Probability of occurrences for fires of any size in the DRECP Region



Normalized Difference Vegetation Index (NDVI) in the DRECP Region



NOTES: "Previous studies have shown that annual maps of the Normalized Difference Vegetation Index (NDVI), a remotely sensed index of vegetation greenness and productivity, are useful for detecting annual variation in biomass and fine fuel production, and that annual maximum NDVI in particular is significantly related to large fire activity in the Sonoran (Gray et al. 2014) and Mojave (Hegeman et al. 2014) deserts.

The presence and connectivity of annual grass in any given year tends to be dynamic, and fluctuates as a function of climatic conditions, particularly precipitation. Therefore, while the values of annual NDVI imagery fluctuate in response to pulses of fine-fuel biomass production, a positive trend over time signifies areas where productivity has increased, and negative trends signify progressive decline over that time horizon. Although changes in NDVI reflect precipitation trends, areas of progressive increase may also be indicative of places where fine-fuel biomass may be expanding on the landscape. Although more work is needed to validate these assumptions, areas with positive NDVI trends may reflect places of concern with regards to potential changes in fire regime.

We developed this NDVI trend map from an overlay of annual maximum NDVI maps created from 30m Landsat 7 TOA imagery from 1984 to 2015 across the DRECP region. We used an algorithm that calculated a linear regression model for each grid cell in the landscape and output values equal to the slope of the regression line. Therefore, the higher the positive value, the larger the positive trend. Otherwise, negative values represent a decrease in NDVI over time. The red stripes in the images represent a known artifact in Landsat imagery and should be ignored. Also note that data were rounded to 3 decimal places to reduce file size." (per recp.databasin.org/datasets/104bd3fcf5024caa8cf549d9b49e91e9)

RESULTS-FIELD SURVEYS

Field surveys were conducted on 09/26/2020 and no other site visits for civil engineering, land surveying and land planning purposes, also for reviewing and identifying potential the site for desert annuals, general wildlife identification, and specific surveys following appropriate protocols for the various species identified as protected from the literature review. A description of the vegetation and wildlife which occur on the site are provided below.

Vegetation: The site and general area supports a mixed shrub community typical of the area and the 20 acres of the site was predominantly native vegetation with some disturbance from off-highway vehicles and the dumping of trash by residents in the area along the southern boundary and along utility transmission corridor. Dominant species include Joshua Trees (Yucca Brevifolia), creosote bush (Larrea tridentata), Cholla (Opuntia var.), burrobush (Franseria dumosa), rabbit brush (Chrysothamnus depressus), indian rice grass (Oryzopsis hymenoides) and Russian thistle (Salsola sp.) along perimeter roads. Annuals observed during the survey included fiddleneck (Amsinckia sp.), buckwheat (Eriogonum fasciculatum) and brome (Bromus sp.) and invasive species [e.g. Filaree Storksbill (Erodium sp.) and schismus (Schismus barbatus)].

The plant community within the Site's general area is a single ecotonal zone, the Joshua Tree Woodland and has typical impacts from historical uses. There are five (5) primary native plant communities found within the Victor Valley [Joshua Tree-Juniper Woodland, Joshua Tree Woodland, Creosote Bush Scrub, Alkali Sink and Desert Riparian] and the association of certain species characterizes each of the communities and overlapping ecotonal zones typically have overlapping species. Representative species typifying each plant community are listed in the Addenda referred to as "Native Plant Communities". Wildland Fires affect all habitats, species, and food sources whether in a single ecotonal zone, modified zone (e.g. fire) or transitional (overlapping) zones.

FLOODING, BRUSH FIRES AND OTHER NATURAL IMPACTS

The Site shows no major evidence of significant flooding and a Hydrology Study has not been reviewed for the theoretical 100-year storm event impacting the Site. The Site has not been affected by historical wildland fire like many sites southerly in the transition zone of the Mojave Desert. Nearby sites to the south have a combination of recent (2 year) to historical estimated to be about 160 years ago (estimated in 1850's based upon Joshua Tree sizes) and other properties had recent fires (2000 and 2003 and a fire in Cajon Pass in September 2004). Probable wildland fires grow on Sites such as these due to higher mass loading of vegetation (both native and invasive species of grasses and the record rainfall of 2004/05) specifically by invasive grass species connecting the Creosote bushes.

At the time development occurs, new streets and infrastructure (manmade fire breaks) and fire suppression services are required reducing the wildland fire probability.

Recent historic fires have occurred in the southern Apple Valley and Hesperia, and community of Oak Hills and Cajon Pass. However, all foothills from the San Bernardino and San Gabriel Mountain ranges and Mojave Desert are impacted by natural and manmade wildfires (i.e. "Willow Fire" in Apple Valley, Sawtooth in Yucca Valley, Cajon Pass and Louisiana Fires in 2002 and similar wildfires occurred in 1980's.). These impacts are naturally occurring and greater during drought years and subsequent to El Nino years and affected by high winds during a dry spring, summer, or fall. Rocky hillsides can also have wildland fires (Rock Fires) as have occurred in the early 1980's and 1990's. Invasive grass species are increasing these occurrences of both "Wildland and Rock Fires" and changing the fire intensity, flame height and cycle duration (increasing) and permanently altering the desert ecosystems.

HUMAN IMPACTS

The entire Site and general area are significantly affected by canine/coyotes, invasive plant species, historical cattle and sheep grazing, scattered junk, residential construction, yard and house debris, vehicle parts, dirt roads, HOV use, upstream drainage alterations and scattered sites had dry-farming that have become fallow and re-grown with native vegetation during the last 3015± years. Also, shotgun shells were encountered throughout the general area. The unusual high numbers of Ravens in the Victor Valley and Raven concentrations in the immediate vicinity are creating other negative issues for many native wildlife species, [NOTE: personally observed about 30 dead hatchling Tortoises in the early 1990's under a Raven nest in a larger Joshua Tree north of Mojave Drive and east of Highway 395] (e.g. Tortoises, MGS, Mojave Voles, and Horned Lizards) and regularly seen "Mobbing" Red-Tailed Hawks.

General Wildlife: Mammals observed from the pedestrian and nighttime driving surveys included jackrabbit (Lepus californicus), Antelope ground squirrels (Ammospermophilus leucurus), Merriam's kangaroo rats (Dipodomys merriami) and one Coyote (Canis latrans) was seen on the Site (regularly seen in the area) and several large holes were observed in the general area. Other mammals previously observed during the night-time are deer mice (Peromyscus maniculatus). Ravens (Corves corax) were observed in the general area, morning doves (Zenaida macroura) and sage sparrows (Amphispiza belli) were the only birds observed during the field surveys. Numerous lizards [Side-blotch (Uta stansburiana), Desert Spiny (Sceloporus magister), Western Whiptails (Cnemidophorus tigris) and Desert Night Lizard (Xantusia vigilis) under fallen Joshua tree branches] were observed in the general area.

Field observations were from pedestrian surveys [e.g. Binoculars – "Regular and Night Vision", indirect signs (scat, tracks, calls, nests, burrows, tail drags)]. Numerous lizards [Side-blotch *(Uta stansburiana),* Desert Spiny *(Sceloporus magister),* Western Whiptails *(Cnemidophorus tigris)],* California Quail (*Callipepla californica*), Morning doves *(Zenaida macroura),* Northern Mockingbird *(Mimus polyglottos), S*age sparrows *(Amphispiza belli),* Antelope ground squirrels *(Ammospermophilus leucurus),* several Black-tailed Jack Rabbit *(Lepus californicus),* one Coyote *(Canis latrans), and* Ravens *(Corves corax)* were observed at or near the Site. NOTE: No Woodrat *(Neotoma lepida)* middens were found on the Site but have been observed in the general area. No large amount of bird whitewash was observed on the Site or within the buffer zones.

Specific Wildlife: The specific wildlife identified during the literature review are discussed in detail below.

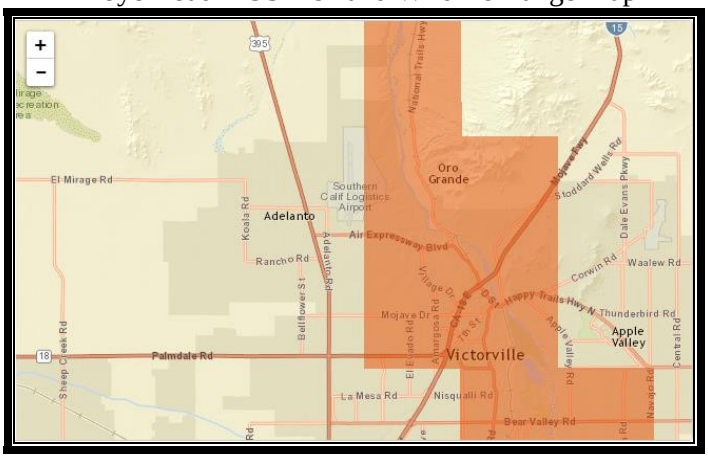
For example, the project site contains no riparian corridor like the Mojave River, ephemeral streams, pools, or other water bodies required by Arroyo Toads and riparian oriented birds and migrating birds. Therefore, no additional surveys for Arroyo Toads and various other animal, bird, ands plant species were performed. The following has the USF&WS Maps that have a hyper-link, as delineated in the footnotes

NATURAL CHARACTERISTICS

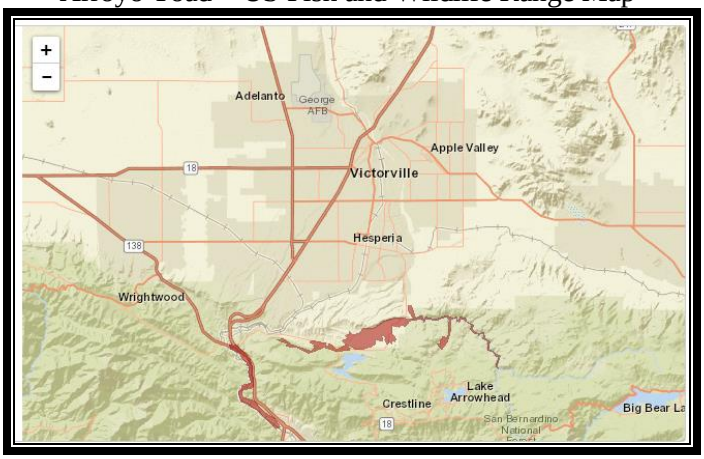
AMPHIBIANS

Arroyo Toad (*Bufo microscaphus californicus*)[4]
Federal Status - Endangered; State Status – Species of Special Concern
Distribution – Southern part of the Coast Ranges from northern San Luis Obispo Co. south to Baja California.
Habitat – Feed on snails, Jerusalem crickets, beetles, ants, caterpillars, moths, and occasionally they cannibalize newly metamorphosed individuals. Often found near exposed sandy stream sides with stable terraces for burrowing with scattered vegetation for shelter, and areas of quiet water or pools free of predatory fishes with sandy or gravel bottoms without silt for breeding. Inhabits washes, arroyos, sandy riverbanks, riparian areas with willows, sycamores, oaks, cottonwoods.

Arroyo Toad – US Fish and Wildlife Range Map[5]



Arroyo Toad – US Fish and Wildlife Range Map[6]



Discussion and Recommendation
The site is not located in proximity to the Mojave River riparian corridor or any other water bodies; Therefore, no site surveys were conduct for this species.

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4 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1484&inline=1
5 https://ecos.fws.gov/ecp0/profile/speciesProfile;jsessionid=C8D11C09592C3ED32AD5215203F92F5C?spcode=D020
6 https://ecos.fws.gov/ecp0/profile/speciesProfile;jsessionid=C8D11C09592C3ED32AD5215203F92F5C?spcode=D020

GASTROPOD

Victorville Shoulderband *Helminthoglypta mohaveana*[7]
Federal Status – Federal Species of Concern (FSC); State Status – None
Distribution – Found along the Mojave River in areas with riparian habitat and rock outcroppings.
Habitat – Requires an aquatic environment with nearby rock outcroppings.

Discussion and Recommendation
The site is not located in proximity to the Mojave River riparian corridor with rocky outcropping or any other water bodies with rocky outcroppings; Therefore, no site surveys were conduct for this species.

REPTILES

Desert tortoise *Gopherus agassizii*[8]
Federal Status – Threatened; State Status – Threatened.
Distribution – Widely distributed in the Mojave Desert from below sea level to 7,220 feet above sea level.
Habitat – Most common in desert scrub, desert wash and Joshua tree habitats, but also found in other desert habitats. Tortoises are herbivores, preferring forbs over grasses and green vegetation over dry. Desert tortoises excavate burrows and nests in friable, sandy, well-drained soil under bushes, rock formations, or open areas to protect from cold in the northern ranges and from the heat in the southern ranges.

Discussion
This species is known to occur throughout this region and was under emergency listing as an "endangered species" and has now been given permanent classification as a "threatened species" by the U.S. Fish and Wildlife Service (USF&WS) and the CDFW. This species inhabits a variety of vegetative communities, which in the west Mojave contain Creosote Scrub, Mojave Scrub, among other vegetative communities. Communities of significant concern, such as creosote bush, saltbush, Joshua tree, Mojave yucca and cacti, are often present in the habitat along with other grasses and wildflowers. Those areas used by the tortoise are as varied as the west Mojave landscape and include such areas as level flats, fans, and mountainous slopes, rolling hills, sand dunes and lava flows (USFWS, 1994). The Bureau of Land Management (BLM) maps have designated the desert into four class zones (1, 2, 3 and 0) depending on the probability of encountering Tortoises. These maps are not based on extensive population studies and are no longer utilized for planning purposes. Conclusions of this report represent the results of a Site assessment from a field survey to determine the biological baseline for Desert Tortoises.

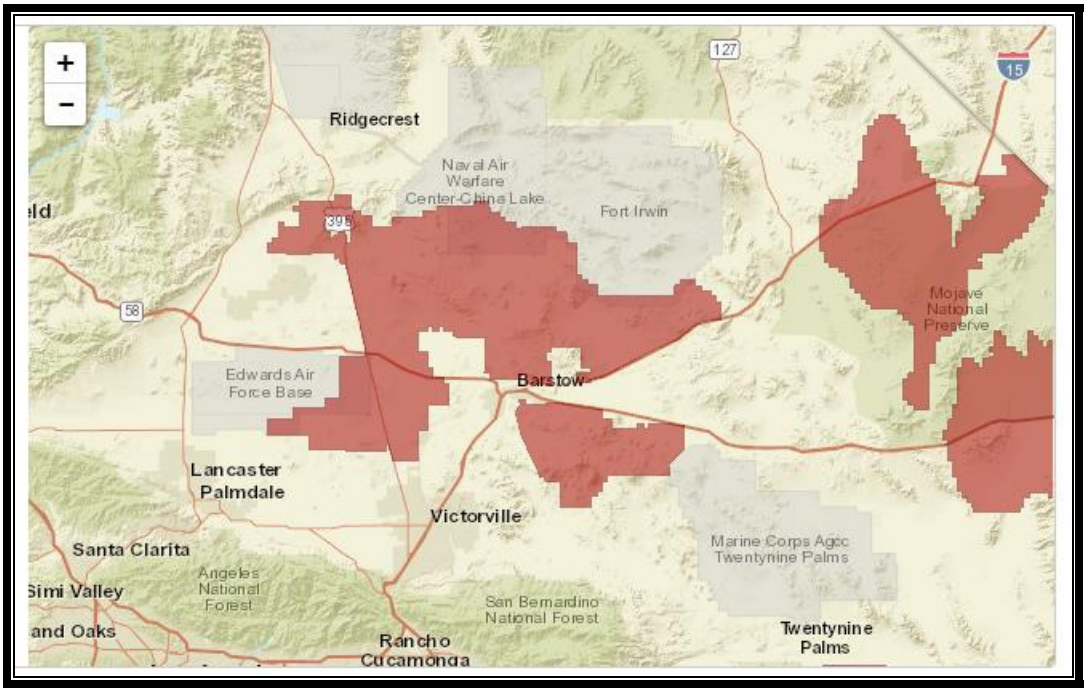
The Tortoise is the largest reptile in the arid southwest United States and historically occupied a range that included a variety of desert communities in southeastern California, southern Nevada, western and southern Arizona, southwestern Utah, and through Sonora and northern Sinaloa, Mexico. Today, populations are largely fragmented, and studies indicate a steady and dramatic decline over most of its former range. Additionally, because Tortoises have long been prized as pets, collecting of wild Tortoises further reduced the population. Wildlife biologists estimate five to eight million Tortoises were taken from the desert by collectors between 1880 and 1970. In the early 1990's, an extended drought, and a highly contagious respiratory disease infected Tortoise populations, primarily in the western Mojave Desert region. This disease has had an adverse impact on Tortoise populations throughout the Mojave Desert reducing Tortoise populations by 90% in localized areas

[7] http://www.victorvilleca.gov/uploadedFiles/CityDepartments/Development/GeneralPlan.pdf and https://www.blm.gov/ca/pdfs/cdd_pdfs/wemo_pdfs/plan/wemo/Vol-1-Chapter3_Bookmarks.pdf

[8] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2659&inline=1

DESERT TORTOISE FEDERALLY IDENTIFIED RANGE[9]

DESERT TORTOISE FEDERALLY IDENTIFIED CRITICAL HABITAT[10]



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[9] http://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=C04L#crithab
[10] http://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=C04L#crithab

DURING WINTER MONTHS

It should be noted that live Tortoises or tracks are seldom seen between mid-November and March, as temperatures force them to remain deep in their dens. However, we have seen Tortoises during this time of year (first week of February 2000/02/05 and temperature at mid-80°F) when the weather is extremely warm. Also, we have observed small reptiles and the budding of trees during the preparation of Biological and Protected Plant Reports in the winter/spring of 2000/02/04/05/10. Winter winds, frost, ice, snow, and rain usually obliterate tracks and fresh signs of excavation. Potential active dens or burrows are noted and plotted for future review.

The site is located within the range but not the critical habitat of the Desert Tortoise according to the US Fish and Wildlife Service (USFWS) as shown on the following.

Site Survey

No Tortoises or active/potentially active burrows were encountered on the site or in the surrounding area (Table 1, Appendix A) during the field survey and no other signs (e.g. shells, bones, scutes, limbs, burrows, pallets, scats, egg shell fragments, tracks, courtship rings, drinking sites.) were found, which would indicate habitat or utilization of the Site.

Tortoise populations levels are relatively low in the area; however, occupied habitat does exist in the general area however are at higher densities to the north of Adelanto [specifically seen three tortoises hit by automobiles along Highway 395 going to Ridgecrest to the Mojave Ground Squirrel Workshop in April 2005 and numerous tortoises in the 1970's and 1980's] (NDDB2003).

Recommendation

Based on the lack of critical habitat, burrows, or other desert tortoise sign observed on site or in proximity, and no sightings of desert tortoise, no additional surveys are required. However, the following mitigation measure shall be included with environmental documents and project approvals:

1. If desert tortoises are observed on the Site in the future, all construction activities shall cease immediately and ALTEC Land Planning shall be contacted immediately (ALTEC will contact USFWS and/or CDFW to discuss potential mitigation measures, if necessary).

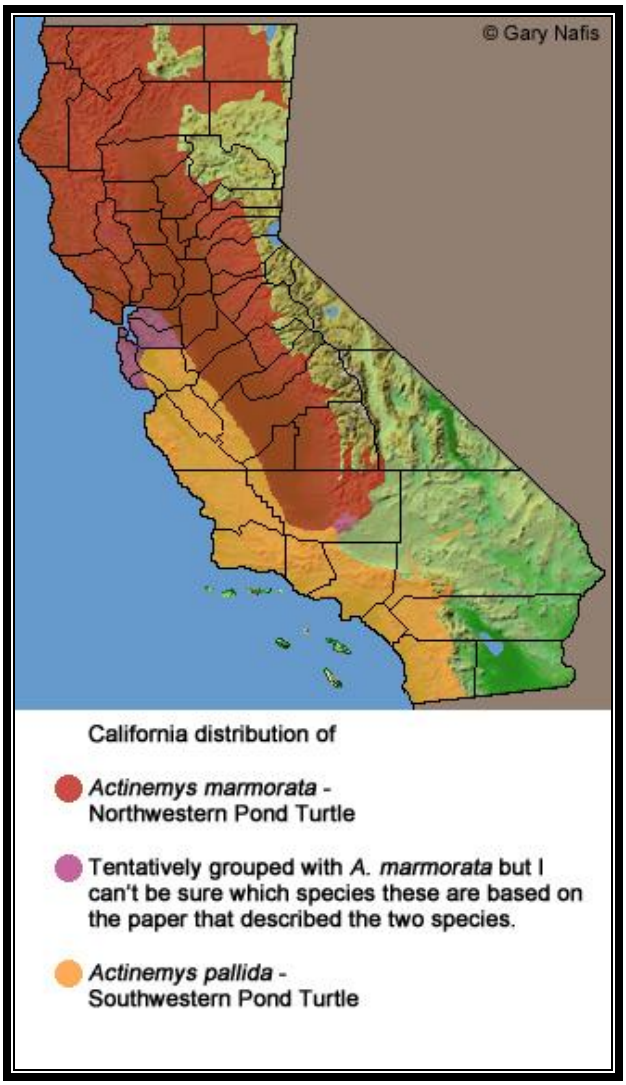
CONCLUSION: No Desert Tortoises or active/potentially active burrows were encountered on the Site during the field survey. Additionally, no other sign (e.g. scats, tracks, shell fragments) of Tortoises were found which would indicate habitat or other utilization of the Site.

If Tortoises are observed on the Site in the future, all activities shall be stopped and USFWS and CDFW contacted to discuss potential mitigation measures

NOTE: Coleman specifically recalls observing numerous Tortoise in the local area (resident in the area from 1964-1971) and typically north of Highway 18 until early 1980's, since that time Tortoises are fairly rare to encounter and no Mojave Ground Squirrels (also an issue at these earlier times.) being observed in the general area. Also, Coleman has completed a variety of consulting services (Environmental, HazMat, Civil and Soils Engineering, Land Surveying, Biological Surveys, Native Plant Surveys and Real Estate Brokerage and Appraisals) for numerous parcels within the general area during the last 45+ years. Burrowing owls have been observed in the general area historically but are more-rare to see in the general area with increased residential development since the mid 1980's without nearby water and shelter resources.

Western Pond Turtle *Clemmys marmorata*[11]
Federal Status – Federal Species of Concern (FSC); State Status – Species of Special Concern
Distribution – uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries.
Habitat – Permanent or nearly permanent water in a wide variety of habitats.

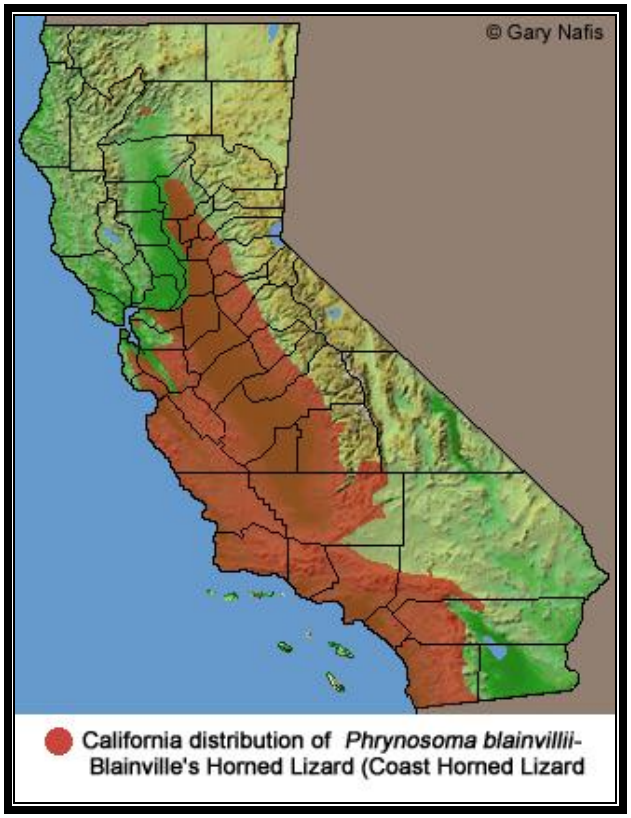
Discussion and Recommendation
The site is not located in proximity to the Mojave River riparian corridor or any other water bodies; Therefore, no site surveys were conduct for this species. Have been personally observed at Beaver dams along the upper Narrow in the 1970's and early 1980's. [NOTE: Current Beaver dams exist at the Lower Narrows and nearby current construction of new railroad bridge abutments (adjacent to older existing bridge) crossing over the Mojave River.]

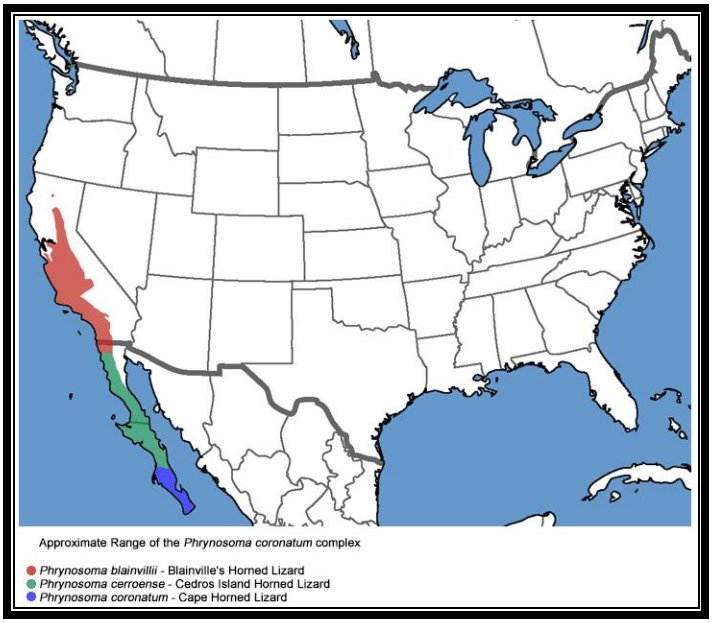


[11] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2657&inline=1

Coast Horned Lizard *Phrynosoma coronatum*
Federal Status – Federal Species of Concern (FSC); State Status – Species of Special Concern
Distribution – Historically, found in California along the Pacific coast from the Baja California border west of the deserts and the Sierra Nevada, north to the Bay Area, and inland as far north as Shasta Reservoir, and south into Baja California. Ranges up onto the Kern Plateau east of the crest of the Sierra Nevada. The range has now been severely fragmented due to land alteration
Habitat – open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills.

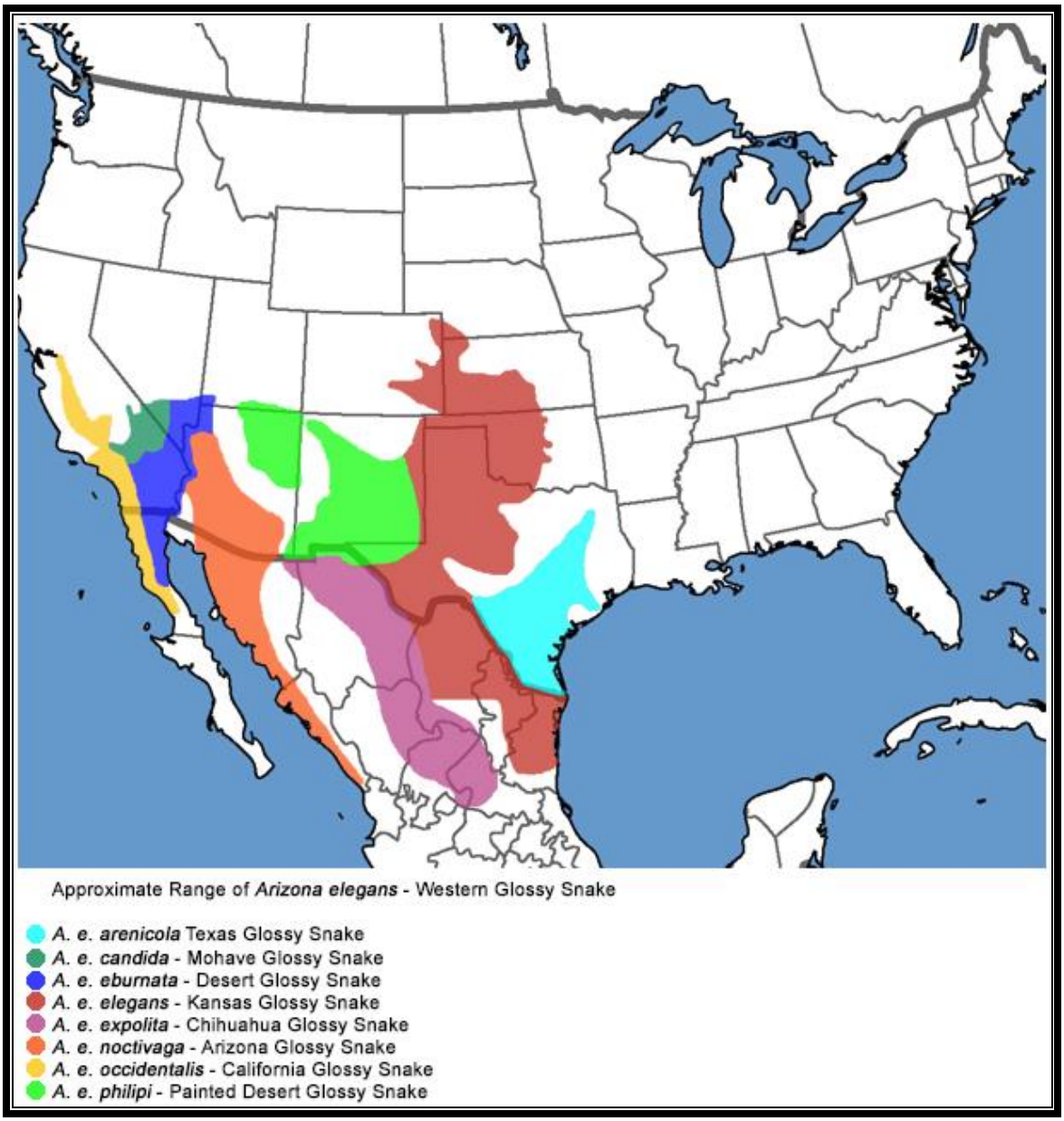
Discussion and Recommendation
The CDFW and USFW websites do not identify a Coast Horned Lizard, and CaliforniaHerp.com identifies it as a Blainville's Horned Lizard. However, the scientific name for the Blainville's Horned Lizard is *Phrynosoma blainvillii* but identifies *Phrynosoma coronatum* as the Cape Horned Lizard. In either case, the site is not located in the range of either species.





California glossy snake *Arizona elegans occidentalis*[12]
Federal Status - None; State Status – Species of Special Concern
Distribution – Occurs from the eastern part of the San Francisco Bay Area south to northwestern Baja California. Absent along the central coast.
Habitat – Inhabits arid scrub, rocky washes, grasslands, and chaparral.

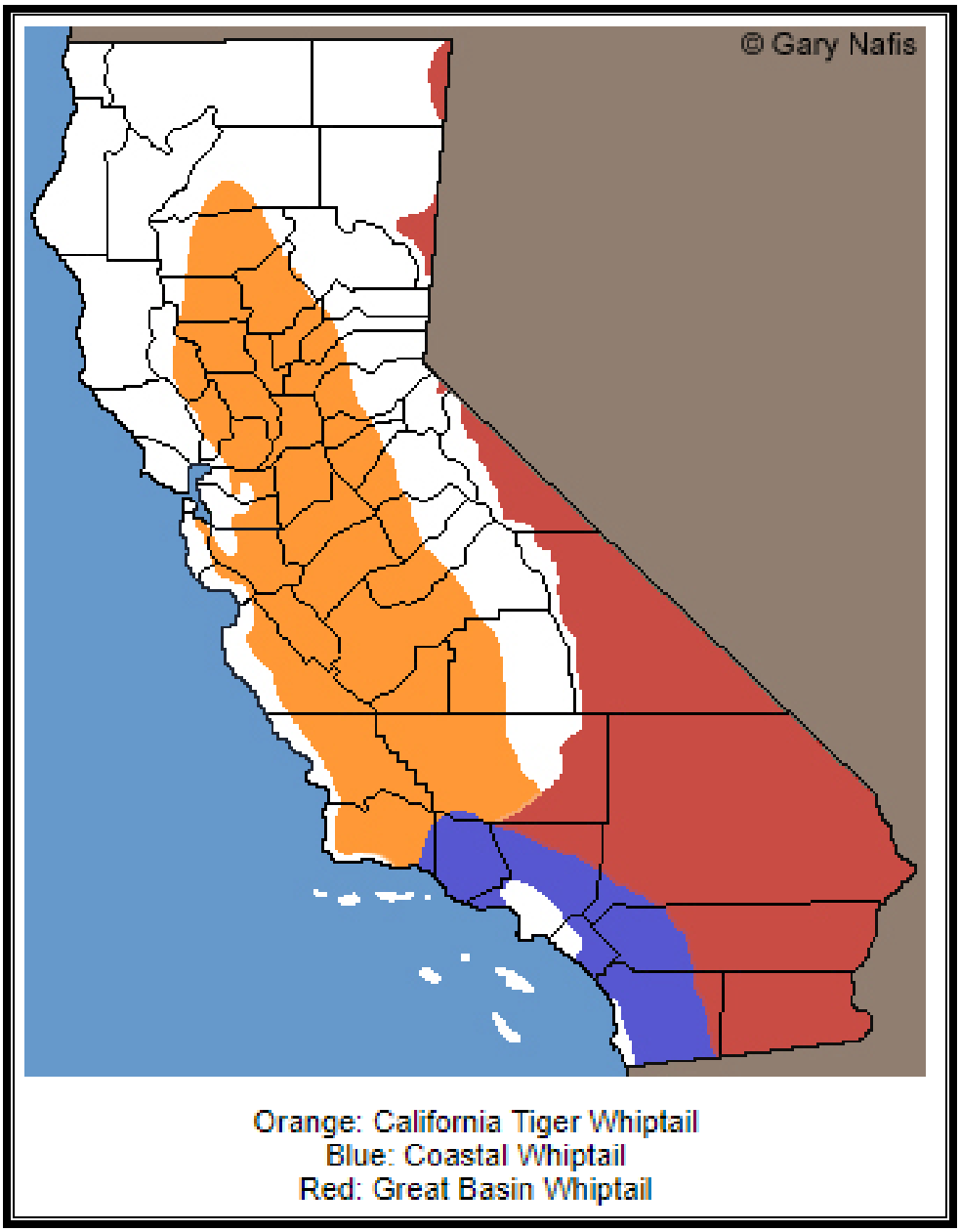
Discussion
This site is within and has been found in this specific area by Coleman since the mid-1960's. The habitat is identified by CaliforniaHerps.com.



[12] http://www.californiaherps.com/snakes/pages/a.e.occidentalis.html

Coastal whiptail *Aspidoscelis tigris stejnegeri*[13]
Federal Status - None; State Status – Species of Special Concern
Distribution – mostly west of the Peninsular Ranges and south of the Transverse Ranges, and north into Ventura County. Ranges south into Baja California.
Habitat – Typically found in hot, dry, flat open spaces in deserts or semi-arid areas.

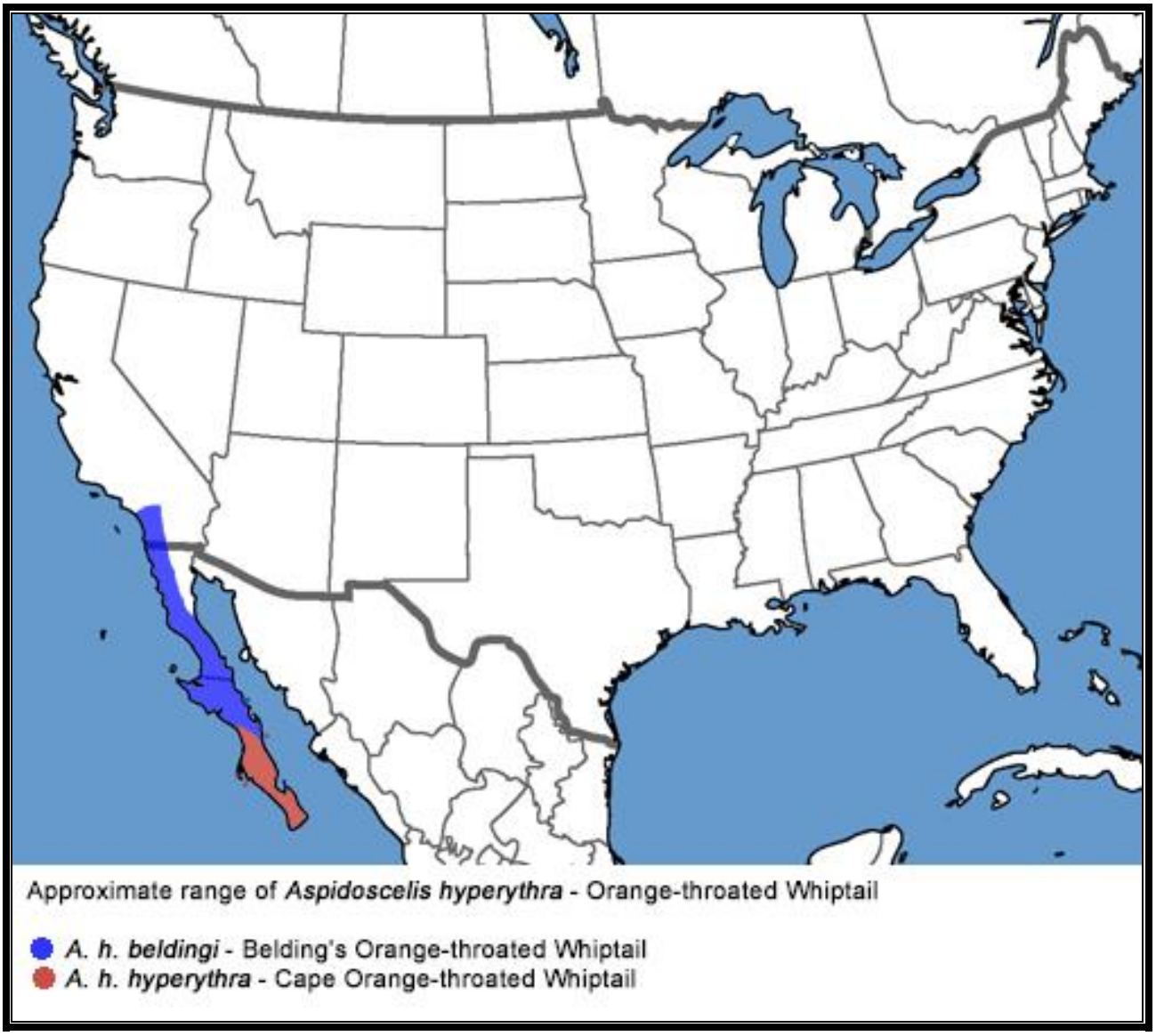
Discussion and Recommendation
The Coastal Whiptail is also known as the San Diego Tiger Whiptail. The site is not located within the range of the San Diego Tiger Whiptail according to CaliforniaHerps.com (blue color).



13 http://www.californiaherps.com/lizards/pages/a.t.stejnegeri.html

Orange-throated whiptail *Aspidoscelis hyperythra*[14]
Federal Status - None; State Status – Watch List
Distribution – Uncommon to common over much of its range in Orange, Riverside, and San Diego counties, west of the crest of the Peninsular Ranges, especially in areas with summer morning fog. Also occurs in southwestern San Bernardino County, near Colton.
Habitat – Prefers washes and other sandy areas with patches of brush and rocks.

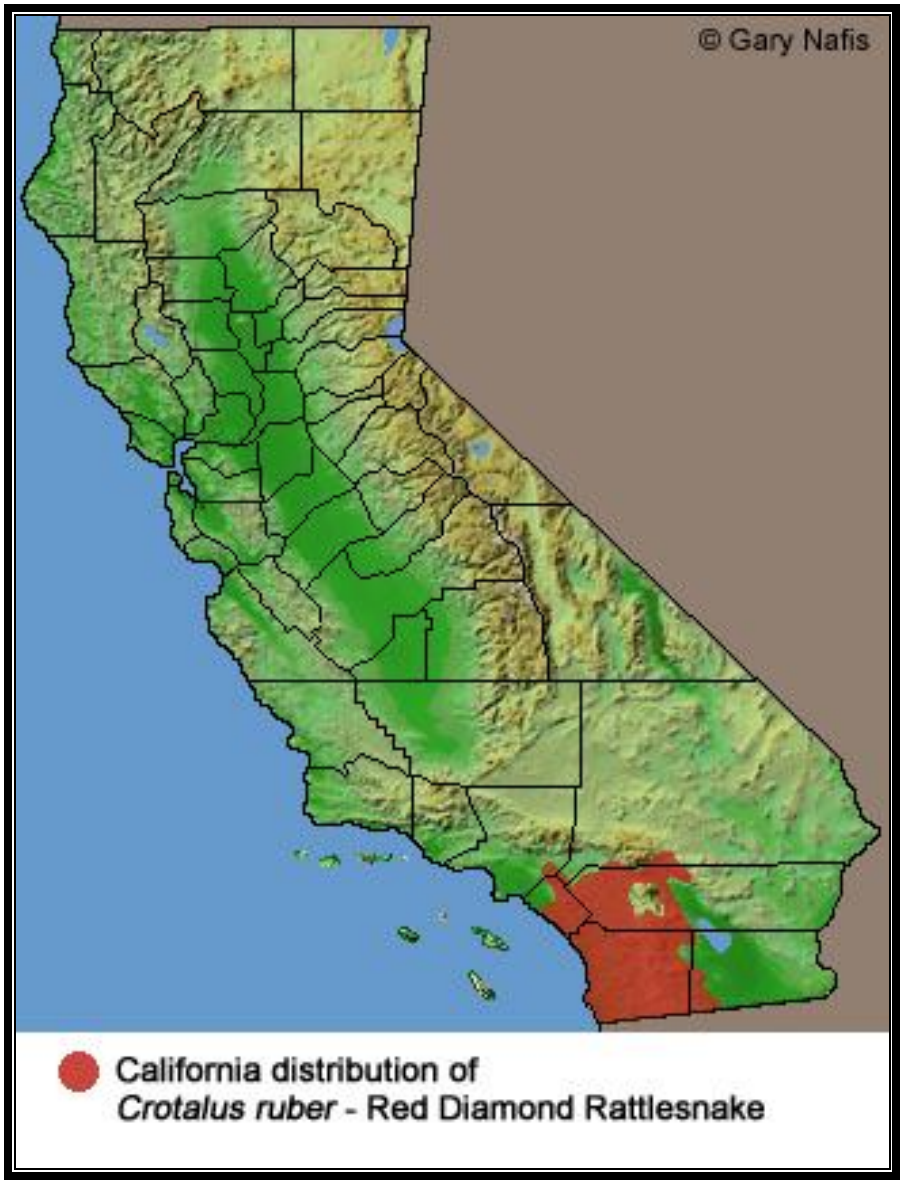
Discussion and Recommendation
The site is in the southwestern portion of San Bernardino County but is approximately 40 miles north of Colton, which is not within the range of the Orange-Throated Whiptail. Therefore, no site surveys were conducted for this species.



[14] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2723&inline=1

Red-diamond rattlesnake *Crotalus ruber*[15]
Federal Status - None; State Status – Species of Special Concern
Distribution – Coastal San Diego County to the eastern slopes of the mountains and north through western Riverside County into southernmost San Bernardino County.
Habitat – occurs in a wide variety of arid and semiarid habitats that provide dense vegetation or rocky cover.

Discussion and Recommendation
The site is in the southwestern portion of San Bernardino and is not within the range of the Red-diamond rattlesnake. Therefore, no site surveys were conduct for this species and has never been observed by Coleman since the mid-1960s in the Victor Valley. Have been observed numerous times in Riverside County/Coachella Valley areas.



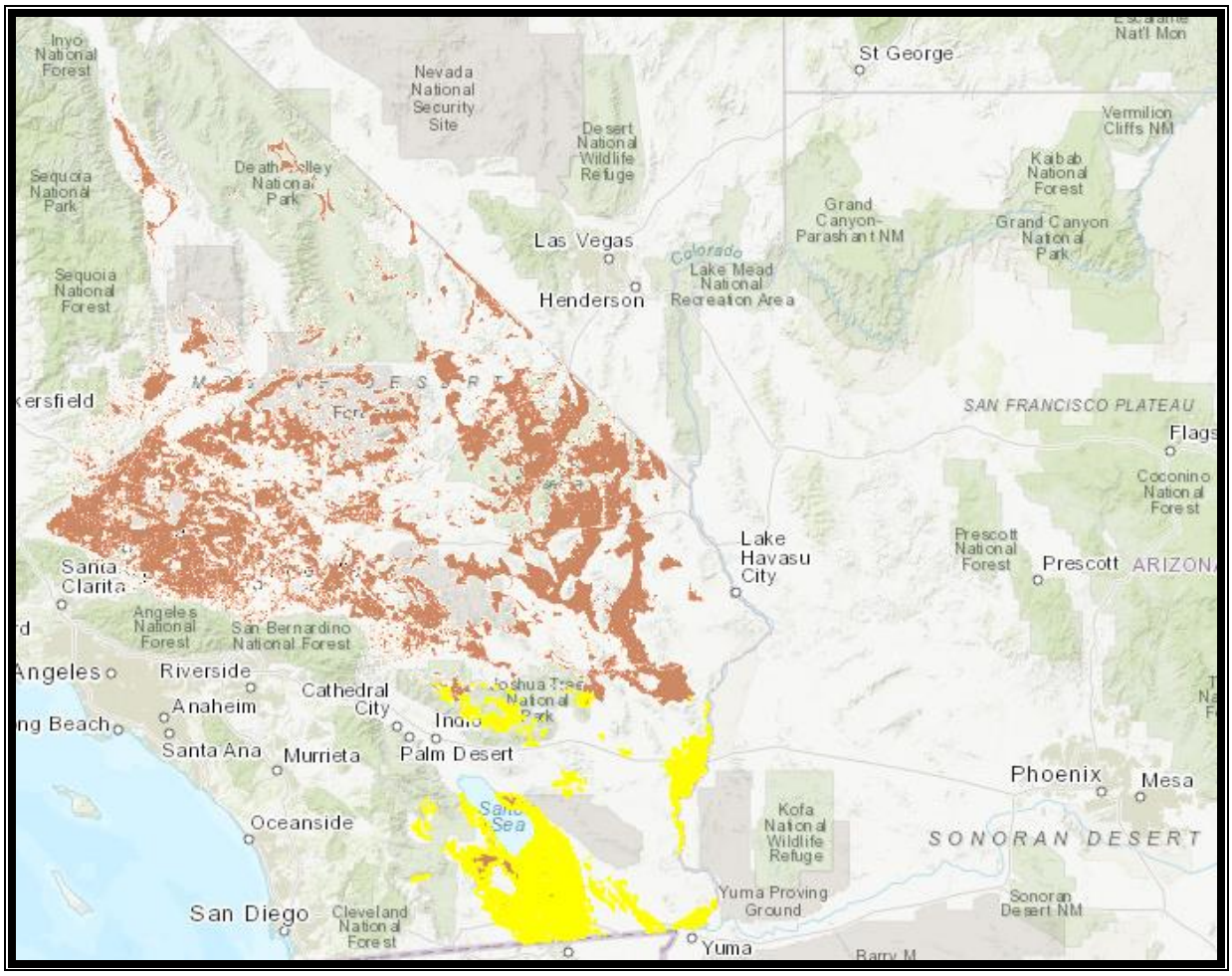
[15] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2797&inline=1

MAMMALS

American Badger *Taxidea taxus*[16]
Federal Status - None; State Status – None
Distribution – Throughout California, most abundant in drier open stages of most shrub, forest, and herbaceous habitats.
Habitat – Found in grasslands and open areas with grasslands (i.e. parks, farms) with available fossorial rodents, some reptiles, insects, eggs, birds, and carrion. They prefer prairie regions with sandy loam soils to dig burrows.

CONCLUSION, Discussion and Recommendation: No American Badgers or active/potentially active burrows or their habitat were located during site surveys and 500-foot buffer during the field survey. Also, no other signs (e.g. fur, fossorial bones, or middens) were found, which would indicate habitat or other historic or recent utilization of the Site or buffer areas. American Badger is considered a "Species of Special Concern" by CDFW. While the site contains sandy loam soils, no grasslands are present. No additional surveys are required, Additionally, I am personally familiar with this immediate area and have never observed American Badger here.

Regardless, if American Badger are observed on the Site in the future, all activities shall be stopped and USFWS and CDFW contacted to discuss potential mitigation measures.

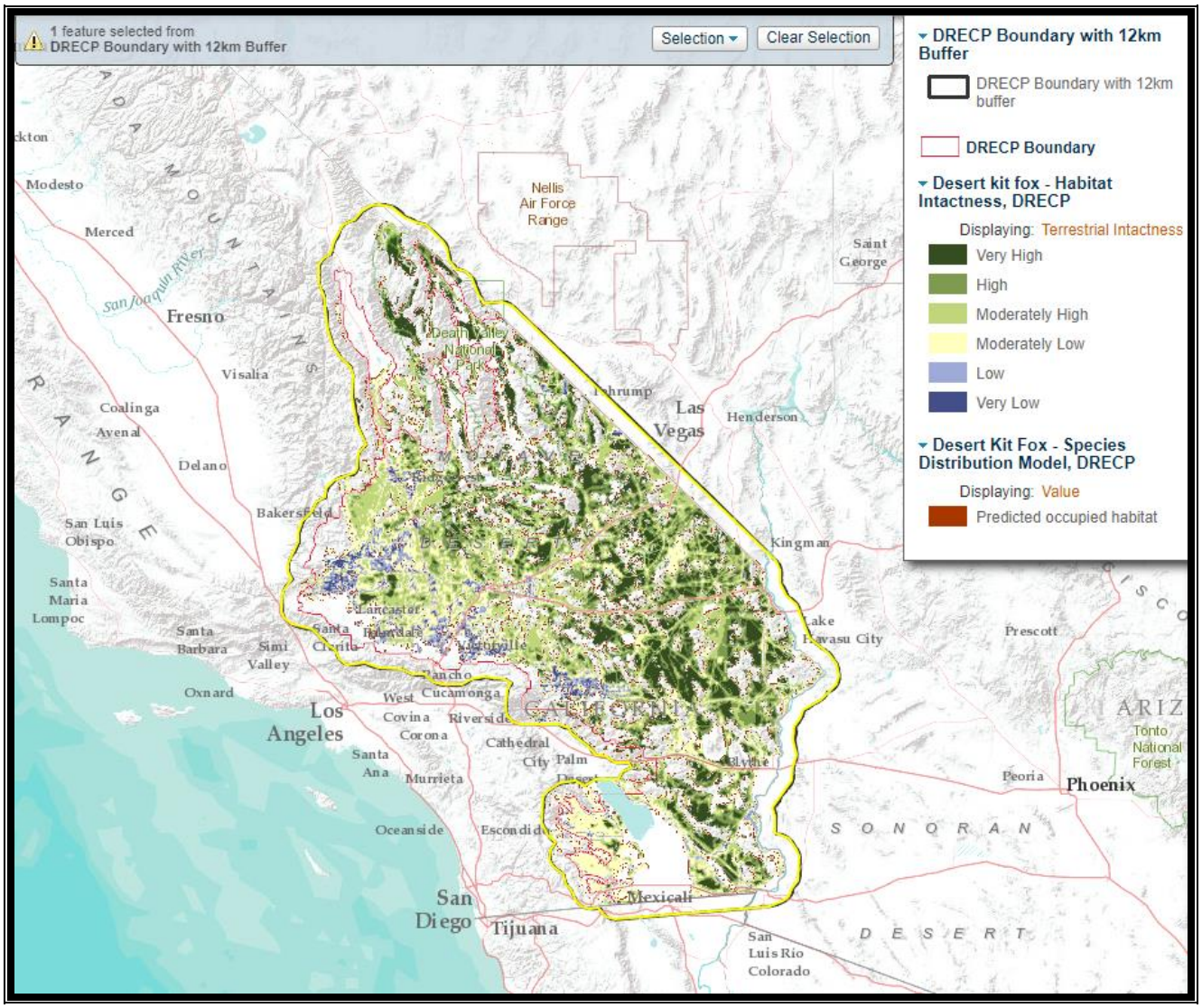


16 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2597&inline=1

Desert Kit Fox *(Vulpes macrotis arsipus)*: No kit fox or active/potentially active burrows were encountered on the Site and 500-foot buffer during the field survey. Also, no other signs (e.g. fur, fossorial bones, or middens) were found, which would indicate habitat or other historic or recent utilization of the Site. Desert Kit Fox have no designated status, but are protected under California Code of Regulations, Title 14, Section 460 *Protected Furbearing Animals*.

CONCLUSION, Discussion and Recommendation: No Desert Kit Fox or active/potentially active burrows or their habitat were located during site surveys and 500-foot buffer during the field survey. Also, no other signs (e.g. fur, fossorial bones, or middens) were found, which would indicate habitat or other historic or recent utilization of the Site or buffer areas. Therefore, no additional surveys are required.

Regardless, if Desert Kit Fox are observed on the Site in the future, all activities shall be stopped and USFWS and CDFW contacted to discuss potential mitigation measures.



Mojave Ground Squirrel *Spemophilus mohavenses*[17]
Federal Status – Federal Species of Concern (FSC); State Status – Threatened
Distribution – Restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo counties. This species is rare throughout its range.
Habitat – Optimal habitats are open desert scrub, alkali desert scrub, and Joshua tree. Also feeds in annual grasslands. Prefers sandy to gravelly soils; avoids rocky areas.

Discussion
This species is known to have historically occupied areas in the northwest Victor Valley region; although, information from about 50± MGS Trappings started in 2003 has yielded little information in the local region. The MGS is listed by the CDFW as a threatened species, thereby giving the animal protection under the CESA. The species is known to occur in the western Mojave Desert in portions of four counties including Inyo, Kern, San Bernardino, and Los Angeles. Typically, the mainly solitary MGS aestivates and hibernates when the weather is at the extremes and when food is scarce. The distribution is quite limited as compared to the other ground squirrel species [White-tailed Antelope Squirrel [WTAS] *(Ammospermophilus leucurus)* and Round-tailed Ground Squirrel [RTGS] *(Spermophilus tereticaudus)]*. The Round-tailed Squirrel and the Mojave Ground Squirrel are similar in appearance but wholly unrelated *Citellus.* The MGS is found in several habitat types throughout the Mojave Desert including creosote bush scrub, saltbush scrub, and Joshua tree woodland communities. Long-term drought conditions, habitat fragmentation and degradation, destruction of the species' habitat and isolation of individual populations appear to be the primary factors in the species' decline. [The closest long-term sightings of MGS are at T6North, R5West, Section#11, just north of the Southern California Logistics Airport. The most recent sighting of an MGS was trapped in 2004 by CalTrans at Colusa and Highway 395 (T6North, R5West, Section#8; as reported by Becky Jones on 09-17-04).] [Coleman has observed MGS, to the north of Adelanto and Helendale area, both northerly in the 1970's and 1980's and near Ridgecrest area.]

Site Survey
Two important plants critical to the Mohave Ground Squirrels are winterfat and spiny hop-sage. These two plants were rarely observed in the general area and are significant food sources for the species and are associated with preferred habitat (critical) for this species long term survival due to drought conditions. Based on the lack of significant presence of winterfat and spiny hop-sage, and the existing conditions of the site, the site does not support critical habitat for the species. In addition, the site is at the southern edge of the known historical "Geographical Range". There have been numerous MGS trappings completed in this area since 2003 when the first MGS Trapping was completed on a Site ALTEC completed a Biological Baseline Assessment to the north along Mojave Drive and no MGS were located and this specific site is further away from the historical core habitat of the MGS. If the species is observed on the site in the future, various mitigations will need to be implemented as per CDFW guidelines and these are provided in the following section.

During the survey, any visual signs of Mohave Ground Squirrels *(Xerospermophilus mohavensis)* (MGS) activity are noted. This includes noting of any live specimens, tracks, fecal droppings (scats), remains or any aspect or suspected burrows. An evaluation is also made on each burrow, if found, to determine if active or inactive.

CONCLUSION: No Mohave Ground Squirrels or active/potentially active burrows were found on the Site during the field surveys. Additionally, no other sign of MGS was found, which would indicate habitat or other utilization of the Site. If MGS are observed on the Site in the future, all activities shall be stopped and USFWS and CDFW contacted to discuss potential mitigation measures

[17] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2419&inline=1

Mojave River Vole *Microtus californicus mohavensis*[18]
Federal Status - Federal Species of Concern (FSC); State Status – Species of Special Concern
Distribution – Occupies moist habitats along the Mojave River.
Habitat – Found in moist habitats including meadows, freshwater marshes, and irrigated pastures in the vicinity of the Mojave River. Suitable habitat is associated with ponds and irrigation canals along with the Mojave River proper.

Discussion and Recommendation
The site is not located in proximity to the Mojave River riparian corridor or any other water bodies; Therefore, no site surveys were conduct for this species.

Pallid Bat *Antrozous pallidus*[19]
Federal Status - Federal Species of Concern (FSC); State Status – Species of Special Concern
Distribution – A locally common species of low elevations in California. It occurs throughout California except for the high Sierra Nevada from Shasta to Kern counties, and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino County.
Habitat – A wide variety of habitats is occupied, including grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. The species is most common in open, dry habitats with rocky areas for roosting. A yearlong resident in most of the range. Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging.

Discussion and Recommendation
The site is located in the southwestern portion of San Bernardino and not in a riparian area or have rocky outcroppings which are the typical locations where bats have been regularly observed in the Victor Valley area since the 1960's; Therefore, no site surveys were conducted for this species.

California leaf-nosed bat *Macrotus californicus*[20]
Federal Status - None; State Status – Species of Special Concern
Distribution – Found from Riverside, Imperial, San Diego, and San Bernardino counties south to the Mexican border and portions of southern Nevada and Arizona. Former populations have disappeared from coastal basins, from Los Angeles to San Diego. Desert populations have declined, but this species is common in some areas along the Colorado River.
Habitat – Habitats occupied include desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis. Roosts in rocky, rugged terrain with mines and caves.

Discussion and Recommendation
The site is located in the southwestern portion of San Bernardino and not in a riparian area or have rocky outcroppings which are the typical locations where bats have been regularly observed in the Victor Valley area since the 1960's; Therefore, no site surveys were conducted for this species.

Dulzura pocket mouse *Chaetodipus californicus femoralis*
Federal Status - None; State Status – Species of Special Concern
Distribution –
Habitat – None specifically found

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18 https://www.blm.gov/ca/pdfs/cdd_pdfs/mvole1.PDF
19 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2349&inline=1
20 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2311&inline=1

Discussion and Recommendation
The site is in the southwestern portion of San Bernardino and not within San Diego County and northern Baja California which are the typical locations where this species has been regularly observed and reported; Therefore, no site surveys were conducted for this species.

Pocketed free-tailed bat *Nyctinomops femorosaccus*[21]
Federal Status - None; State Status – Species of Special Concern
Distribution – Found in Riverside, San Diego, and Imperial counties. This species is rare in California, but is more common in Mexico
Habitat –Pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis. Prefers rocky desert areas with high cliffs or rock outcrops.

Discussion and Recommendation
The site is located in the southwestern portion of San Bernardino and not in a riparian area or have rocky outcroppings which are the typical locations where bats have been regularly observed in the Victor Valley area since the 1960's; Therefore, no site surveys were conducted for this species.

Western yellow bat *Lasiurus xanthinus*[22]
Federal Status - None; State Status – Species of Special Concern
Distribution –Uncommon in California, known only in Los Angeles and San Bernardino counties south to the Mexican border.
Habitat –Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Occurs year-round in California. Roosts and feeds in, and near, palm oases and riparian habitats.

Discussion and Recommendation
The site is located in the southwestern portion of San Bernardino and not in a riparian area or have rocky outcroppings which are the typical locations where bats have been regularly observed in the Victor Valley area since the 1960's; Therefore, no site surveys were conducted for this species.

Southern grasshopper mouse *Onychomys torridus ramona*[23]
Federal Status - None; State Status – Species of Special Concern
Distribution – Common in arid desert habitats of the Mojave Desert and southern Central Valley of California.
Habitat –Alkali desert scrub and desert scrub habitats are preferred, with somewhat lower densities expected in other desert habitats, including succulent shrub, wash, and riparian areas. Also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats

Discussion and Recommendation
The site is located in the southwestern portion of San Bernardino and Coleman lived nearby this Site (1964-1971) and since has completed numerous residential subdivisions and commercial projects nearby since 1973 and biological baseline assessments and survey protocol surveys for Tortoises and Burrowing owls starting with the listing of Tortoises in 1989 and during night-time driving on nearby dirt roads since 1976 and do not recall seeing this specific species in this general area; Therefore, no site surveys were conducted for this species.

21 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2353&inline=1
22 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2343&inline=1
23 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2513&inline=1

Townsend's big-eared bat *Corynorhinus townsendii*[24]
Federal Status - None; State Status – Species of Special Concern
Distribution – Found throughout California, but the details of its distribution are not well known.
Habitat –Found in all but subalpine and alpine habitats and may be found at any season throughout its range. It is most abundant in mesic habitats (moderate or well-balanced supply of moisture).

Discussion and Recommendation
The site is located in the southwestern portion of San Bernardino and not in a riparian area or have rocky outcroppings which are the typical locations where bats have been regularly observed in the Victor Valley area since the 1960's; Therefore, no site surveys were conducted for this species.

Western mastiff bat *Eumops perotis californicus*[25]
Federal Status - None; State Status – Species of Special Concern
Distribution – Uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey Co. southward through southern California, from the coast eastward to the Colorado Desert.
Habitat –Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Crevices in cliff faces, tall buildings, trees, and tunnels are required for roosting.

Discussion and Recommendation
The site is located in the southwestern portion of San Bernardino and not in a riparian area or have rocky outcroppings which are the typical locations where bats have been regularly personally observed in the Victor Valley area since 1964; Therefore, no site surveys were conducted for this species.

BIRDS

American peregrine falcon *Falco peregrinus anatum*[26]
Federal Status - Delisted; State Status – Fully Protect (FP)
Distribution – Peregrines can be seen all over North America, but they are more common along coasts.
Habitat – In North America they breed in open landscapes with cliffs (or skyscrapers) for nest sites. They can be found nesting at elevations up to about 12,000 feet, as well as along rivers and coastlines or in cities, where the local Rock Pigeon populations offer a reliable food supply. In migration and winter, you can find Peregrine Falcons in nearly any open habitat, but with a greater likelihood along barrier islands, mudflats, coastlines, lake edges, and mountain chains.

Site Survey
No American peregrine falcons or their nests or appropriate habitat were observed on the Site or within the (500- foot zone) boundaries of the habitat. The surrounding area contains no cliffs or skyscrapers for nesting, and no rivers or coastlines are located near the site.

Discussion and Recommendations
No mitigation is recommended as it is unlikely American Peregrine falcons will be found nesting on or near the site due to the lack of appropriate habitat. During the survey, any visual signs of activity are noted, and this includes noting of any live/dead American peregrine falcons or other birds' species or nesting locations. The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required

[24] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2347&inline=1
[25] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2357&inline=1
[26] https://www.allaboutbirds.org/guide/Peregrine_Falcon/id

Arizona bell's vireo *Vireo bellii arizonae*[27]
Federal Status – none; State Status - Endangered
Distribution – A rare summer resident along the Colorado River from Needles, San Bernardino County, south to Blythe, Riverside County.
Habitat – Inhabits low, dense riparian growth along water or along dry parts of intermittent streams. Typically associated with willow, cottonwood, baccharis, wild blackberry, or mesquite in desert localities.

Discussion and Recommendations
No Arizona bell's vireo or nests were observed on the Site or within the (500-foot zone) boundaries of the habitat. The site does not contain nor is it locate near dense riparian growth along water or intermittent streams.

The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Bald Eagle *Haliaeetus leucocephalus*[28]
Federal Status - Threatened; State Status – Endangered
Distribution – Permanent resident, and uncommon winter migrant, now restricted to breeding mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties. About half of the wintering population is in the Klamath Basin. More common at lower elevations; not found in the high Sierra Nevada. Fairly common as a local winter migrant at a few favored inland waters in southern California. Largest numbers occur at Big Bear Lake, Cachuma Lake, Lake Mathews, Nacimiento Reservoir, San Antonio Reservoir, and along the Colorado River.
Habitat – Requires large, old-growth trees or snags in remote, mixed stands near water.

Site Survey
No Bald Eagles or their nests or appropriate habitat were observed on the Site or within the (500-foot zone) habitat boundaries.

Discussion and Recommendations
The site does not contain nor is it locate near old-growth trees or snags in remote mixed stands near water. Therefore, no surveys were conducted for Bald Eagles. It should be noted, I have seen several Bald Eagles over the decades in the High Desert area when there are forest fires in the San Bernardino Mountains where they live in the Big Bear Lake area. Once the fires are extinguished, Bald Eagles are no longer seen in the High Desert.

The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Bell's sage sparrow *Artemisiospiza belli belli*
Federal Status – None; State Status – Watch List
Distribution – Not migratory in many areas, but mostly withdraws from higher elevations and northern Great Basin in winter and moves to southern deserts. Frequents low, dense stands of shrubs. In transmontane California, occupies sagebrush, alkali desert scrub, desert scrub, and similar habitats. Most common from western edge of Owens Valley, Inyo County, south through southern Sierra Nevada and western edge of Mojave Desert to desert slopes of Transverse Ranges.
Habitat – Shrubby areas of California and Baja California, including coastal sagebrush and chaparral, as well as the Mojave Desert and California's San Clemente Island. Many are year-round residents, but some migrate to southern California and western Arizona for winter, where they mix with the remarkably similar Sagebrush Sparrow and other species in open, dry habitats.

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28 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1661&inline=1

Site Survey
The site is in the western portion of the Mojave Desert and contains numerous shrubs appropriate for Bell's sage sparrows. During the survey, any visual or audible signs or activity are noted. This includes any bird species, whitewash (scats) excrement on perching locations, feathers, or nesting locations. An evaluation is also made on each nest, if found, to determine if the nest is active or inactive.

Discussion and Recommendations
No Bell's sage sparrows or nests were observed on the Site or within the (500-foot zone) boundaries of the habitat.

The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Bendire's Thrasher *Toxostoma Bendirei*[29]
Federal Status – none; State Status – Species of Special Concern
Distribution – A local spring and summer resident and breeder in flat areas of desert succulent shrub and Joshua tree habitats in the Mojave Desert. Occurs primarily in San Bernardino and western Kern counties.
Habitat – forages on the flat desert floor with clumps of cactus, yucca, and thorny scrub. Feeds on caterpillars, beetles, and other insects. Seeks cover in stands of thorny shrubs and cactus. Nests in cholla, yucca, paloverde, thorny shrub, or small trees.

Site Survey
While the site is relatively flat, a survey found no appropriate habitat (desert succulent shrub, Joshua tree habitat, no clumps of cactus or thorny shrubs). for the Bendire's Thrasher, and no evidence of nesting. However, there is some potentially suitable habitat (on-site and off-site vegetation and debris) for other nesting birds.

Discussion and Recommendation
No Bendire's Thrashers or their nests were located during the site surveys.

The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Black-tailed gnatcatcher *Polioptila melanura*[30]
Federal Status - None; State Status – Watch List - REMOVE WATCH LISTED WHEN NO OTHER PROTECTION AND NOT IN VICTORVILLE GENERAL PLAN
Distribution – A common resident below about 300 m (1,000 ft) in desert wash habitat from Palm Springs and Joshua Tree National Monument south, and common along the Colorado River. Now rare in eastern Mojave Desert north to the Amargosa River, Inyo County.
Habitat – Most numerous in desert wash habitat with dense mesquite, paloverde, ironwood, acacia. Absent from areas where introduced saltcedar or other exotic vegetation dominates.

Discussion and Recommendations
The site is in the southwestern portion of San Bernardino County, and does not contain a desert wash, or dense mesquite, paloverde, ironwood, or acacia. No Black-Tailed Gnatcatchers, appropriate habitat or nests were located during the site surveys.

The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

29 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2071&inline=1
30 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2049&inline=1

Brown-crested Flycatcher *Myiarchus tyrannulus*[31]
Federal Status – None; State Status – Watch List
Distribution – A common summer resident (May to July) in desert riparian habitat along the Colorado River. A few nests at Morongo Valley, San Bernardino County. May nest very locally at other desert oases and riparian habitats northwest to Mojave River near Victorville, San Bernardino County.
Habitat – Most numerous in riparian groves of cottonwood, mesquite, willow, which afford suitable nest sites, but often forages in adjacent desert scrub or plantings of saltcedar.

Discussion and Recommendations
No Brown-Crested Flycatchers, appropriate habitat or nests were located during the site surveys. The site contains no desert riparian habitat or desert oasis and is not located along the Colorado or Mojave rivers; however, the site vicinity contain habitat potentially suitable for other nesting birds.

The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Burrowing Owl *Athena cunicularia*[32]
Federal Status – none; State Status – Species of Special Concern
Distribution – yearlong resident in open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats.
Habitat – feed on small insects, small mammals, reptiles, birds, and carrion. Use rodent or other burrows for roosting and nesting. When burrows are scarce, may nest in pipes, culverts, debris, and other "burrows".

Site Survey
During the survey, any visual signs of activity are noted. This includes noting of any live/dead owls or other birds' species, whitewash (scats) excrement on perching locations, rodent bones, feathers or remains of scattered bones or fragments and any aspect or suspected Burrowing Owl burrows or nesting locations. An evaluation is made on each burrow or group of burrows or nesting site, if found, to determine if the nesting site(s) is active or inactive. The burrow(s) or nest(s) will be considered as active unless the structure has collapsed or is blocked due to natural causes. Existing Site conditions are native desert sandy loam soil and easy to create extensive burrow systems however the density and the height of the vegetation are not common for Burrowing Owls. Numerous natural and manmade impacts as previously described, further negatively impact the soils and Site.

No Burrowing owls (*Athene cunicularia*), other Raptors or active/potentially active burrows or nests were encountered during the field survey, and no other signs (e.g. shells, bones, or burrows, tracks,) were found, which would indicate no habitat or utilization of the site. In addition, no pipes, culverts, nest boxes or other protected "burrows" were located on site, and no rodent or small animal burrows were located. A berm is located along portions of the Site near I-40 and the adjacent development. A thorough pedestrian review was completed along all berms on the Site and within the 500-foot Buffer area, in addition to transects of the site, and no evidence of present or past use of Burrowing owls were found. It is noted that the loose nature of the alluvial soils at the Site and general area are not generally suitable for burrows due to collapse, although small animal burrows may be more stable and used. However, there is some potentially suitable habitat (on- and off-site vegetation and structures) for nesting birds.

[31] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1963&inline=1

[32] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1871&inline=1

Recommendation

No Burrowing owls or other sign were located during the site surveys; however, the site and vicinity contain potentially suitable habitat. Therefore, the following mitigation measures shall be included with environmental documents and project approvals:

1. An additional survey for Burrowing owls shall be required if construction activities do not begin prior to FEBRUARY 1, 2021.

2. An additional survey for nesting birds shall be required if there is a lapse of construction activities for 30 continuous working days thereafter.

Discussion

The Burrowing Owl is a California Species of Special Concern (CSSC), thereby giving the animal protection under the CESA and is protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). This Owl is found in western North America from Canada to Mexico, and east to Texas and Louisiana. In areas of its range, it is migratory; the northern areas of the Great Plains and Great Basin. Although the owls in northern California are thought to migrate, owls within central and southern California are predominantly non-migratory due to the mild winter season, although, information on current population levels is not well documented for the general region.

Burrowing owls are primarily crepuscular (active at dusk and dawn) but will hunt throughout a 24-hour period. As their name suggests, burrowing owls' nest in burrows in the ground, often in old rodent burrows. They can dig their own burrows but prefer deserted excavations of other rodent animals. I have observed owls using burrows (typically squirrels in the Victor Valley) of tortoises, kit fox, coyote/dog holes, fallen Joshua Trees trunks, and artificial burrows, such as broken concrete and asphalt, concrete slabs and other construction or mining debris/materials. They are also known to use Badger burrows.

This is a small ground-dwelling owl with a round head that lacks the tufts of feathers, which are often referred to as ear tufts. It has white eyebrows, yellow eyes, long stilt-like legs, and a stubby tail. The owl is sandy colored on the head, back, and upper parts of the wings and white-to-cream with barring on the breast and belly. Unlike most owls, the male is a lighter color and slightly larger than the female. The Owl normal voice can be a rolling *coo-c-o-o to a cackle* to alert others when it is alarmed by nearby threats but is normally quite locally.

Burrowing owls are found in open country such as salt brush flats, greasewood woodlands, pinyon-juniper woodlands, dry grasslands, agricultural and range lands, and desert habitats often associated with numerous rodent burrowing animals. They can also inhabit grass and shrub stages of pinyon and ponderosa pine habitats. The owl typically stands upright whether perching commonly on any available high point, including Joshua's, fence posts, construction debris, on top of mounds outside its burrow or just in the middle of dirt roads at night.

The Owl nesting season begins between February and April and may last until the end of August if conditions are favorable. The peak of the nesting season is from April 15 to July 15. The owls often line their nest with an assortment of dry materials and the average number of eggs laid is between seven and nine. Incubation lasts 28 to 30 days and is performed only by the female. While still in the nest, the care of the young is performed by the male. At 14 days of age, the young may be seen roosting at the entrance to the burrow, waiting for the adults and food. The young leave the nest at about 44 days and begin chasing living insects when 49 to 56 days old. They are mostly crepuscular (morning and evening) and are less active in the peak heat of summer days. The Burrowing Owl home range, or geographic area over which the owls habitually wander, has been documented in the range of 0.1 to 4 acres per nesting pair, with greater variations found elsewhere (Thomsen, 1971). Consumption of insects increases during the breeding season (Zeiner, 1990).

Burrowing owls tend to be opportunistic feeders. Large arthropods, mainly beetles and grasshoppers, comprise a large portion of their diet. Small mammals, especially mice, voles (Mojave Voles – CSSC), rats, gophers, and infant ground squirrels (MGS, WTAS & RTGS), are also important food items. Other prey animals include reptiles and amphibians, scorpions, young cottontail rabbits, bats, and birds, such as sparrows and horned larks.

Owls have not been documented during earlier Edward AFB surveys (Paiute Ponds area, December 2000 and August 2001 reconnaissance surveys indicate that burrow availability may be limited in areas located west of SR-14 near agricultural lands and owls may occasionally forage and potentially nest in undiscovered burrows. Coleman has historically observed owls and other raptors near the agricultural areas from Lake Los Angeles to the Mojave River in the early 1980's during land surveys and new home construction activities.

Prior to the pedestrian field surveys, a review of the most current Burrowing Owl literature was conducted by researching available Internet literature and current local procedures (Cities of Adelanto, Apple Valley, Hesperia, and Victorville). Owl surveys were conducted according to the California Burrowing Owl Consortium, Santa Cruz Predatory Bird Research for Burrowing Owl Survey Protocol (1993). The protocol included three phases

- Habitat Assessment
- Burrow Survey
- Three days of Burrowing Owl surveys

The Habitat Assessment was conducted to determine locations of fossorial mammal burrows and burrows with Burrowing Owl evidence. The survey included all areas to be developed and within 500 feet of the Site. The surveys were conducted by walking transects spaced at approximate 30-foot (10 meter) intervals on-Site and 100-foot (30 meter) intervals off-Site (excluding developed properties), allowing for 100 percent visual coverage of the ground surface.

Recommendations

No Burrowing owls or burrows were located during the habitat assessment during the early mornings (1 hour prior to sunrise to 2 hours after sunrise). Additionally, no Burrowing owls were seen on adjacent or nearby dirt roads in the evening (dusk plus 2 hours). Therefore, no focused burrow or Burrowing Owl surveys were conducted. However, if burrows or Burrowing owls were located during the habitat assessment, these surveys would have been completed. According to protocol, observations are to be made from fixed locations on Site and within binocular range of large concentrations of burrows and known Burrowing Owl locations. Surveys would be conducted to determine the following information:

- If the Burrowing owls used the on-Site burrows
- How many owls are present
- Nesting activity or sign of young owl's present

PERSONAL OBSERVATIONS (40 YEARS) IN THE VICTOR VALLEY BY RANDY COLEMAN

Burrowing Owl populations are non-migratory in the Victor Valley and have fluctuated greatly in population after significant rainfall events and specifically after El Nino Years and geographical area inhabited due to the expansion of excellent food and water resources (margins of golf courses, large developed lots with yards and/or horses, especially neighborhood parks and schools located along the perimeter of the Victor Valley, manmade burrow alternatives near potential food sources) in historical areas that previously had no Owls, however Juniper Woodland and larger and higher density Creosote scrub areas are not a safe alternative for owls due to the higher density groundcover. While the historical locations along the Mojave River have expanded and agricultural corridors has shrunk with the 1996 Water Rights Adjudication where historical farmers have sold off their Water Rights for continued residential growth to local Water Companies. Other areas currently provide suitable food sources and adjacent native habitat for Owls. Two and three (2-3) nesting cycles (observed several times since 2003) for many bird species is now common due to excellent food sources throughout summer from

an assortment of manmade conditions in the Victor Valley. Numerous other bird and animal species have also expanded their range from the Mojave River Riparian corridor. Burrowing owls can be seen at night while driving local dirt roads in areas having the following characteristics: Specifically, near valley perimeter schools and parks, near nuisance water runoff, golf courses, near horse and agricultural areas and nearby native vegetation with lower density groundcover or graded suburban parcels near existing residential subdivisions and scattered schools.

The Burrowing owls in the Victor Valley will typically fly away from the burrow when threatened or when people are within about 15 to 60 feet from the burrow (other side of a fence, within fenced yards with homes and horses, graded road or brush), except prior to and during the nesting season where they may be easily agitated, they will bob and bow while perching at the burrow. If prior to actual fledglings in the nest, they will fly away from the burrow when people are at 30± feet and will fly away about another 150 feet. If fledglings are in the burrow they will watch and slowly retreat into and defend the burrow when approached at 60± feet.

Coleman has observed hundreds (400+) of Burrowing owls in the general area since the mid-1960's near Hook Jr. High and Village School due to water and food resource availability. Also, Coleman has completed a variety of consulting services (Environmental, HazMat, Civil Engineering, Surveying and Real Estate Brokerage and Appraisals) for numerous parcels within the general area and greater Victor Valley area during the last 40+ years.

California gull *Larus californicus*[33]
Federal Status - None; State Status – Watch List
Distribution – common nester at alkali and freshwater lacustrine habitats east of the Sierra Nevada and Cascades, and an abundant visitor to coastal and interior lowlands in nonbreeding season. California's nesting population is scattered across the northeastern plateau region and at Mono Lake.
Habitat – Needs undisturbed, isolated islands for nesting. Feeds on garbage, carrion, earthworms, adult insects, and larvae. It frequents landfill dumps, fields, and pastures. On breeding grounds, young fed larval insects, brine shrimp, young birds, garbage, earthworms, and insects

Discussion and Recommendations
California and Ring-billed gulls may be blown into the Victor Valley area with winter storms and stay for the winter season (El Nino years) or several weeks depending upon surface water. However, they do not reside here on a permanent basis due to the lack of appropriate habitat during summer. **NOTE:** It is interesting to observes flocks of gulls eating fairy shrimp in numerous dry lakes or at manmade lakes in the greater Mojave Desert. The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*[34]
Federal Status - None; State Status – Species of Special Concern
Distribution – Found in arid parts of westward-draining slopes of southern California; numbers reduced in recent decades. Frequents desert succulent shrub, Joshua tree, and desert wash habitats.
Habitat – Frequents deserts and other arid terrain with thickets, patches, or tracts of larger, branching cacti, stiff-twigged, thorny shrubs, and small trees.

[33] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1793&inline=1
[34] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2027&inline=1

Discussion and Recommendations
The site is in the southwestern portion of San Bernardino and does not contain westward draining slopes. In addition, the side does not contain desert succulent scrubs, or a desert wash habitat. No Coastal Cactus Wrens, habitat or nests were located during surveys. Therefore, no additional surveys are necessary.

Cooper's Hawk *Accipiter cooperii*[35]
Federal Status - None; State Status – CSC
Distribution – A breeding resident throughout most of the wooded portion of the state. Breeds in southern Sierra Nevada foothills, New York Mountains, Owens Valley, and other local areas in southern California. Ranges from sea level to above 9000 ft.
Habitat – Frequents landscapes where wooded areas occur in patches and groves. Often uses patchy woodlands and edges with snags for perching. Dense stands with moderate crown-depths used for nesting

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Crissal thrasher *Toxostoma crissale*[36]
Federal Status – none; State Status – Species of Special Concern
Distribution – Resides in southeastern deserts and is common in the Colorado River Valley. Occupies dense thickets or shrubs or low trees in desert riparian and desert wash habitats. In the Eastern Mojave Desert, it also occurs in dense sagebrush and other shrubs in washes within juniper and pinyon juniper habitats.
Habitat – Forages on the ground, between and under shrubs by digging in friable soil and probing litter. Eats insects, other invertebrates, berries and small fruit, seeds, and small lizards. Takes cover in thickets of dense, shrubby vegetation along streams and in washes (i.e., mesquite, screwbean mesquite, ironwood, catclaw acacia, and arrowweed willow). Builds nests in tickets of desert shrubs and low trees.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Ferruginous Hawk *Buteo Regalis*[37]
Federal Status – Federal Species of Concern (FSC); State Status – CSC (Watch List)
Distribution – Uncommon winter resident and migrant at lower elevations and open grasslands in the Modoc Plateau, Central Valley, and Coast Ranges. Fairly common winter resident of grasslands and agricultural areas in southwestern California. Casual in northeast in summer. Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats.
Habitat – Requires large, open tracts of grasslands, sparse shrub, or desert with elevated structures for nesting.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Gila woodpecker *Melanerpes uropygialis*[38]
Federal Status – none; State Status – endangered.
Distribution – An uncommon to common resident in southern California along the Colorado River, and locally near Brawley, Imperial County. Occurs mostly in desert riparian and desert wash habitats, but also found in

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[37] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1677&inline=1
[38] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1917&inline=1

orchard-vineyard and urban habitats, particularly in shade trees and date palm groves. Formerly found in farm and ranch yards throughout the Imperial Valley, but most regularly now near Brawley. Numbers have declined greatly in southern California in recent decades.
Habitat – Mostly in desert riparian and desert wash habitats, but also orchard-vineyard and urban habitats. Cover consists of cottonwoods and other desert riparian trees, shade trees, and date palms.

Site Survey
No cottonwoods, other riparian trees, shade trees (except smoketrees) or date palms were found near or on the site. No Gila Woodpecker or active/potentially active nests were located on site or in the vicinity during transect walks.

Discussion and Recommendation
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Golden Eagle *Aquila chrysaetos*[39]
Federal Status - None; State Status – CSC (FP; Watch List)
Distribution – Uncommon permanent resident and migrant throughout California, except the center of Central Valley. Perhaps more common in southern California than in north. Ranges from sea level up to 11,500 ft.
Habitat typically rolling foothills, mountain areas, sage-juniper flats, desert.
Habitat –Rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops.

Site Survey
No Golden Eagles were located during site surveys. The site is relatively flat desert habitat, with no rolling foothills, rocky mountains, trees for nesting or roosting, streams, canyons or cliffs and rock outcroppings.

Discussion and Recommendations
Golden Eagles can be found foraging and nesting in the rocky mountains, specifically those in the north and east Apple Valley area. As a County Planning Commissioner, I did a Site Review (with multiple CDFW staff) and reviewed numerous reports for the Black Mountain Quarry Site where a $100,000 Research Grant was completed to prove the absence/presence of the nearby nesting of Golden Eagles using the Site for roosting or foraging and would not fly into the two –(2) 400-foot Wind Turbines to cut Greenhouse Gas emissions and improve Air Quality issues in the 2013 timeframe. In addition, they may be found foraging along the Mojave River, golf courses, and other areas of the High Desert. However, these areas are not near this site.

The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Gray vireo *Vireo vicinior*[40]
Federal Status - None; State Status – Species of Special Concern
Distribution – An uncommon, local, summer resident in arid pinyon-juniper, juniper, and chamise-redshank chaparral habitats from 2000-6500 ft in mountains of Southern California. Formerly more widespread, breeding west to Walker Pass, Kern County., in northern and western foothills of the San Gabriel Mts., and at many additional localities in San Bernardino, Riverside and San Diego counties.
Habitat – Breeders frequent arid, shrub-covered slopes with sparse to moderate cover and scattered small trees. In San Diego Co., usually used oaks; elsewhere commonly junipers, pinyon pines, chamise, and chaparral.

39 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1681&inline=1
40 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2093&inline=1

Site Survey
This site does not have arid pinyon-juniper, juniper, pinyon pines, and chamise-redshank chaparral habitats were found near or on the site. No active/potentially active nests were located on site or in the vicinity during transect walks. However, there is some potentially suitable habitat for other nesting birds.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Harris' hawk *Parabuteo unicinctus*[41]
Federal Status - None; State Status – Watch List
Distribution – Historically, occurred year-round in the Lower Colorado River Valley from near Needles to the Imperial National Wildlife Refuge, with a small disjunct breeding population at the south end of the Salton Sea (Small 1994, Bednarz 1995). Extirpated in the 1960's. Now is a rare yearlong resident of southern Salton Sea and Imperial valley.
Habitat – Inhabits desert scrub and wash habitats with scattered trees for hunting perches and nest structures.
Site Survey
This site does not have desert wash habitats with scattered trees for hunting perches and nest structures found near or on the site. No active/potentially active nests were located on site or in the vicinity during transect walks. However, there is some potentially suitable habitat for other nesting birds.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.
Le Conte's Thrasher *Toxostoma lecontei*[42]
Federal Status - None; State Status – Species of Special Concern
Distribution – An uncommon to rare, local resident in southern California deserts from southern Mono County south to the Mexican border, and in western and southern San Joaquin Valley.
Habitat – Open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats; also occurs in Joshua tree habitat with scattered shrubs

Site Survey
This site does not have wide shallow desert wash habitats and no active/potentially active nests were located on site or in the vicinity during transect walks.

Discussion and Recommendations
LeConte's Thrasher were not observed on the site or within the general area ("Zone of Influence"), and there are no documented sightings of these species (NDDB 2003).

LeConte's thrasher *(Toxostoma LeContei)* is a California Species of Special Concern. This species is widespread throughout the West Mohave Desert, favoring areas with cacti, Joshua trees and large wide desert washes, especially those with creosote bush (West Mohave Plan, 1999; Ehrlich et al., 1988).

This species has been observed by Coleman north of Adelanto in the 1970's and 1980's, preferring wide natural drainage courses with smaller low density Creosote in the Mojave scrub habitat where they search for insets at the base of these bushes. [NOTE: Locally, the California Thrasher seems to prefer manmade yards and riparian corridors (i.e. Mojave River corridor and Apple Valley Golf Course)].

41 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2249&inline=1
42 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2077&inline=1

Also, two species occurrences are reported from the Rosamond Hills; surveys at Edwards AFB conducted in 1992 and 1993 confirmed the presence of Le Conte's thrasher in three of sixty wildlife transects (EAFB, 1993a; 1993b). The West Mohave Plan (1999) notes the conservation of large contiguous land areas should be a primary goal for species conservation planning. The absence of Le Conte's thrasher sightings in the project area, while not an indicator of species absence, provides a relative indication of the value of the Site to this species. The ecotonal habitat that occurs at the Site is not considered to meet the habitat requirements for Le Conte's thrasher.

The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Least Bell's Vireo *Vireo bellii pusillus*[43]
Federal Status - Endangered; State Status – Endangered
Distribution – endemic to California and northern Baja California. Now a rare, local, summer resident below about 2000 ft in willows and other low, dense valley foothill riparian habitat and lower portions of canyons mostly in San Benito and Monterey counties.; in coastal southern California from Santa Barbara County south; and along the western edge of the deserts in desert riparian habitat.
Habitat – Low, dense riparian growth along water or along dry parts of intermittent streams. Typically associated with willow, cottonwood, baccharis, wild blackberry, or mesquite in desert localities.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Loggerhead Shrike *Lanius ludovicianus*[44]
Federal Status – Federal Species of Concern (FSC); State Status – Species of Special Concern
Distribution – A common resident and winter visitor in lowlands and foothills throughout California.
Habitat – Open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats.

Discussion

Loggerhead shrike *(Lanius ludovicianus)* is a California Species of Special Concern. This bird is common year-round throughout California lowlands where resident birds are augmented by winter migrants. The loggerhead shrike prefers open habitats with scattered perches such as fences, posts, utility lines, shrubs, and trees.

Two loggerhead shrikes were observed at Edwards AFB in December 2000; their breeding status on the Site and whether these birds were migrants is not known. The shadscale scrub vegetation community and abundant fences in the project area would likely provide suitable nesting habitat for loggerhead shrike. East of SR-14, the patchwork of agricultural fields and shadscale scrub habitats are highly suitable for this species.

Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Long-eared Owl *Asio otus*[45]
Federal Status - None; State Status – Species of Special Concern

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43 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2091&inline=1
44 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2087&inline=1
45 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1877&inline=1

Distribution – Uncommon yearlong resident throughout the state except the Central Valley and Southern California deserts where it is an uncommon winter visitor.
Habitat –Riparian habitat required; also uses live oak thickets and other dense stands of trees.

Discussion and Recommendations
Coleman has observed Long-eared owls in the Mojave River riparian and Apple Valley Golf Course areas
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Lucy's warbler *Oreothlypis luciae*[46]
Federal Status - None; State Status – Species of Special Concern
Distribution – An uncommon to common, summer resident and breeder along the Colorado River, common locally in a few other desert areas, and rare near Salton Sea.
Habitat – Desert wash and desert riparian habitats, especially those dominated by mesquite; also ranges into saltcedar and other thickets. I

Site Survey
This site does not have wide shallow desert wash or riparian habitats and no active/potentially active nests were located on site or in the vicinity during transect walks.

Discussion and Recommendation
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Northern Harrier *Circus cyaneus*[47]
Federal Status - None; State Status – Species of Special Concern
Distribution – Occurs from annual grassland up to lodgepole pine and alpine meadow habitats, as high as 10,000 ft. Breeds from sea level to 5700 ft in the Central Valley and Sierra Nevada, and up to 3600 ft in northeastern California. Permanent resident of the northeastern plateau and coastal areas; less common resident of the Central Valley. Widespread winter resident and migrant in suitable habitat.
Habitat – Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded areas.

Discussion and Recommendation
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Prairie Falcon *Falco mexicanus*[48]
Federal Status - None; State Status – Species of Special Concern
Distribution – Uncommon permanent resident that ranges from southeastern deserts northwest throughout the Central Valley and along the inner Coast Ranges and Sierra Nevada.
Habitat – Uses open annual grasslands to alpine meadows, but associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub. Requires sheltered canyons, cliff ledges, escarpments, and rock outcrops for cover.

Discussion and Recommendation
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

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46 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2107&inline=1
47 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1663&inline=1
48 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1689&inline=1

Sharp-shinned Hawk *Accipiter striatus*[49]
Federal Status - None; State Status – Watch List
Distribution – Fairly common migrant and winter resident throughout California, except in areas with deep snow. Uncommon winter migrant to Channel Islands. Uncommon permanent resident and breeder in mid-elevation habitats.
Habitat – Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers, but not restricted to, riparian habitats. North facing slopes, with plucking perches are critical requirements. All habitats except alpine, open prairie, and bare desert used in winter.

Site Survey
No Sharp-shinned hawks or active/potentially active nests were located on site or in the vicinity during transect walks.

Discussion and Recommendation
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Southwestern willow flycatcher *Empidonax traillii extimus*[50]
Federal Status – Endangered; State Status - Endangered
Distribution – Rare and local breeder in the southwestern U.S. and northwestern Mexico. Winters in Central and South America. Below 6,000 feet elevation.
Habitat – Extensive riparian areas of dense cottonwood, willow, or tamarisk vegetation. Saturated soils, standing water or nearby streams or pools are a nesting habitat component.
Migration – United States during summer; Central America during winter.
Site/Nest Fidelity – Some site fidelity to nest territories.

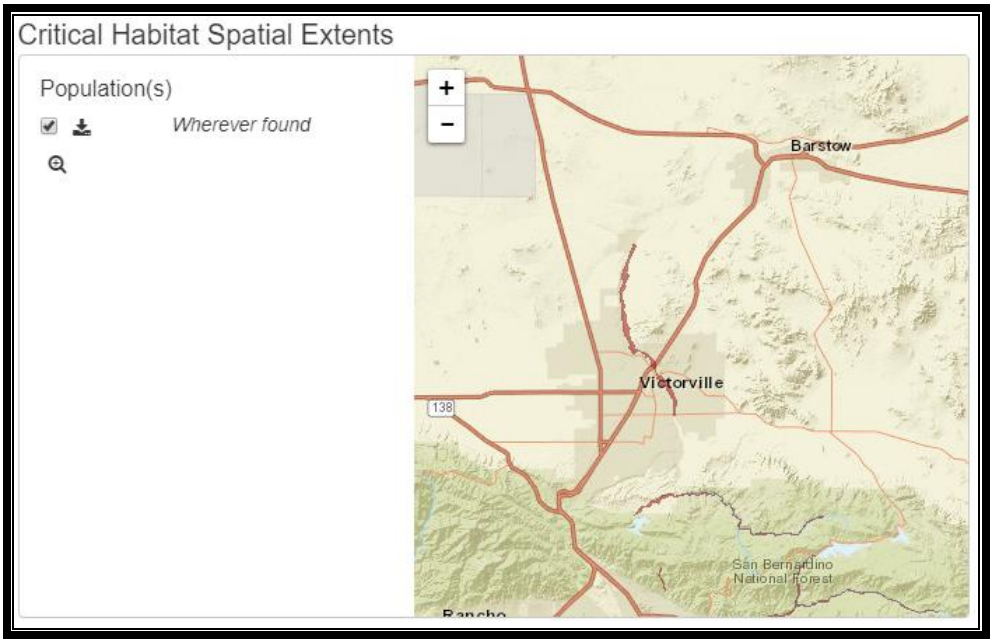
Site Survey
Suitable riparian habitat was not found to be present on or in the vicinity of the site. No Southwestern Willow Flycatchers or active/potentially active nests were located on site or in the vicinity during transect walks, but there is some potentially suitable habitat (on- and off-site vegetation and structures) for nesting birds. This is a migratory bird species protected by the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §703-711) and under protection of the CESA.[51] The CDFW Code §3503, §3503.5 and §3800 prohibit the take, possession, or destruction of birds, their nests or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle.

Discussion and Recommendation
The San Bernardino County Biotic Map indicates this species is located approximately 5 miles east of the site. According to the US Fish and Wildlife Service (USFWS), no critical habitat is identified in the region (*Southwest Willow Flycatcher Federally Identified Critical Habitat*).

The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

[49] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1665&inline=1
[50] http://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=B094
[51] https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php

SOUTHWESTERN WILLOW FLYCATCHER FEDERALLY IDENTIFIED CRITICAL HABITAT[52]



Summer Tanager *Piranga rubra*[53]
Federal Status - None; State Status – Species of Special Concern
Distribution – An uncommon (formerly common) summer resident and breeder in desert riparian habitat along lower Colorado River; also occurs very locally elsewhere in southern California deserts.
Habitat – Breeds, feeds, and covers in mature, desert riparian habitat dominated by cottonwoods and willows.

Site Survey
This site does not have preferred habitat of mature, desert riparian habitat dominated by cottonwoods and willows for breeding and foraging or migration purposes. No active/potentially active nests were located on site or in the vicinity during transect walks.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Tricolored Blackbird *Agelaius tricolor*[54]
Federal Status – Federal Species of Concern (FSC); State Status – Species of Special Concern
Distribution – Common locally throughout Central Valley and in coastal districts from Sonoma Co. south. In winter, becomes more widespread along central coast and San Francisco Bay area and is found in portions of the Colorado Desert.
Habitat – Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats. Breeds locally in northeastern California.

[52] http://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=B094
[53] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2127&inline=1
[54] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2181&inline=1

Site Survey
This site does not have preferred habitat of fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats for breeding and foraging or migration purposes. No active/potentially active nests were located on site or in the vicinity during transect walks.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Vermilion flycatcher *Pyrocephalus rubinus*[55]
Federal Status - None; State Status – Species of Special Concern
Distribution – A rare, local, yearlong resident along the Colorado River, especially in vicinity of Blythe, Riverside Co.
Habitat – Most numerous where riparian thickets edge on open, mesic habitats. Nesters inhabit cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas in isolated patches throughout central southern California.

Site Survey
This site does not have preferred habitat of where riparian thickets edge on open, mesic habitats. Nesters inhabit cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas in isolated patches throughout central southern California for breeding and foraging or migration purposes. No active/potentially active nests were located on site or in the vicinity during transects.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Willow Flycatcher *Empidonax traillii*[56]
Federal Status - None; State Status – Endangered
Distribution – A rare to locally uncommon, summer resident in wet meadow and montane riparian habitats at 2000-8000 ft in the Sierra Nevada and Cascade Range. Most often occurs in broad, open river valleys or large mountain meadows with lush growth of shrubby willows. Has been observed breeding along the Santa Ynez river in Santa Barbara County, and along the Santa Clara river in Ventura County. May still nest elsewhere in lowland California, as in San Diego County, but records are lacking. Common spring (mid-May to early June) and fall (mid-August to early September) migrant at lower elevations, primarily in riparian habitats throughout the state exclusive of the North Coast
Habitat – Most numerous where extensive thickets of low, dense willows edge on wet meadows, ponds, or backwaters.

Site Survey
This site does not have preferred habitat of dense and numerous extensive thickets of low, dense willows edge on wet meadows, ponds, or backwaters for breeding and foraging or migration purposes. No active/potentially active nests were located on site or in the vicinity during transect walks.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

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55 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1959&inline=1
56 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1945&inline=1

Yellow-billed Cuckoo *Coccyzus americana*[57]
Federal Status - None; State Status – Endangered
Distribution – An uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in California. Along the Colorado River, breeding population on California side was estimated at 180 pairs in 1977. Additional pairs reside in the Sacramento and Owens valleys; along the South Fork of the Kern River, Kern County; along the Santa Ana River, Riverside County; and along the Amargosa River, Inyo, and San Bernardino counties. Also, may nest along San Luis Rey River, San Diego County.
Habitat – Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, and which abut on slow-moving watercourses, backwaters, or seeps. Willow almost always a dominant component of the vegetation. In Sacramento Valley, also utilizes adjacent orchards, especially of walnut. Along Colorado River, may inhabit mesquite thickets where willow is absent.

Site Survey
The Site does not have preferred habitat of dense, extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, and which abut on slow-moving watercourses, backwaters, or seeps. Willow almost always a dominant component of the vegetation. No active/potentially active nests were located on site or in the vicinity during transects. However, there is some potentially suitable habitat for other nesting birds.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Yellow-breasted Chat *Icteria virens*[58]
Federal Status - None; State Status – Species of Special Concern
Distribution – Uncommon summer resident and migrant in coastal California and in foothills of the Sierra Nevada. Found up to about 4800 ft in valley foothill riparian, and up to 6500 ft east of the Sierra Nevada in desert riparian habitats. Uncommon along coast of northern California east to Cascades and occurs only locally south of Mendocino County. In southern California, breeds locally on the coast and very locally inland In migration, may be found in lower elevations of mountains in riparian habitat.
Habitat – Frequents dense, brushy thickets and tangles near water, and thick understory in riparian woodland. Requires riparian thickets of willow and other brushy tangles near watercourses for cover.
Site Survey
This site does not have preferred habitat of dense, brushy thickets and tangles near water, and thick understory in riparian woodland. Requires riparian thickets of willow and other brushy tangles near watercourses for cover riparian deciduous habitats in summer: cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. Also breeds in montane shrubbery in open conifer forests. In migration, visits woodland, forest, and shrub habitats. No active/potentially active nests were located on site or in the vicinity during transect walks. However, there is some potentially suitable habitat for other nesting birds.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

Yellow Warbler *Dendroica petechia*[59]
Federal Status – None; State Status – CSC
Distribution – Breeding distribution includes from the coast range in Del Norte county, east to Modoc plateau, south along coast range to Santa Barbara and Ventura counties and along western slope of Sierra Nevada south

[57] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1855&inline=1
[58] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2125&inline=1
[59] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2109&inline=1

to Kern county. Also breeds along eastern side of California from the Lake Tahoe area south through Inyo county. Also breeds in several southern California mountain ranges and throughout most of San Diego county. Winters in Imperial and Colorado river valleys. Breeds in riparian woodlands from coastal and desert lowlands up to 8000 ft in Sierra Nevada. Also breeds in montane chaparral, and in open ponderosa pine and mixed conifer habitats with substantial amounts of brush.
Habitat – Found in riparian deciduous habitats in summer: cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. Also breeds in montane shrubbery in open conifer forests. In migration, visits woodland, forest, and shrub habitats.

Site Survey
This site does not have preferred habitat of riparian deciduous habitats in summer: cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. Also breeds in montane shrubbery in open conifer forests. In migration, visits woodland, forest, and shrub habitats. No active/potentially active nests were located on site or in the vicinity during transect walks. However, there is some potentially suitable habitat for other nesting birds.

Discussion and Recommendations
The site does not contain nor is it located near appropriate habitat; therefore, no additional surveys is required.

PROTECTED MOJAVE DESERT TREES, PLANTS AND CACTI

Specific Wildlife: The specific plants identified during the literature review are discussed in detail below.

The field survey of the Site consists of a series of traverses that are walked at 30 (10± meter) foot intervals through the Site and perimeter property lines to locate native desert plants existing on the Site. A closer, more detailed examination is given to areas of irregular topographical features such as washes, erosion channels, manmade alterations and debris, and elevated clumps, Junipers, or rings of vegetation.

EVIDENCE

During the survey, any visual signs of Native Desert Trees, Plants and Cactus are noted. In California there are nine- (9) main genera (groups) of cacti and the phenomenon involved with soil mineral variations, hybridization, elevation, inter-gradation, and inter-varietal hybrids create a difference of opinion from botanists and classifications. The NATIVE PLANT LOCATION MAP has been enhanced with number (#'s) located near the Joshua Trees, Beavertail, Yucca, etc. for reference.

NATIVE AND NATIVE DESERT PLANTS - CONTINUED

JT	**Joshua Tree**	**BT**	**Beavertail**
L	**Our Lord's Candle [Candlewood]**	**D/S**	**Dalea/Smoke Tree**
Y	**Mojave Yucca**	**M**	**Mesquite**
CP	**Century Plant**	**G**	**Creosote bush - 10' Ring min. – [Greasewood]**
N	**Parry Nolina**		

AGAVACEAE – AGAVE FAMILY:

Joshua Trees: {4} – Joshua Trees *(Yucca brevifolia)* were found within the Site.

Joshua's under 3 feet (Seedlings) have been observed during the last 40 years to grow in abundance on fire Sites due to the lack of squirrels eating the seeds and competing vegetation for rainfall, other than the dominate and invasive plant species. Also, this area of the Mojave Desert typically receives annual rainfall (also dew and snow), and twice the average rainfall than most other areas of the Mojave Desert and this allows the Joshua's to grow at least twice the rate. Therefore a 3-foot Joshua will likely be at least half of the age, or younger , than other Joshua's located farther into the Mojave Desert that also must survive and experience multi-year droughts and half the moisture on an average and normalized basis. Therefore, most of these Victor Valley Joshua seedlings will not survive the stress of the relocation process during the first 5 years of relocation and are not designated for relocation.

However, since there were no younger healthy Joshua Trees to transplant, the existing two 2-foot Joshua Trees are proposed to be relocated into the proposed landscaping planters.\a

Our Lord's Candle: 0 – Our Lord's Candle/Candlewood *(Yucca whippleii)*

Mojave Yucca: 0 – Mojave Yucca/Spanish Dagger *(Yucca schidigera)*

Century Plant: 0 – Century Plant *(Agave deserti)*

Parry Nolina: 0 – Parry Nolina/Nolina/Beargrass *(Nolina parryi)*

CACTACEAE – CACTUS FAMILY:

Beavertail Cactus "short-joint" [0] – Beavertail Cactus *(Opuntia basilaris var. brachyclada)*
0 – Beavertail Cactus *(Opuntia basilaris). If found will be personally relocated to my office or home.*

LEGUMINOSAE – PEA FAMILY:

Dalea/Smoke Tree: 0 – Dalea/Smoke Tree *(Parosela spinosa and other var.)*

Mesquite: 0 – Mesquite *(Prosopis var.)*

ZYGOPHYLLACEAE – CALTROP FAMILY:

Creosote Bush: /0/ – Creosote bushes *(Larrea tridentata)* with *10-foot minimum* rings were found within the project Site and Right-of-Ways.

OTHER PLANTS AND GRAPHICS ON THE FOLLOWING PAGES

Ash-gray paintbrush *Castilleja cinerea*[60]
Federal Status - Threatened; State Status – None
State Rare Plant Rank – 1B.2 (Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California.)
Distribution – Endemic and only from the San Bernardino Mountains.
Habitat –Grows in several habitat types, including Mojavean desert scrub, meadows and seeps, pebble (pavement) plain, pinyon and juniper woodland and upper montane coniferous forest (clay openings).

Site Survey

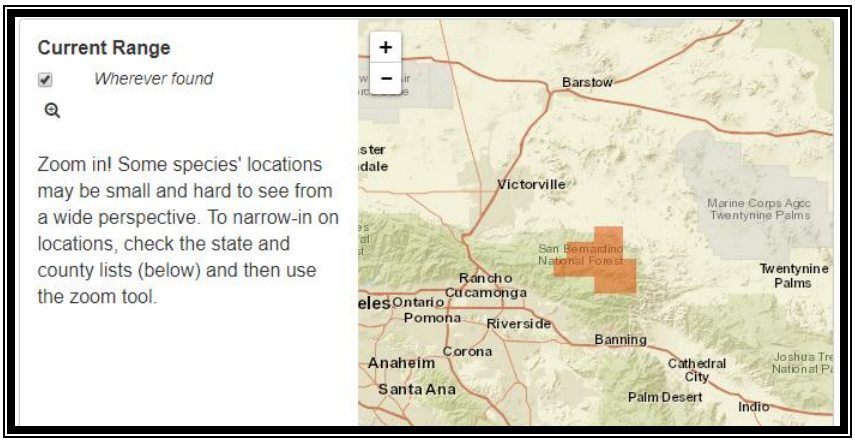
None exist on the Site.

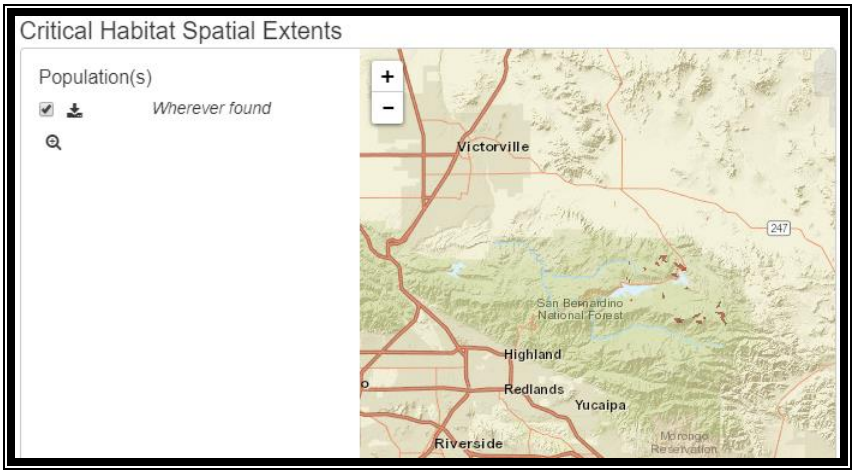
Recommendations

None

Discussion

None





[60] https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=3702 **and** http://www.rareplants.cnps.org/detail/419.html

Booth's Evening-Primrose *Camissonia boothii ssp. Boothii*[61]
Federal Status - None; State Status – None
State Rare Plant Rank – 2B.3 (Plants rare, threatened, or endangered in California, but more common elsewhere; not very threatened in California.)
Distribution – Found in Inyo, Mono, Riverside and San Bernardino counties in California. Also found in Arizona, Nevada, and Washington.
Habitat – Annual herb found in Joshua tree woodland; pinyon and juniper woodland habitats.

Site Survey

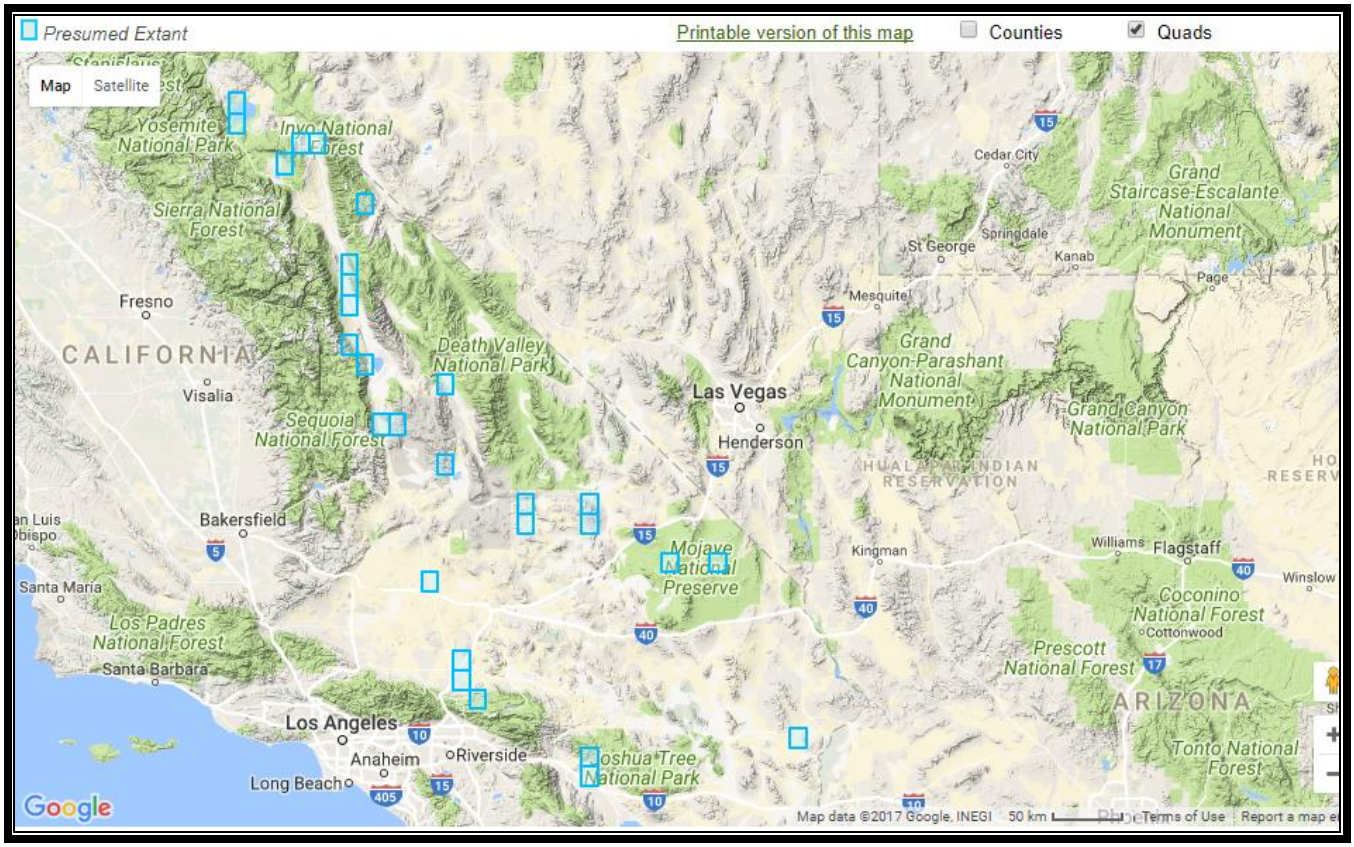
None exist on the Site.

Recommendations

None

Discussion

None



61 http://www.rareplants.cnps.org/detail/378.html

Desert Cymopterus *Cymopterus deserticola*[62]
Federal Status – Federal Species of Concern (FSC); State Status – None
State Rare Plant Rank –1B.2 (Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California)
Distribution – Endemic in California. Found in Kern, Los Angeles, and San Bernardino counties in California.
Habitat – Perennial herb found in Joshua tree woodland and Mojavean desert scrub.

Site Survey

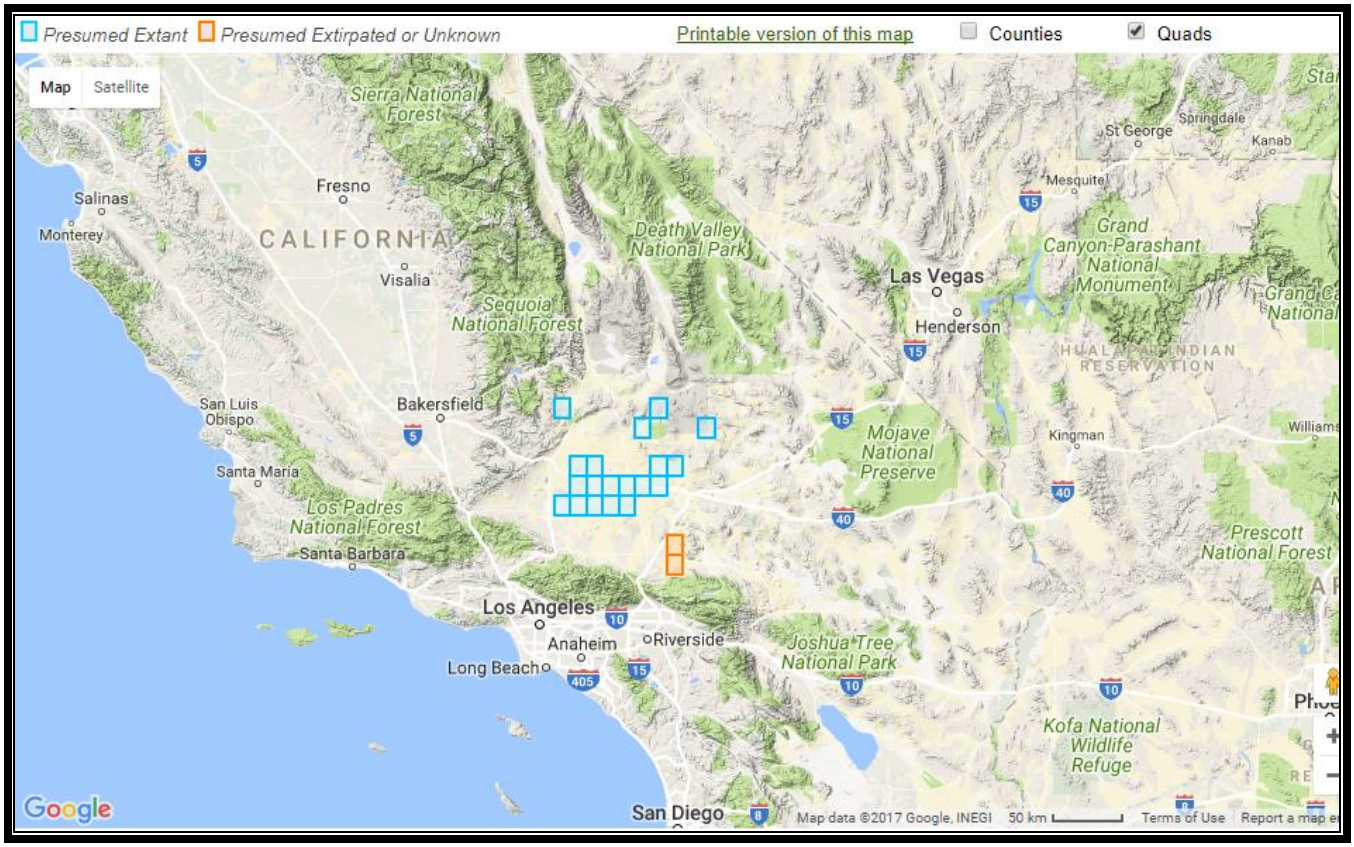
None exist on the Site.

Recommendations

None

Discussion

None



62 http://www.rareplants.cnps.org/detail/540.html

Mojave Monkeyflower *Mimulus mohavensis*[63]
Federal Status – Federal Species of Concern (FSC); State Status – None
State Rare Plant Rank – 1B.2 (Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California)
Distribution – Endemic in California and located in San Bernardino County.
Habitat –Annual herb found in sandy or gravelly, often in washes in Joshua tree woodland and Mojavean desert scrub. Most historical occurrences in the Barstow area have been extirpated or impacted.

Site Survey

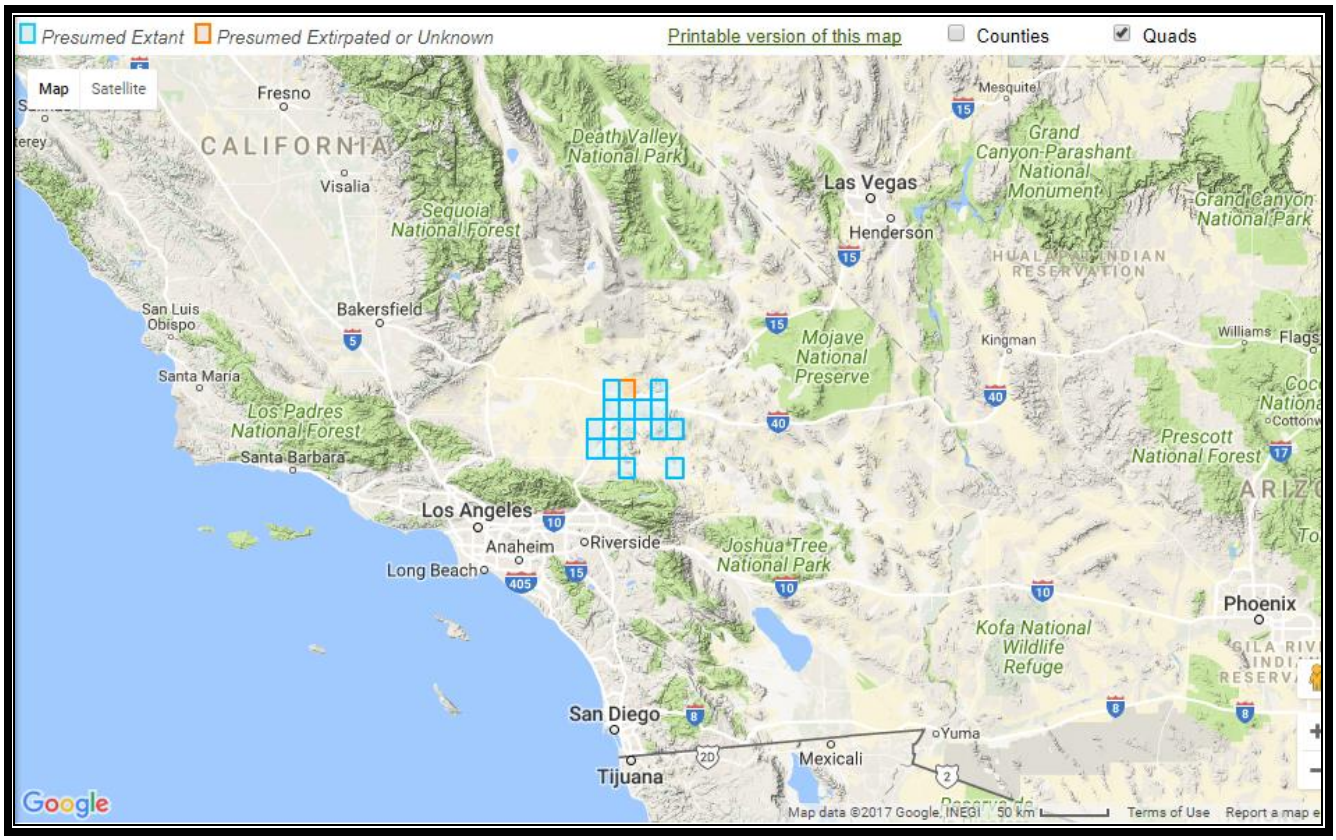
None exist on the Site.

Recommendations

None

Discussion

None



63 http://www.rareplants.cnps.org/detail/1095.html

San Bernardino Aster *Symphyotrichum defoliatum*[64]
Federal Status - None; State Status – None
State Rare Plant Rank –1B.2 (Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California)
Distribution – Endemic to California, where it is found in Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo counties.
Habitat –Perennial rhizomatous herb found near ditches, steams, and springs in Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland.

Site Survey

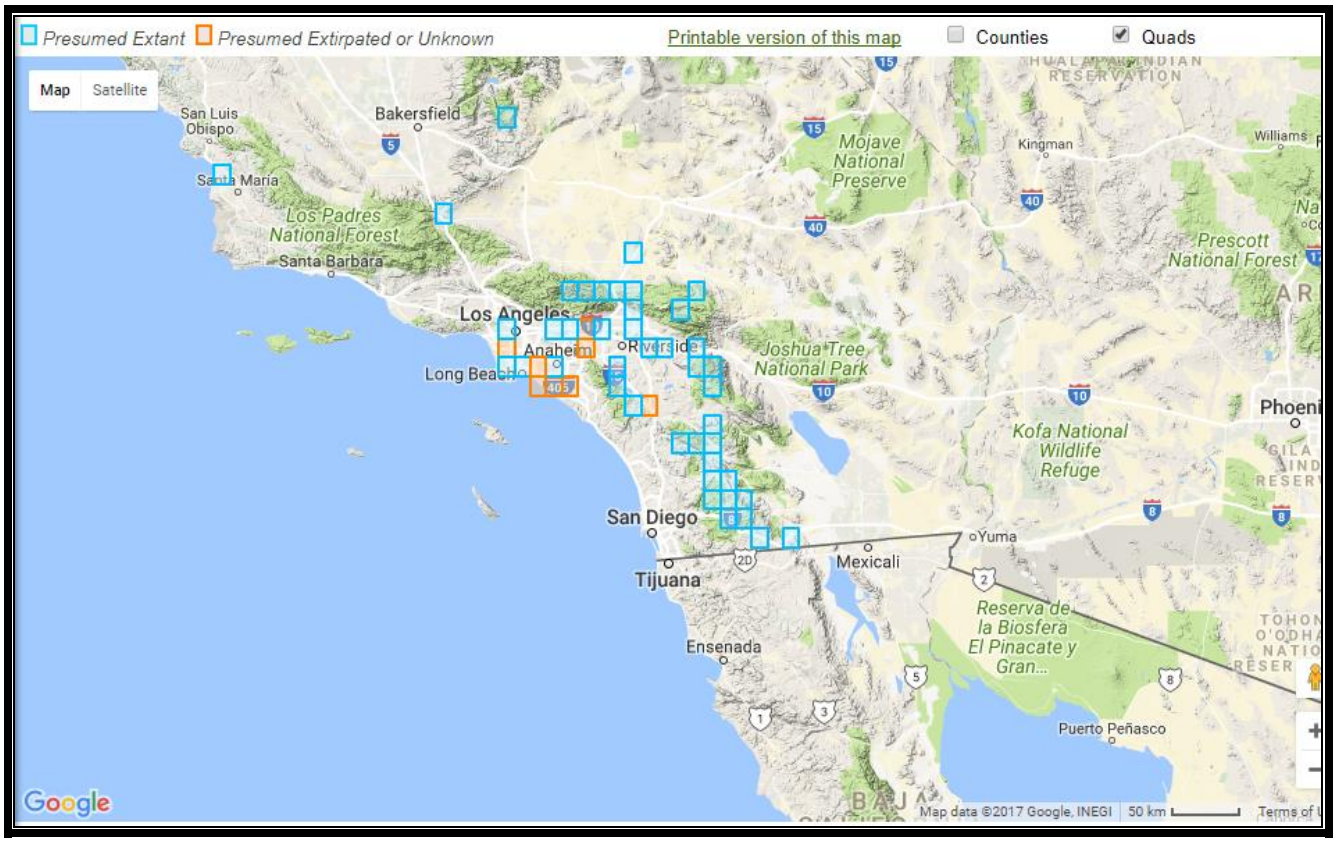
None exist on the Site.

Recommendations

None

Discussion

None



64 http://www.rareplants.cnps.org/detail/2088.html

Santa Ana River woollystar *Eriastrum densifolium ssp. sanctorum*[65]
Federal Status - Endangered; State Status – Endangered
State Rare Plant Rank –1B.1 (Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California)
Distribution – Endemic to the Santa Ana River drainage in southern California, and found in Orange, Riverside, and San Bernardino counties.
Habitat –Perennial herb that thrives in open areas that receive a lot of sun and where there are infrequent flood events that contribute to seed dispersal. Santa Ana River woolly-star grows in sandy or gravelly areas in chaparral and coastal scrub, and is a pioneer species, meaning that it will take over previously unutilized habitat. It requires periodic flooding along with scouring and sediment deposition to persist.

Site Survey

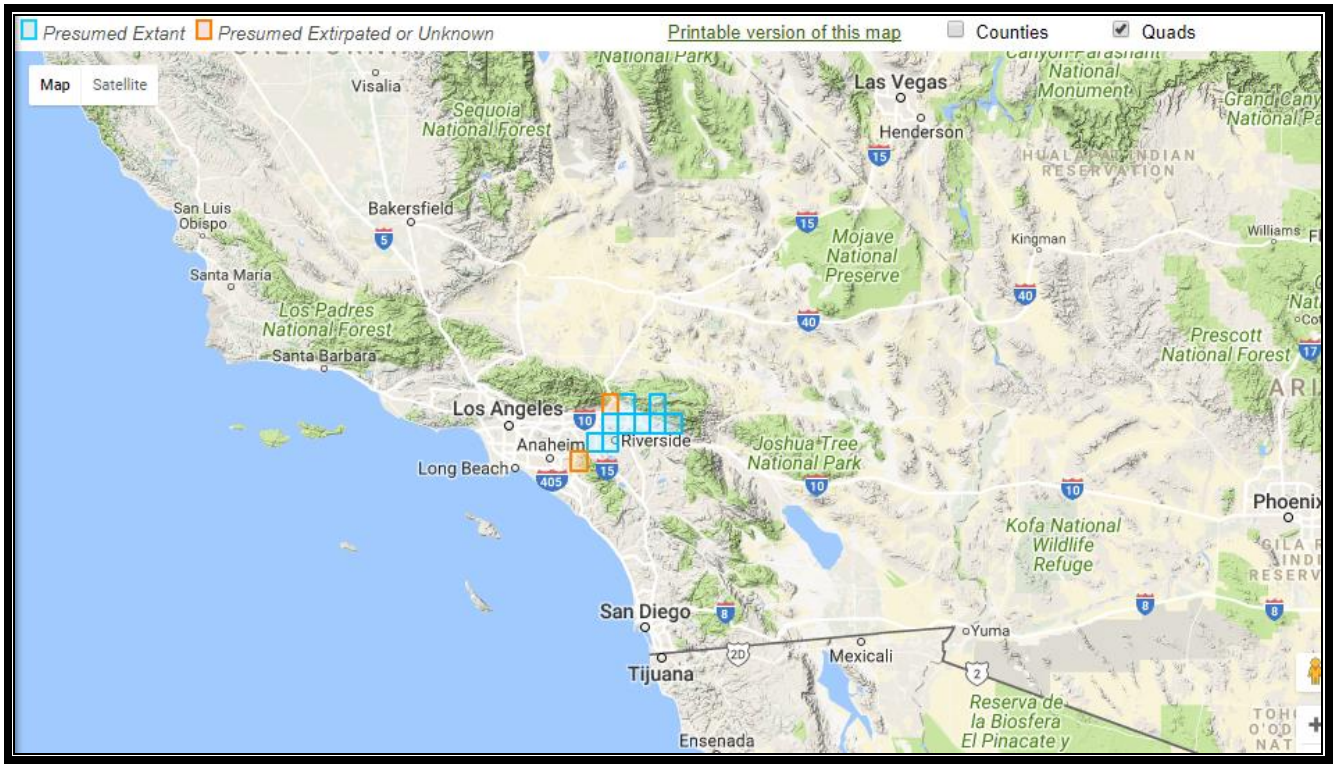
None exist on the Site.

Recommendations

None

Discussion

None



65 https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=6575, https://www.wildlife.ca.gov/Conservation/Plants/Endangered/Eriastrum-densifolium-ssp-sanctorum, and http://www.rareplants.cnps.org/result.html?fulldata=Eriastrum+densifolium+ssp.+sanctorum

Short-jointed Beavertail *Opuntia basilaris var. brachyciada*[66]
Federal Status – Federal Species of Concern (FSC); State Status – None
State Rare Plant Rank – 1B.2 (Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California)
Distribution – Endemic to California and found in Los Angeles and San Bernardino counties.
Habitat – Perennial stem succulent found in chaparral, Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland.

Site Survey

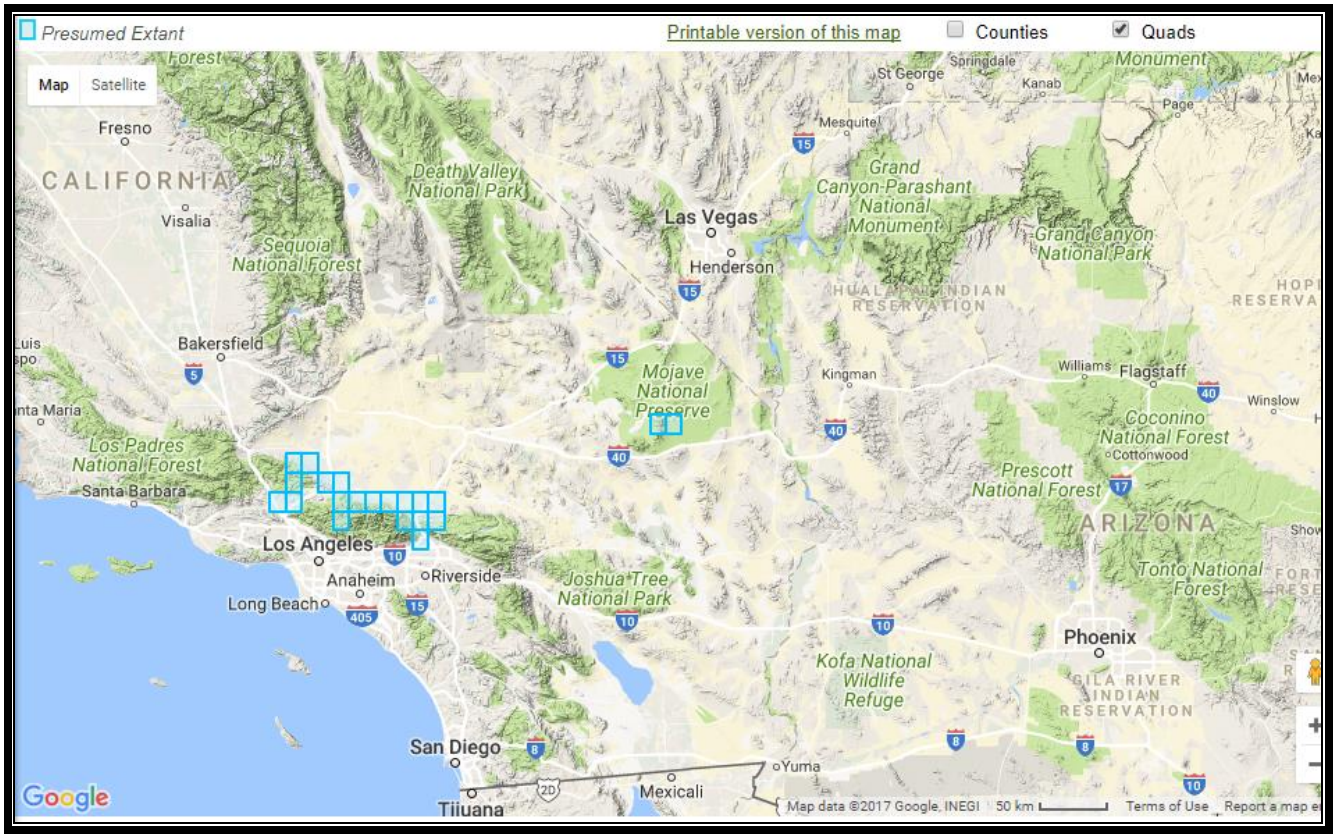
None exist on the Site.

Recommendations

None

Discussion

None



66 http://www.rareplants.cnps.org/detail/1183.html

Small-flowered Androstephium *Androstephium breviflorum*[67]
Federal Status - None; State Status – None
State Rare Plant Rank – 2B.2 (Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California)
Distribution – Found in Inyo, Riverside and San Bernardino counties in California, along with Arizona, Colorado, New Mexico, Nevada, Utah, and Wyoming.
Habitat – Perennial bulbiferous herb found in desert dunes & Mojavean desert scrub habitats.

Site Survey

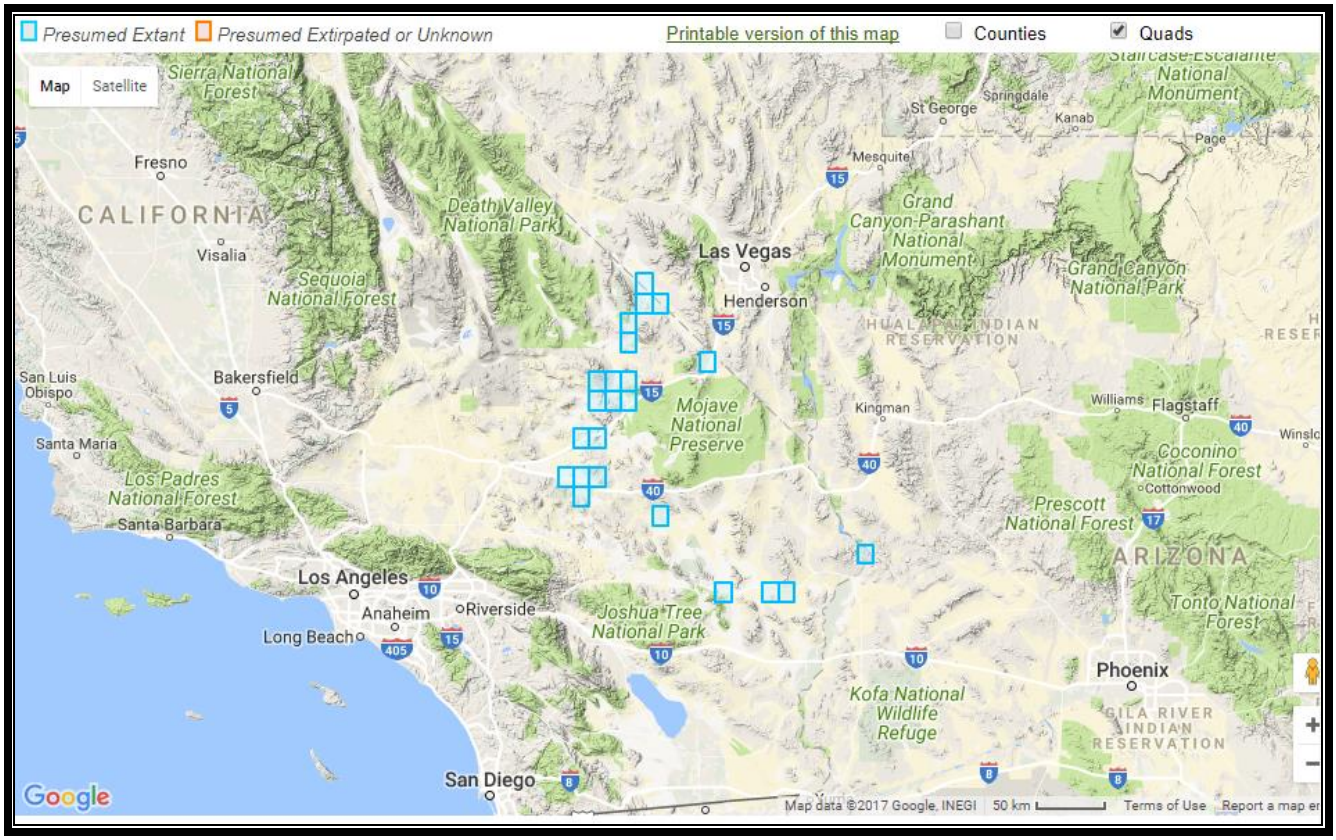
None exist on the Site.

Recommendations

None

Discussion

None



[67] http://www.rareplants.cnps.org/detail/7.html

FINDINGS AND CONCLUSIONS

LENGTH OF SURVEY

The site has received significant recent and historical disturbance due adjacent infrastructure and development to the west, increasing new commercial uses (nearby Freeway Commercial, Wal-Mart and Super Target Centers), HOV uses, scattered dirt roads and cross-native trails where a moderate amount of construction and yard debris from single family residential have been dumped due to cost of San Bernardino Dumps. The extended west with the Interstate 15 (Route 66) corridor since the 1920's, residential development since the 1950's, and California Aqueduct built in the 1960's. Also, fragmentation and isolation from areas which may support species of concern are caused by the continuing urbanization of the Victor Valley. This creates a situation where it is unlikely endangered or threatened species will move through existing development and to the site in the future.

Biological Baseline Assessments are typically reviewed, due to impacts from development or other manmade and natural (fire and/or flood) conditions; therefore, the following reviews will be required:

- Site Assessment after APRIL 1, 2021 for all reptile and mammal species
- Site Assessment after FEBRUARY 1, 2021 for Burrowing owls and all other referenced bird species and if there is a lapse of 30 days of construction activities on the Site thereafter.
    - This Site has no current legal entitlements for development and an Application is being submitted for approval to the City. Due to the lack of City Approvals and timeframe for approvals, no permitting or grading activities shall commence prior to another Site review for all bird species.
    - Bird species may have project-related disturbance of active nesting territories during critical phases of the nesting cycle (February 1st through August 31st annually).
    - The future Site review will be required prior to any grubbing, borrow pit, stockpiling or any other grading or construction activities (or 30± days from field survey update, pursuant with telephone conversations with CDFW).

SPECIAL INSPECTOR FOR TRANSPLANTING NATIVE DESERT PLANTS

In addition, this process requires a "Special Inspector" to be continuously present during all relocation activities of the native desert plants.

FINAL REPORT OF NATIVE DESERT SPECIES OR PLANTS

A "Final Report of Native Desert Species" or "Final Report of Native Desert Plants" will be prepared after all activities are completed, if required by the local jurisdiction.

OTHER ISSUES

INCIDENTAL TAKE

It is important to note that regardless of the result of this survey, Desert Tortoises, American Badger, Desert kit fox, Mohave Ground Squirrels, Burrowing Owl, and other bird species cannot be "taken". The survey report and the mitigation measures included, if any, do not constitute permission for "incidental take" of the Desert Tortoises, Mohave Ground Squirrels, Burrowing Owl and other birds' species.

EXCLUSIVE USE OF REPORT

This report is for the **EXCLUSIVE USE ONLY of the The RCH Group.** (Agent for Owner), as it applies to the Site. Any assignment of this Assessment to a third party shall be by a separate negotiated fee. The field survey standards of protocol used in this survey are based on current practices known to this assessor as required by the appropriate local jurisdiction. Its presentation has been in accordance with generally accepted professional principles and practice. No other warranty, either express or implied, including a change in standards or protocol, is made. Conclusions are based upon interpretations of the field survey findings.

FINDINGS AND CONCLUSIONS – continued

CONCLUSIONS

DESERT TORTOISE

No Desert Tortoises or active/potentially active burrows were encountered on the Site or within the buffer zone during the field survey. Additionally, no other sign (e.g. scats, tracks, shell fragments) of the Desert Tortoises were found which would indicate habitat or other utilization of the Site.

AMERICAN BADGER, DESERT KIT FOX, MOJAVE GROUND SQUIRREL

No American badger, Desert kit fox, Mojave ground squirrel were encountered on the Site or within the buffer zone during the field survey and no other signs were found which would indicate habitat or other utilization of the Site. This Site has significant habitat fragmentation due to numerous site and regional conditions as previously discussed.

BURROWING OWL AND OTHER OWLS

No Burrowing owls or other owls or active/potentially active burrows or nests were encountered on the Site or within the 500-foot buffer zone during the field survey. Additionally, no other sign (e.g. rodent bones; white-wash scats at Joshua's, fence posts or other perching locations; tracks) of the Owls were found which would indicate habitat or other utilization of the Site. Great Horned Owls have been observed in the Cottonwood trees along the Jess Ranch Golf Course at sunset during the 1996-2000 timeframe. Great Horned Owls are located at the Apple Valley Country Club Golf Course (AVCC) and Mojave River area.

LECONTE'S THRASHER *(TOXOSTOMA LECONTEI)* LOGGERHEAD SHRIKE *(LANIUS LUDOVICIANUS)* SHARP-SHINNED HAWK *(ACCIPITER STRIATUS)* AND OTHER HAWKS

No LECONTE'S Thrasher, Loggerhead Shrikes, Sharp-shinned Hawks nor other Hawks or active/potentially nest were encountered during the field survey. Additionally, no other sign (e.g. rodent bones; white-wash scats at Joshua's, fence posts or other perching locations; tracks) of these birds were found which would indicate habitat or other utilization of the Site. Sharp-shinned Hawks are located at the AVCC and Mojave River area.

NATIVE DESERT PLANTS AND NATIVE DESERT PLANT LOCATION MAP

0 – Creosote bushes *(Larrea tridentata)* with *10-foot minimum* rings were found within the project Site.

No other protected Federal or State of California Native Desert Plants were encountered other than the Native Desert Plants in the limits of the Site. Any diseased, fire-damaged, dying, or non-proposed relocation plants will be removed from the Site during the grading process and properly disposed immediately per local jurisdiction requirements. All transplanting procedures by the local agency jurisdiction authority will be followed during any and all relocation activities of all healthy Native and Protected Plants. Table No. 1 – "Site Survey Summary" is used as a Summary Form for Clearances and Pre-Construction Surveys. A "NATIVE PLANT LOCATION MAP" was prepared to approximately locate the native plant species present on the Site because of the type of proposed development as a "Senior Specific Plan". Native desert plants are to be protected in place, relocated, or disposed of. It is recommended the designated relocated plants be tagged with orange flagging. Any diseased, fire-damaged, dying plants and designated larger Joshua's are not tagged with any additionally flagging. Populations of sensitive low-level plants are to be flagged (Orange Flagging on a 4' lath placed in the ground) to prevent impacts to the various plant species, if applicable (e.g. Beavertail Cactus).

If applicable, the trees, plants and cactus shall be monitored over a three – (3) year period and additional measures implemented (e.g., monthly irrigation) by the property owner to ensure the survival of the plants.

FINDINGS AND CONCLUSIONS – continued

CONCLUSIONS - NATIVE DESERT PLANTS INFORMATION REGARDING TRANSPLANTING ACTIVITIES

The goal of transplanting the native desert plants is to transplant specimens with the best chances of survival after transplanting. Transplanting should concentrate all efforts with the younger Joshua's, and up to the capability of the "Tree Spade with a minimum of 44-inches" that would not damage the tree's corm (The corm is the underground Bulb and roots of the tree), trunk and branches upon transplanting, including the stripping of bark from the tree. This Assessment is only a surface visual inspection and does not dig around the corm of the Joshua's to verify existing dead trunks, insect damage, fungus, size or shape of the corm because of the potential damage to the corm and roots by digging at the base of the trunk will cause the introduction of hazardous conditions (insect damage and fungus) to the tree, which will kill the tree.

At the time of relocation activities, soil at the base of trunk of the Joshua's will be removed and inspected and those Joshua's presently proposed for transplanting in this report will not be relocated because of several reasons. First, severe damage from the use of the tree spade to the corm (corm is below the surface of the ground and will be inspected at that time) because the corm is unusually large or odd shaped below the surface of the ground. Secondly, some Joshua's will have fungus and insect damage also not visually seen and are in the process of dying and the transplanting will increase the speed of the Joshua falling. This process allows the corm to be visually reviewed for proposed transplanting and potential damage assessment upon transplanting at the latest possible time. The primary reason is the size of the corm and the associated root bulb for larger trees and fungus or insects for smaller trees.

NOTE FOR HISTORIC FIRE AREAS:

Typically, in an historic burn area (50 years to 150 years), many of the existing living Joshua's in these historic burn areas are Fire Clones from the original Joshua's that was living during these less infrequent and less intense historic fires with only native plant species providing the fuel for the fire. These original Joshua's survived these historical fires but tend to be completed killed by the recent fires where the invasive grass species create a hotter, more intense, and more frequent wildland fire pattern. The long-term effects from the historic fire create larger diameter trunks and corms (underground Bulb and roots of the tree), which cause a significantly wider trunk and wider diameter root system just underneath (one to two feet) the surface of the ground at the base of each Joshua's. The clones create the situation that the long-term prospects of survival after transplanting for some of these trees is negatively affected because the tree spade damages the corm and root ball or the weight of the remaining tree trunks damages or splits the corm allowing beetles to enter the tree and the tree will die.

During the transplanting activities, all the healthy Joshua's that are not transplanted will have a corm too large or odd shaped or are too large of a tree for the Tree Spade to move. The historical fire ultimately creates larger diameter trunks and corms, while the actual height of the tree is not the deciding factor for transplanting. Transplanting young healthy Joshua's with an excellent chance of survival is the goal.

Joshua's under 3 feet (Seedlings) have been observed during the last 40 years to grow in abundance on fire Sites due to the lack of squirrels eating the seeds and competing vegetation for moisture/rainfall events, other than the dominate and invasive plant species. Also, this area of the Mojave Desert typically receives annual rainfall (also dew and snow), and twice the average rainfall than most other areas of the Mojave Desert and this allows the Joshua's to grow at least twice the rate. Therefore a 3-foot Joshua will likely be at least half of the age, or younger , than other Joshua's located farther into the Mojave Desert that also must survive and experience multi-year droughts and half the moisture on an average and normalized basis. Therefore, most of these Victor Valley Joshua seedlings will not survive the stress of the relocation process during the first 5 years of relocation.

FINDINGS AND CONCLUSIONS – continued

PROPOSED MITIGATION AND RECOMMENDATIONS FOR BIOLOGICAL RESOURCES:

BIO 1. A "Pre-Construction Survey" shall be conducted by the Project Wildlife Biologist for the presence or absence of the following:

- **American badger** within 14 days prior to commencement of construction activities. The survey shall be conducted in areas of suitable habitat for American badger, which includes desert scrub and Joshua tree habitats. If potential dens are observed and avoidance is feasible, the following buffer distances shall be established prior to construction activities:
  - American badger potential den: 50 feet
  - American badger active den: 100 feet
  - American badger natal den: 500 feet

- **Desert kit fox** dens within 14 days prior to commencement of construction activities. The survey shall be conducted in areas of suitable habitat for Desert kit fox, which includes desert scrub and Joshua tree habitats. If potential dens are observed and avoidance is feasible, the following buffer distances shall be established prior to construction activities:
  - Desert kit fox potential den: 50 feet
  - Desert kit fox active den: 100 feet
  - Desert kit fox natal den: 500 feet

American badger and Desert kit fox: If avoidance of the potential dens is not feasible, the following measures are recommended to avoid potential adverse effects:

- If the Project Wildlife Biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel and collapse them to prevent American badgers or Desert kit foxes from re-using them during construction.
- If the Project Wildlife Biologist determines that potential dens may be active, an onsite passive relocation program shall be implemented. This program shall consist of excluding American badgers or Desert kit foxes from occupied burrows by installation of one-way doors at burrow entrances and monitoring of the burrow for seven days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the Project Wildlife Biologist determines that American badgers and Desert kit foxes have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel and collapsed to prevent re-use during construction.
- During fencing and grading activities daily monitoring reports shall be prepared by the Project Wildlife Biologist for "Monitoring" purposes. The Project Wildlife Biologist shall prepare a summary "Monitoring Report" for documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The "Monitoring Report " shall also provide information on the overall activities conducted related to biological resources, including the Environmental Awareness.

Training and Education Program, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to LOCAL AGENCY and relevant resource agencies, as applicable on a monthly basis along with copies of all survey reports.

BIO 2. **Burrowing owls:** The Project Wildlife Biologist shall conduct a Pre-Construction Survey of the impact areas to confirm presence or absence of Burrowing owls no more than 30 days prior to construction activities. The survey methodology will be consistent with the methods outlined in the CDFW Staff Report on Burrowing Owl Mitigation (2012). If no active breeding or wintering owls are identified, no further mitigation is required.

If Burrowing owls are detected onsite, the following mitigation measures shall be implemented in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (2012):

- The Project Wildlife Biologist or a Certified Wildlife Biologist shall be onsite during initial ground -disturbing activities in potential burrowing owl habitat.
- No ground-disturbing activities shall be permitted within a buffer no less than 200 meters (660 feet) from an active burrow, depending on the level of disturbance, unless otherwise authorized by CDFW. Occupied burrows will not be disturbed during the nesting season (February 1 to August 31), unless the Project Wildlife Biologist verifies through noninvasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.
- During the nonbreeding (winter) season (September 1 to January 31), ground- disturbing work can proceed near active burrows as long as the work occurs no closer than 50 meters (165 feet) from the burrow, depending on the level of disturbance, and the site is not directly affected by the project activity. A smaller buffer may be established in consultation with CDFW. If active winter burrows are found that would be directly affected by ground-disturbing activities, owls can be excluded from winter burrows according to recommendations made in the Staff Report on Burrowing Owl Mitigation (2012).
- Burrowing owls shall not be excluded from burrows unless or until a Burrowing Owl Exclusion Plan is developed based on the recommendations made in the Staff Report on Burrowing Owl Mitigation (2012). The plan shall include, at a minimum:
    - Confirmation by site surveillance that the burrow(s) is empty of Burrowing owls and other species;
    - Type of scope to be used and appropriate timing of scoping;
    - Occupancy factors to look for and what shall guide determination of vacancy and excavation timing;
    - Methods for burrow excavation;
    - Removal of other potential owl burrow surrogates or refugia onsite;
    - Methods for photographic documentation of the excavation and closure of the burrow;
    - Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;
    - Methods for assuring the impacted site shall continually be made inhospitable to Burrowing owls and fossorial mammals;
- Compensatory mitigation for lost breeding and/or wintering habitat shall be implemented onsite or off-site through implementation of a Mitigation Land Management Plan based on the Staff Report on Burrowing Owl Mitigation (CDFW 2012) guidance. The plan shall include the following components, at a minimum;
    - Temporarily disturbed habitat on the project site shall be restored, if feasible, to pre-project conditions, including de-compacting soil and revegetation;
    - Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and burrowing owl impacted are replaced based on a site-specific analysis which includes conservation of similar vegetation communities comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals;

  - Mitigation land acreage shall not exceed the size of the project site;
- Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a CDFW approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits.
- Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism such as an endowment.
- Mitigation lands shall be on, adjacent or proximate to the impact site where possible and where habitat is sufficient to support Burrowing owls present.

BIO 3. **Avian Nesting Season**: If project activities must occur during the avian nesting season (February to September), a survey for active nests must be conducted by the Project Wildlife Biologist, one to two weeks prior to the activities. If active nests are identified and present onsite, clearing and construction within 50-250 feet of the nest, depending on the species involved (50 feet for common urban-adapted native birds and up to 250 feet for raptors), shall be postponed until the nest is vacated and juveniles have fledged, and there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest site shall be established in the field by the Project Wildlife Biologist, with flagging and stakes or construction fencing. Construction personnel shall be instructed regarding the ecological sensitivity of the fenced area. If construction must occur within this buffer, it shall be conducted at the discretion of the Project Wildlife Biologist to monitor to assure that indirect impacts to nesting birds are avoided.

BIO 4. **Sensitive Wildlife Species:** If sensitive wildlife species such as the Desert Tortoise or the Mohave Ground Squirrel, Desert kit fox, or nesting birds are detected on the project site during future surveys or assessments or construction, all work on-site shall stop immediately and mitigation measures shall be required to reduce impact to a level of less than significant. Any proposed mitigation measures shall be determined by the Project Wildlife Biologist or a Certified Wildlife Biologist and be approved by Local Agency, and the California Department of Fish and Wildlife, as applicable, in accordance with typical best management practices.

BIO 5. **Biological Clearance Letter:** Should grading or construction commence after February 1st, 2021, a new biological survey shall be filed with the Local Agency as a Biological Clearance Letter to determine the presence or absence of endangered species on the site. Said survey shall be filed with the Local Agency or designee prior to issuance of a grading permit. The survey shall be valid for a period of one year or as specifically delineated above.

BIO 6. **"Protected Native Desert Trees, Plants and Cacti Clearance Letter":** Verify current status of California or Federal requirements are met at the time of construction permitting for Joshua trees.

DISCUSSION: According to the Site's Biological Baseline Assessment, "{4} Joshua's and no other alive and healthy native desert trees, or plants or cacti" are located on the site. Regardless, many times the timeframe between consulting reports preparation, legal jurisdictional approvals, final design plans approvals and actual construction activities may range from a minimum of 1-year to 10-years and young trees, plants and cacti may have started growing on the Site. Therefore, a "Clearance Letter" will be required prior to any construction permitting to verify absence/presence and that all Protected Native Desert Trees, Plants and Cacti Report and Plan shall be prepared in compliance with the then-current Federal and State and City's ordinances for protected native desert trees, plants and cacti preservation and submitted to the City prior to the issuance of a grading permit for any portion of the project. **NOTE:** The California Fish and Game Commission agreed on September 22, 2020 to accept a petition protecting western Joshua trees *(Y. Brevifolia)* under the state's Endangered Species Act, granting legal protection to the iconic trees for at least a year. Joshua trees are threatened by climate change, fire and habitat destruction from urban sprawl and development in their Mojave Desert home.

ADDENDA

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RandyAICP@gmail.com

TABLE 1

DISCUSSION: "Summary Form for Clearances and Pre-Construction Surveys"

(Desert Tortoise, Mohave Ground Squirrel, Burrowing Owl and other birds, and Protected Desert Plants)

in the Assessment Report is a "Summary" of both the Site and the Zone of Influence

and is "In-Lieu" of the original clearance form, created for "Tortoises Only" from the

"Form for Presence-or-Absence and Clearance Surveys"
Desert Tortoise Handbook 1992

This form was modified from the original Desert Tortoise Handbook 1992
"Form for Presence-or-Absence and Clearance Surveys"

to include additional CDFW requested species (e.g. Burrowing owls, Sharp-shinned hawks, LeConte's thrasher and Loggerhead shrikes and other raptors {owls and hawks} and the American badger and Desert kit fox were added in 2019) and Protected Native Desert Plants per discussions and review of the "Modified Form" for all relevant CDFW species and plants with Rebecca Jones, Environmental Scientist ,CDFW in 2000/01 era during the preparation of CEQA Initial Studies and Biological Baseline Assessments being prepared for numerous new and expanding Victor Valley school sites [e.g. San Bernardino County Superintendent of Schools (SBCSS), Victor Elementary School District (VESD), Victor Valley Union High School District (VVUHSD) and Adelanto School District (ASD)]. The CEQA Initial Studies and Biological Assessments were being prepared and processed by BCA Engineering Corp. and ALTEC Land Planning, [Randy Coleman, AICP, PE, PLS, REA] and reviewed and approved by the CDFW, reviewed and approved San Bernardino County Superintendent of Schools (Superintendent Herb Fischer era), California Department of Education (CDE), Office of Public School Construction (OPSC) and approved and funded by the State Allocation Board (SAB) [This included regular school students, charter school students and county special education students] and ultimately built and presently occupied by new students at all of these school sites throughout the Victor Valley.

Also, in this timeframe, two Federal Environmental Assessments, inclusive of Biological Baseline Assessments and Native Plant Reports for various "Protected Native Desert Plant and Endangered Species" were completed and approved for two Federally funded water system replacement projects in economically disadvantaged communities by the USDA – Rural Development in San Bernardino County areas.

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TABLE NO. 1 - SITE SURVEY SUMMARY

See Photographs attached.
Date: 09/26/2020
Transect Nos. As described
Recorder: Randy Coleman, CA, CWB and SCP
Quad Name/Scale: Adelanto (2018):24,000
¼ ¼ Sec. SE and SW

Community Northwest Quadrant - City of Victorville
County & State: San Bernardino/California
Project Name: The RCH Group
APN: 3128-621-04-0000
Township: 5 North Range: 5 West Section: 10

Desert Tortoise, Mojave Ground Squirrel, Burrowing Owl and other birds, and Protected Desert Plants Summary Form for Clearances and Pre-Construction Surveys (Modified per CDFW – R. Jones in 2001)

Rainfall/30 days: 0.0/- in. Cloud Cover: 0-10% Wind Speed: 0-10mph %Slope High: 2° Low: 0° Aspect: Level Northeast
Elevation: 3026± to 3011± Landform (e.g., mesa, bajada, wash): Mesa Soils: Bryman loamy sands – Younger Alluvial
Vegetation: Dominant Perennials: Joshua Tree, Creosote & Sagebrush sp.
Other Species: Indian Ricegrass
Dominant Annuals: Desert Trumpet, , Schismus and Filaree, Bladder Sage
Other Species: Bromus - Schismus – Brassica – scattered on Site and Salsola tragus sp., at disturbed areas
Adjacent Land Use: Vacant Desert and nearby Schools and Residential &uses
Within 1 km.: Highway 395, partially built Regional and Neighborhood commercial, residential uses and Vacant Desert
Soil: Similar Vegetation: Similar Average Daily Min. /Max. Air Temp 30/17 °C 1cm 27/18 °C Surface 32/17 °C

TOTAL NUMBER FOUND ON-SITE, INCLUDING EASEMENTS AND RIGHT-OF-WAYS

Desert Tortoise	Mojave Ground Squirrel	American Badger	Desert kit fox	Burrowing Owl	Other Owls	LeConte's Thrasher	Sharp-shinned Hawk	Other Hawks	Loggerhead Shrike
0	0	0[E]		0[E]	0	0	0	0	0

Barrel Cactus	Beavertail "Short-Joint"	Calico	Century Plant	Cholla var.	Creosote 10' ring	Joshua Trees	Mesquite	Mojave Yucca	Parry Nolina	Smoke Tree
0	[0]	0	0	0	0	{4}	0	/0/	0	0

Total Number of Tortoise Cover Sites

Corrected Sign	Live Tortoises		Pallet or Burrow	Den		Scat	Shell Remains
	Adult	Juvenile		Active	Inactive		Adult/Juvenile/Unknown
0	0	0	0	0	0	0	A=0 J=0 M=0 F=0 Unknown = 0

Total Number of Tortoise Evidence

Tracks	Eggshell Fragments	Drinking Sites	Courtship Ring	Other	Total Number of Neotoma Middens
0	0	0	0	0	0 Found and 0 Remains

Evidence of Human Disturbance – Number Seen

HOV/Tire Tracks	Human	Dog or Coyote	Trash	Interior Trails	Shotgun Shells	Grading	Ravens	Other
[A]	[A][F]	[D]	[A]	[A]	[A]	[B]	15+[C]	SCATTERED RESIDENTIAL USES AND APPURTENT USES IN AREA

Comments:
[A] DENOTES FOUND OR SCATTERED THROUGHOUT GENERAL AREA
[B] 20± FEET ALONG PERIMETER OF BOUNDARY (PAVED ON SOUTH)
[C] OBSERVED RAVENS ON SITE AND ON RECENT AND NEARBY CONSTRUCTION SITES
[D] OBSERVED LARGE DOGS NEARBY AT RESIDENCES, COYOTES IN GENERAL AREA NUMEROUS TIMES (1964-2020) AND TO THE NORTH DURING BUFFER TRANSECTS
[E] BURROWING OWLS ARE SCATTERED THROUGHOUT THE VICTOR VALLEY
[F] HOMELESS HAVE MOVED FROM NEAR WALMART TO SCATTERED AREAS

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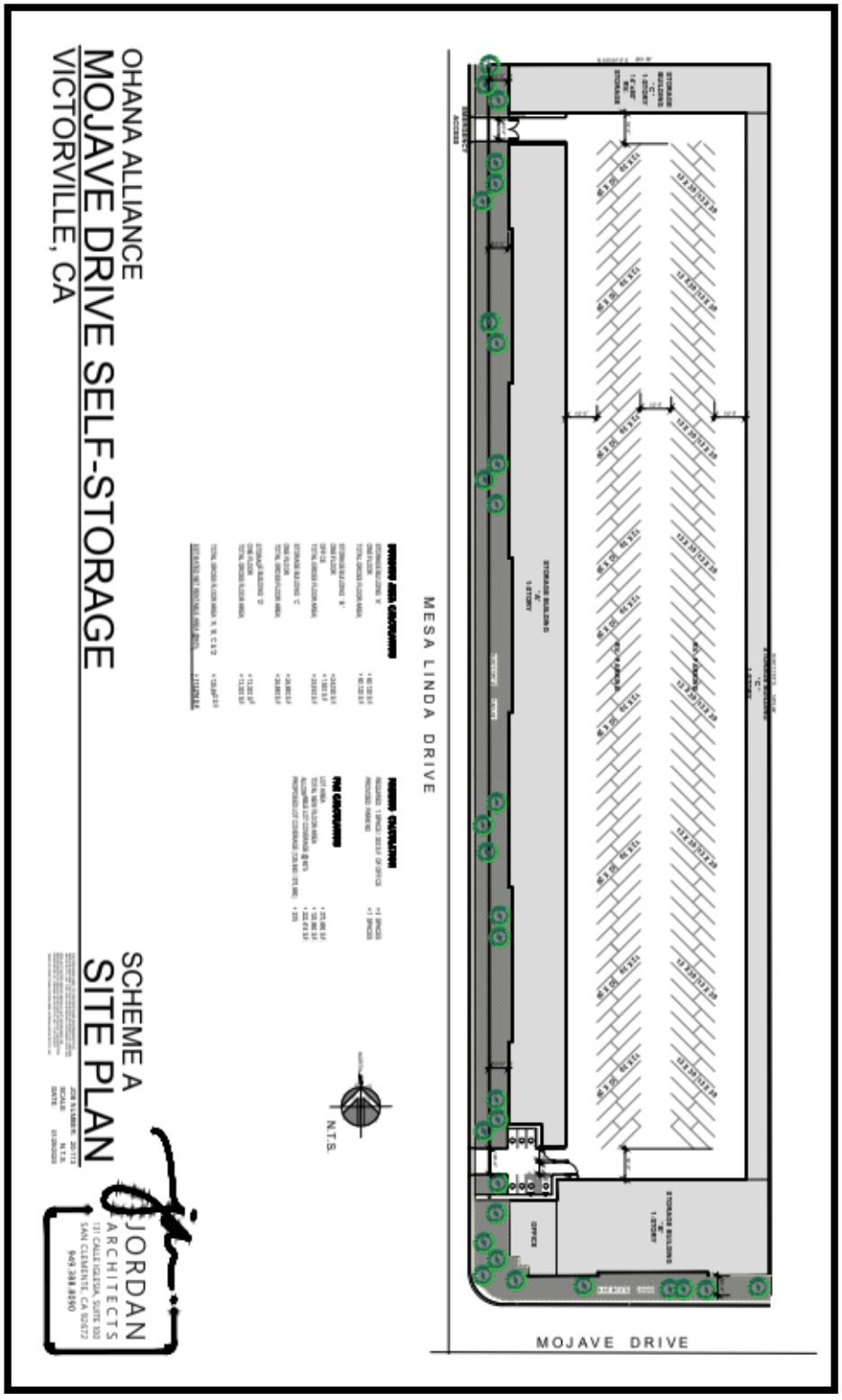
PRELIMINARY PROVIDED SITE PLAN



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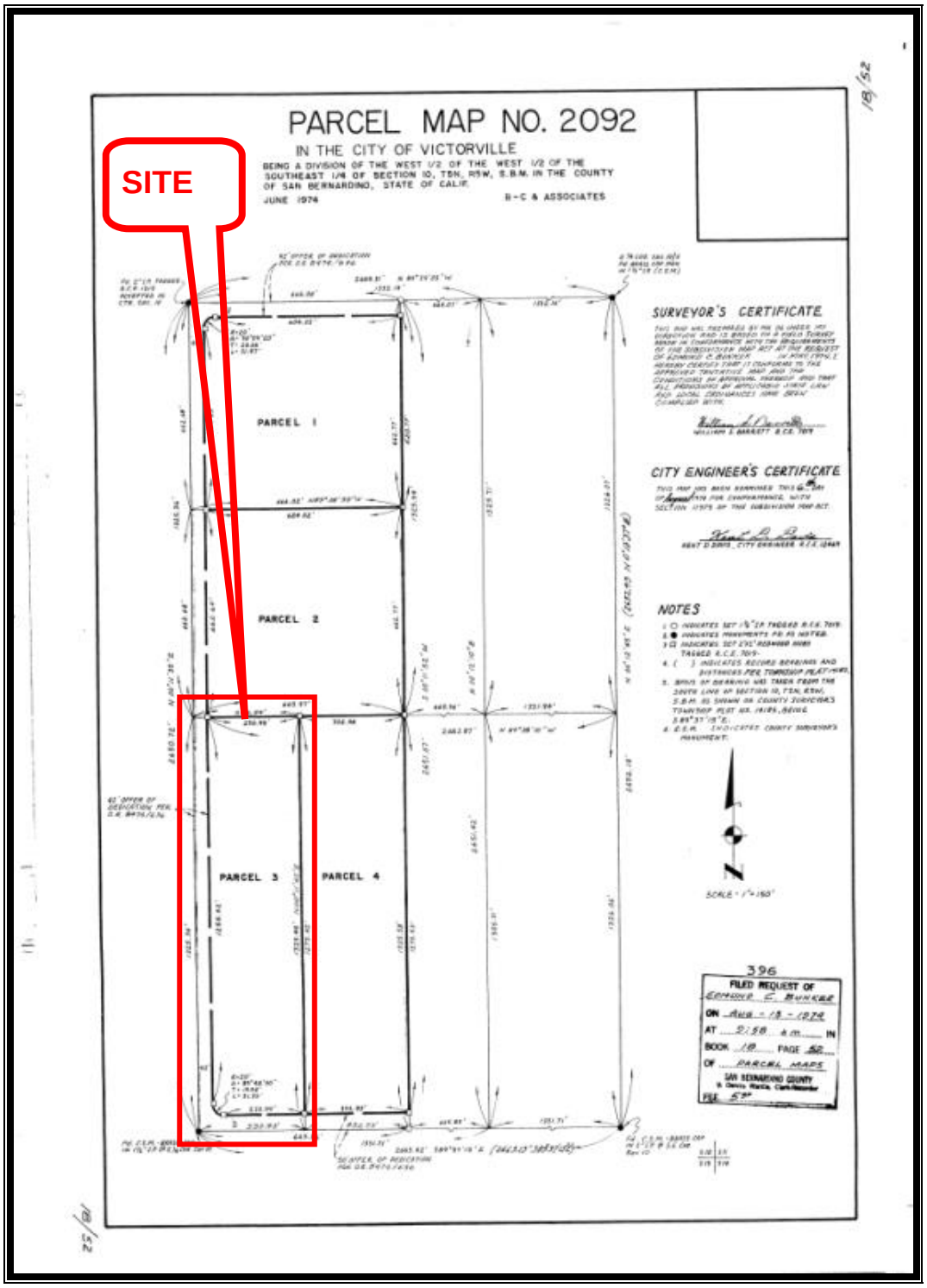
PARCEL MAP (1 Parcel)



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DISCUSSION: PROTECTED NATIVE DESERT TREES, PLANTS & CACTI

APN 3128-621-04-0000

SPECIAL INSPECTOR
IS REQUIRED, IF APPLICABLE

The Special Inspector or a representative under the direction of the Special Inspector shall be on-Site continuously to oversee all transplanting activities.

A "Native Desert Plant Permit" for any and all transplanting activities shall be paid and completed prior to any transplanting activities, if applicable.

All Native Desert Plants (Joshua Trees Only) are shown on this map for identification.

AT THE TIME OF TRANSPLANITNG ACTIVITIES, A RELOCATION PLAN WILL BE COMPLETED, IF APPLICABLE.

The transplanting activities shall be completed prior to grubbing or grading permit issuance, unless approved in writing by the Local Agency.

Native Desert Trees, Plants and Cactus to be transplanted shall be flagged with orange survey ribbon prior to soil disturbance (4' lath for Beavertail).

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

SEPTEMBER 27, 2020
DATE

NOTES:

NDC – Denotes **N**atural **D**rainage **C**ourse(s) are shown on following Parcel Map and a Final Hydrology Study and Final Site Plan will be determined prior to Planning Commission approval.

SEE FOLLOWING PAGE FOR SITE PLAN

AND

AND PROTECTED PLANT LOCATION

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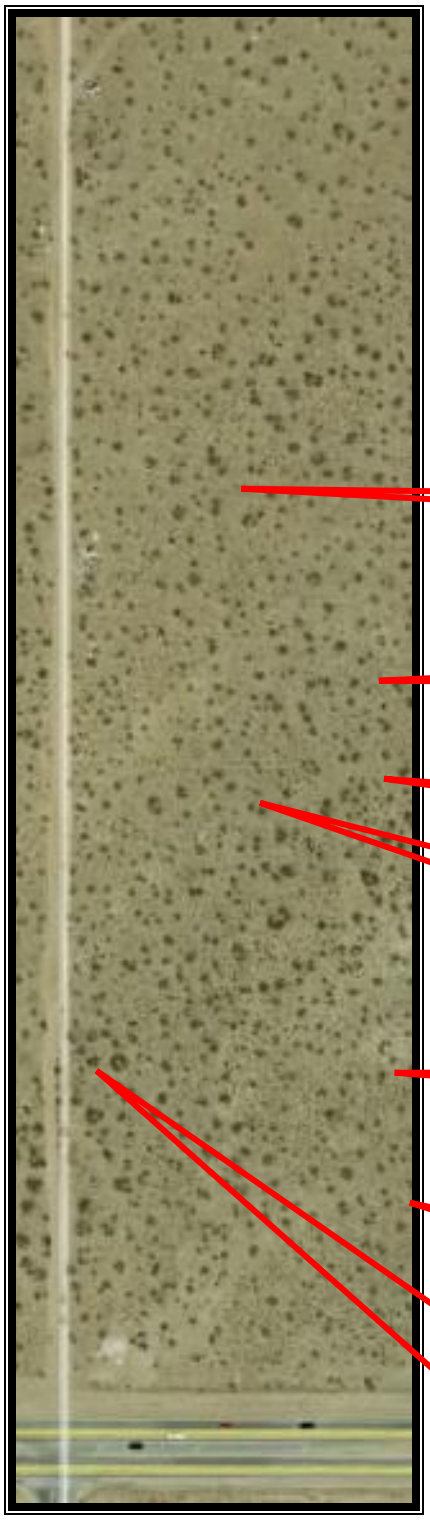
PROTECTED NATIVE DESERT TREES, PLANTS & CACTI LOCATION MAP



4 Alive Joshua Trees are located in the Site
2 Dead Joshua Trees are located in the Site
2 Dead Cholla Cactus are located on the Site
NO other Protected Native Desert Trees
NO other Protected Native Desert Plants
NO other Protected Native Desert Cactus

#5 Joshua Tree standing Dead Trunk

#4 Joshua Tree 2 Ft Seedling

#2 Joshua Tree 25 Ft Rodent Eaten Bark

#6 Joshua Tree – Dead on ground

#1 Joshua Tree 20 Ft Rodent Eaten Bark

#1 and #2 Cholla sp. – Dying/Dead

#3 Joshua Tree 2 Ft Seedling

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TABLE NO. 2 – Native Desert Trees, Plants & Cacti List

APN 3128-621-04-0000

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.) hand. Relocating any potential Native Desert Trees, Plants and Cacti is not planned at this time. The proposed project layout and Landscaping Plans are subject to change prior to development. During the actual relocation process, a review of construction drawings and review of individual 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 *Joshua Tree* issues:

Binj	Basal Injury	***DS***	*Dead Standing*	***L***	*Lean/Leaning*
B/I	*Beetle and insect damage*	**Du**	Dusty	***LB***	*Low Branches*
CoD	CoDominate Trunk(s)	***F***	*Fungus damage*	***MC***	*Multiple Clones*
Cr	Crowded	**G**	Grainery Tree	***OB***	*Over Balanced*
Db	Dieback	**Hf**	Health Fair	***OM***	*Over Mature*
Dbh	Diameter at 4.5’	**Hok**	Health OK	***OT***	*Over Tall*
DC	*Dependent Clone*	**Hp**	Health Poor	***S***	*Seedling (<2’)*
DK	Decay	**IB**	Included Bark	**Tcrk**	Torsional Crack
DL	*Down Live*	**InjO/N**	Injury – Old/N	**Dleg**	Dogleg

POINT NUMBER	ISSUES	HEIGHT FEET±	HEALTH	PROTECT IN PLACE OR	
				RELOCATE	DISPOSE OF
1	Joshua Tree /Rodent Damage	22	Health-Poor/Binj		YES
2	Joshua Tree/Rodent Damage	25	Health-Poor/Binj		YES
3	Joshua Tree Seedling	2	Health-Fair	YES	
4	Joshua Tree Seedling	2	Health-Fair	YES	
5	Joshua Tree		Dead		YES
6	Joshua Tree		Dead		YES
1	Cholla sp.		Dying/Dead		YES
2	Cholla sp.		Dying/Dead		YES

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EXECUTIVE SUMMARY
MOHAVE GROUND SQUIRREL HABITAT SURVEY

PROJECT NAME:	Mojave Mini-Storage
LOCATION – GENERAL:	Site is along the North side of Mojave Drive, East of Mesa Linda Avenue, North of Highway 18, East of Highway 395, and West of Interstate 15, located within the northwestern sector of the City of Victorville.
ASSESSOR'S PARCEL NUMBERS:	3128-621-04-0000
LAT/LONG COORDINATES OF SITE:	Supplied by Randy Coleman, PLS, PE, NWC: LAT: N34º 16'56" LONG: W117º 23'27" 3015± NEC: LAT: N34º 31'56" LONG: W117º 23'21" 3011± SWC: LAT: N34º 31'43" LONG: W117º 23'36" 3026± SEC: LAT: N34º 31'43" LONG: W117º 23'22" 3023±
LEGAL DESCRIPTION:	PARCEL 3 of PARCEL MAP 2092, PMB 18/52 in the Southeast ¼ of Section 10, Township 5 North, Range 5 West, S.B.M., City of Victorville, County of San Bernardino, State of California
QUAD MAP/SERIES:	ADELANTO (Updated 2018)
SOILS DESCRIPTION:	Bryman: Sandy Loams [alluvial deposits-Gravels, sands, clay, and silt]
ACREAGE OF PROJECT SITE:	8.52±Acres (Gross)
ACREAGE SURVEYED:	8.52±Acres (Gross)
POTENTIAL MGS HABITAT:	0 Acres
PRESENCE OF CRITICAL FOOD:	WINTERFAT - Krascheninnikovia lanata was not present on the Site which is a critical food resource during drought events.
FLOOD (FEMA) HAZARD:	No blue line shown on USGS Quad sheet and no significant natural drainage courses affects the site. The nearest USGS Blue-Line Streams are to the west just over 1 mile in the City of Adelanto and just over 1 mile to the east.
DATE SURVEYED:	09/26/2020
SURVEY CONDUCTED BY:	R. Coleman, CDFW-Scientific Colleting Permit #11586, CWB #43090, Certified Arborist & Tree Risk Assessment Qualified #8024A
ELEVATION:	3026± to 3011±
SLOPE AND ASPECT:	1.1±% and the Site is basically Level - Northeast and drains ultimately to the Mojave River by both Natural Drainage Courses in desert areas and manmade improvements through development and road crossings.

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CUMULATIVE HABITAT IMPACT EVALUATION FORM TABLE for CIR for Mojave Ground Squirrel Information				
LOCATION	T 5 North	R 5 West	Section 10	Portion SE1/4
DATE	09/26/2020			
SITE	TRAPPED: ☐		NOT TRAPPED: ☒	
OVERALL CIR	38	0= No Impact - 4=heavily impacted		
CIR RANGE	0-40			
RANKING FACTORS	0-4			

Land Use Impacts	**1 –2 –3 –4**	**COMMENTS:**
OFF HIGHWAY VEHICLE USE (OHV)	☐☐☐☒	Presence of numerous tracks on site
HORSE OR FOOT ACTIVITY	☐☒☐☐	Presence of numerous recent tracks on site
DOG (COYOTE) ACTIVITY	☐☐☒☐	Presence of Dogs/Coyotes in immediate area
ROADS THROUGH SITE	☐☐☐☒	Perimeter roads and interior road and many trails
URBANIZATION	☐☐☐☒	Continuing suburban growth in area
GARBAGE DUMPING	☐☐☐☒	Some dumping throughout site, but mainly perimeter with construction and yard debris
MINING ACTIVITY	☒☐☐☐	No recent or past activities
UTILITIES	☐☐☒☐	500 kV transmission lines east of Site.
GRAZING AND/OR AGRICULTURE	☐☐☒☐	Sheep grazing in this area until the 1980's.
SHRUB DISTURBANCE	☐☐☒☐	Perimeter roads and altered drainage patterns

AVERAGE TOGETHER THE FIVE MOST DISTURBED FACTORS, THEN MULTIPLY BY 10 FOR THE CUMULATIVE IMPACT RATING (CIR)

CIR = [19/5 * 10] A **CIR rating of 38** is low quality habitat for MGS and does not appear to support prime MSG habitat based upon the Cumulative Impact Rating (CIR) for MSG.	Site has habitat fragmentation from California Aqueduct and the City of Victorville continued suburban and freeway growth and the general growth of the Victor Valley. Growth in the Palmdale area from Los Angeles County to the west. The Victor Valley area is in the extreme southeastern sector of the known MGS historical range of the species. The closest known MGS are located beyond the Federal Prison Complex at Victorville and Southern California Logistics Airport (in use since early 1940's]

California Department of Fish & Wildlife has developed a system, which evaluates and ranks existing human disturbance on a Site and in adjacent areas. The system was developed to help standardize mitigation requirements for loss or disturbance of Mohave ground squirrel habitat (Clark, D. 1991).

Ten land use disturbances were evaluated, including OHV use, horse and foot traffic, dog activity, roads through the Site, urbanization, garbage dumping, mining activity, utilities, grazing and/or agriculture, and shrub disturbance. Each of these disturbances was ranked on a scale of 0 to 4, with 0 indicating no disturbance and 4 indicating a significant disturbance. Following evaluation of these disturbance categories, the five highest factors, which were averaged and multiplied by ten to determine the cumulative impact rating (CIR).

In addition, information was also gathered on the habitat occurring throughout the Site. Data gathered as part of the Mojave ground squirrel analysis included shrub density, species list (shrubs, grasses, and forbs), soil description, presence of desert pavement, rocks, and bounders, slope and aspect, and elevation.

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GENERAL HABITAT DESCRIPTION TABLE for CIR for Mojave Ground Squirrel Information			
SHRUB DENSITY ESTIMATE	High: ☐	Medium: ☐	Low: ☒
	Estimate % of each per 1/4 section: _____		
SHRUB SPECIES DIVERSITY	>6: ☒	3-5: ☐	1-2: ☐
PRESENCE OF ANNUALS	A: ☐	B: ☐	C: ☒
PRESENCE OF PERENNIAL GRASSES	A: ☐	B: ☐	C: ☒
PRESENCE OF DESERT PAVEMENT	Estimate coverage: 0%	% Cover: none	
SOILS DESCRIPTION	Bryman: Sandy Loams		
PERCENT ROCKS AND BOULDERS PRESENT	None – No large rocks or boulders observed on the Site.		
PRESENCE OF WASHES	There is a relative minor amount of stormwater affecting the Site, there is no major stormwater crossing the Site (see Pictures). The City of Victorville & previous San Bernardino County Master Plan of Drainage is always being reviewed due to higher density development issues. Conflicts from stormwaters and a variety of issues are observed from a Civil Engineering Design perspective.		
PERIODIC FLOODING	Typical Sheet flows. A formal Hydrology Study has not been reviewed with the preparation of the Assessment.		
SLOPE AND ASPECT	Slope of 1.1±%	To the northeast and ultimately to the Mojave River	
ELEVATION	3026± to 3011±		
Other factors of consideration:			
TYPE OF GRAZING ALLOTMENT	Perennial: ☐	Ephemeral: ☒ Historically Sheep & Cattle	
PROXIMITY TO KNOWN MGS POPULATIONS	USGS Quad: Victorville: T6N, R5W, Section#11 and Section#8		
TYPE OF LOCAL ZONING	A mix of native and disturbed desert along perimeter, new Wal-Mart, and Commercial Centers along Highways 18 and 395 to the south and west, single family scattered in the general area, proposed regional and neighborhood commercial at Mojave Drive and Highway 395, newer schools and parks in the general area.		

COMMENTS:

1-This was completed for informational purposes only and not for habitat assessment, a Cumulative Human Impact Evaluation (CHIE) was prepared, and the Cumulative Impact Rating (CIR) number is 38 indicating a high-level of human disturbance. The results is also discussed in Addenda-Table 2.
2-Site has localized and regional habitat fragmentation.
3-Adjacent development in all directions, new roads, utilities, upstream manmade altered drainage patterns (i.e. California Aqueduct) are affecting this site with new development in the general area

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REGIONAL LOCATION MAP

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VICTOR VALLEY LOCATION MAP

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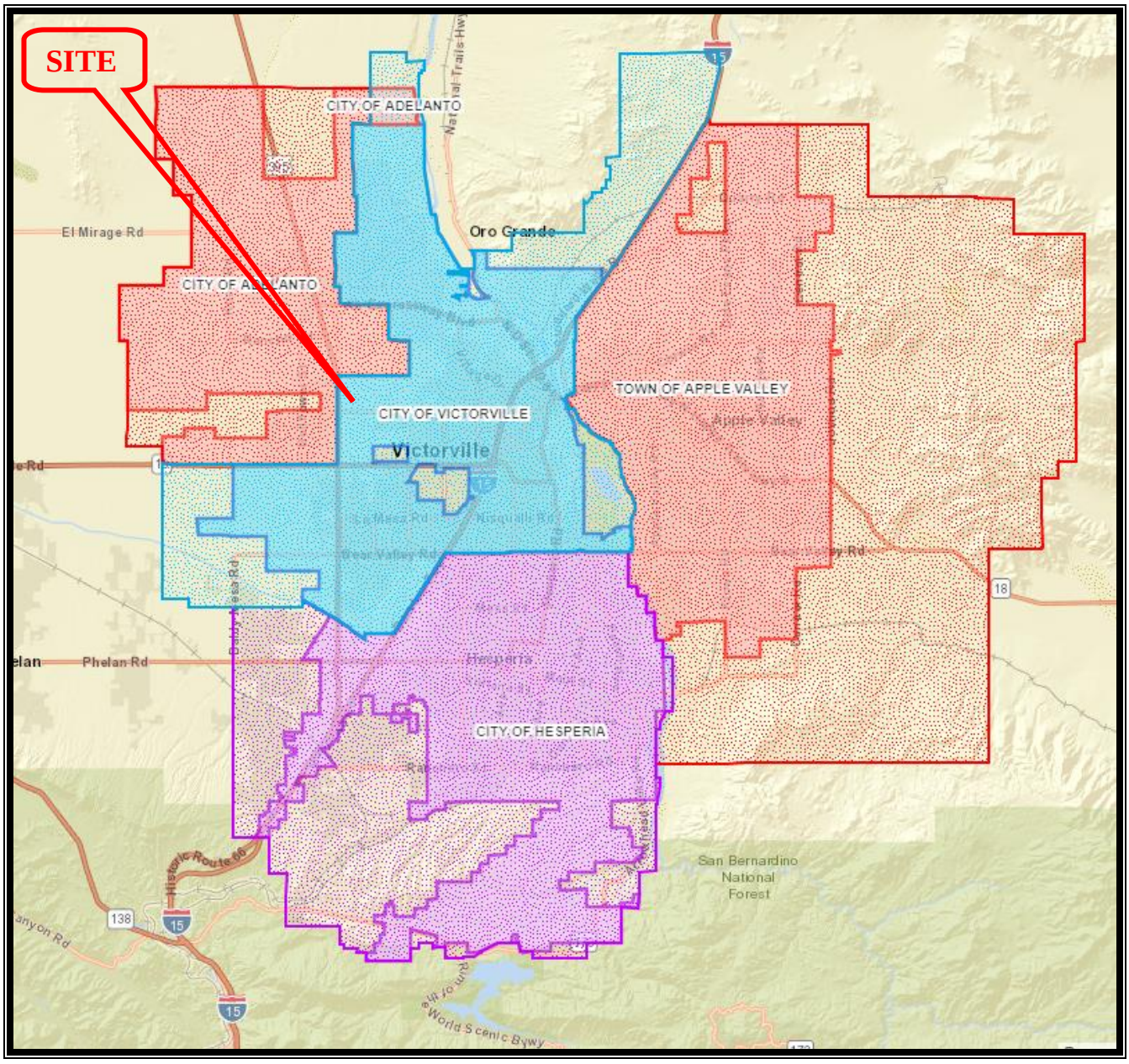
CITY LOCATION MAP
(SPHERE OF INFLUENCE SHADED)



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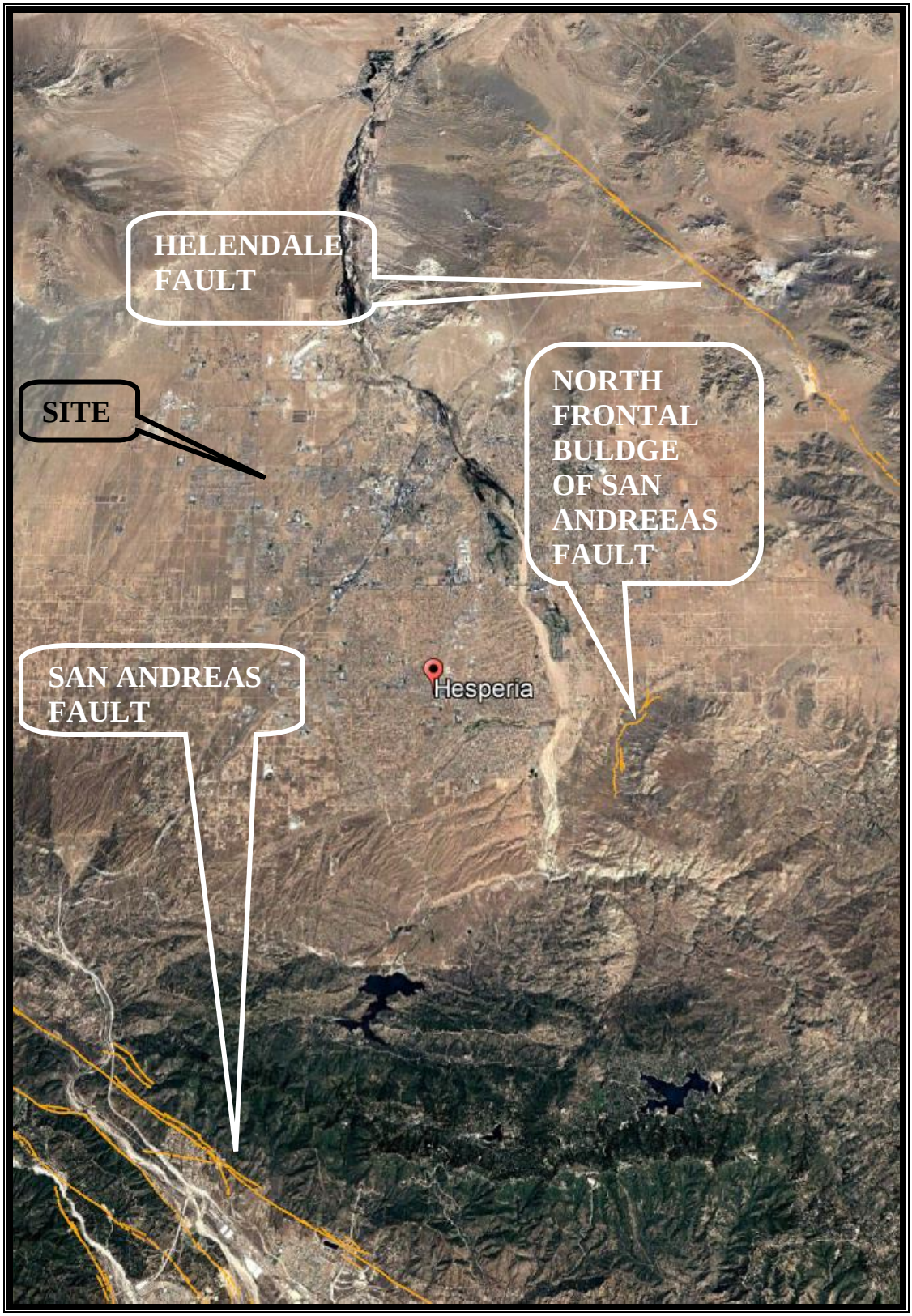
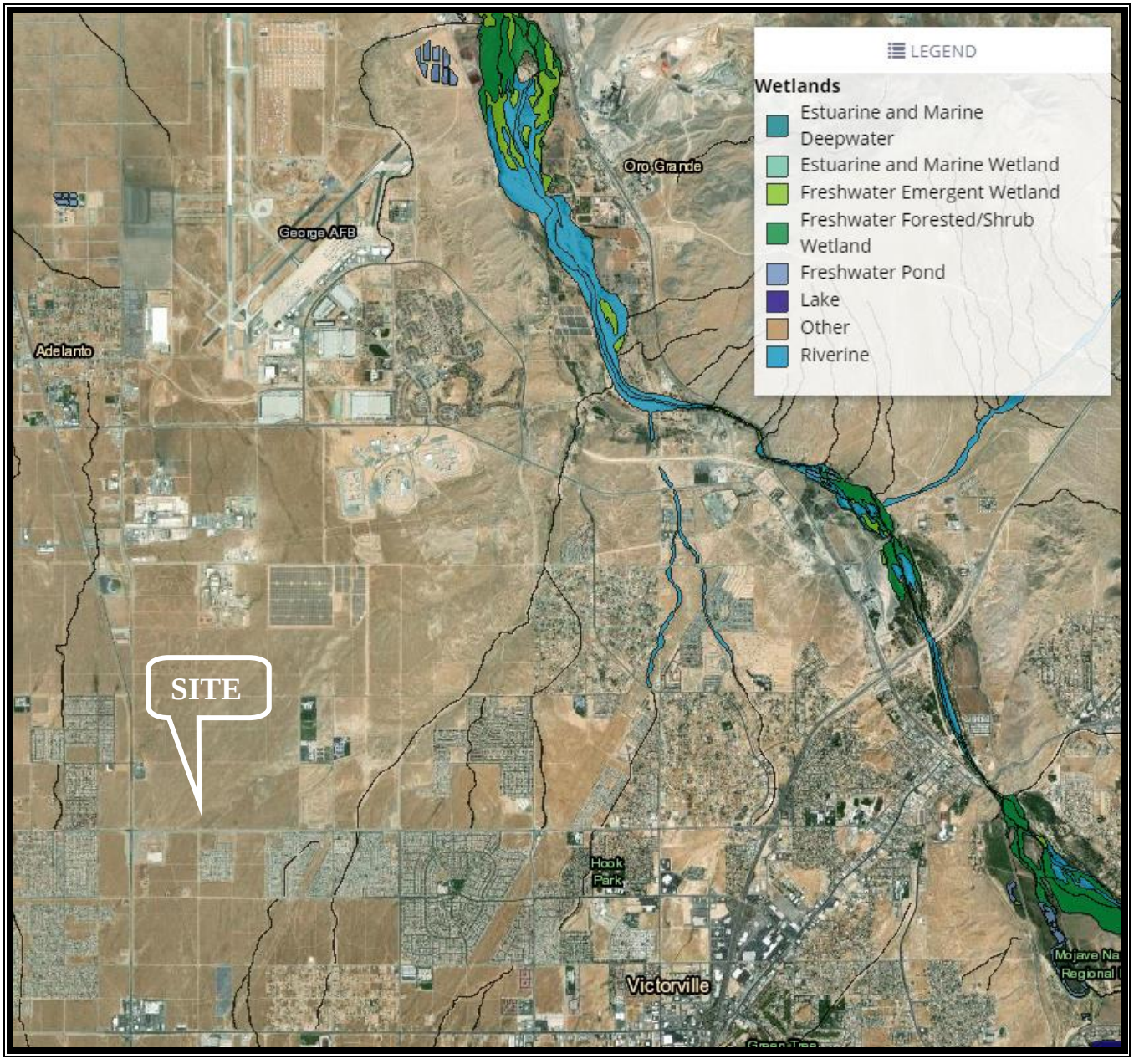
EARTHQUAKE FAULTS -NEAREST SIGNIFICANT FAULTS



NATIONAL WETLANDS INVENTORY

Surface Waters and Wetlands

https://www.fws.gov/wetlands/Data/Mapper.html



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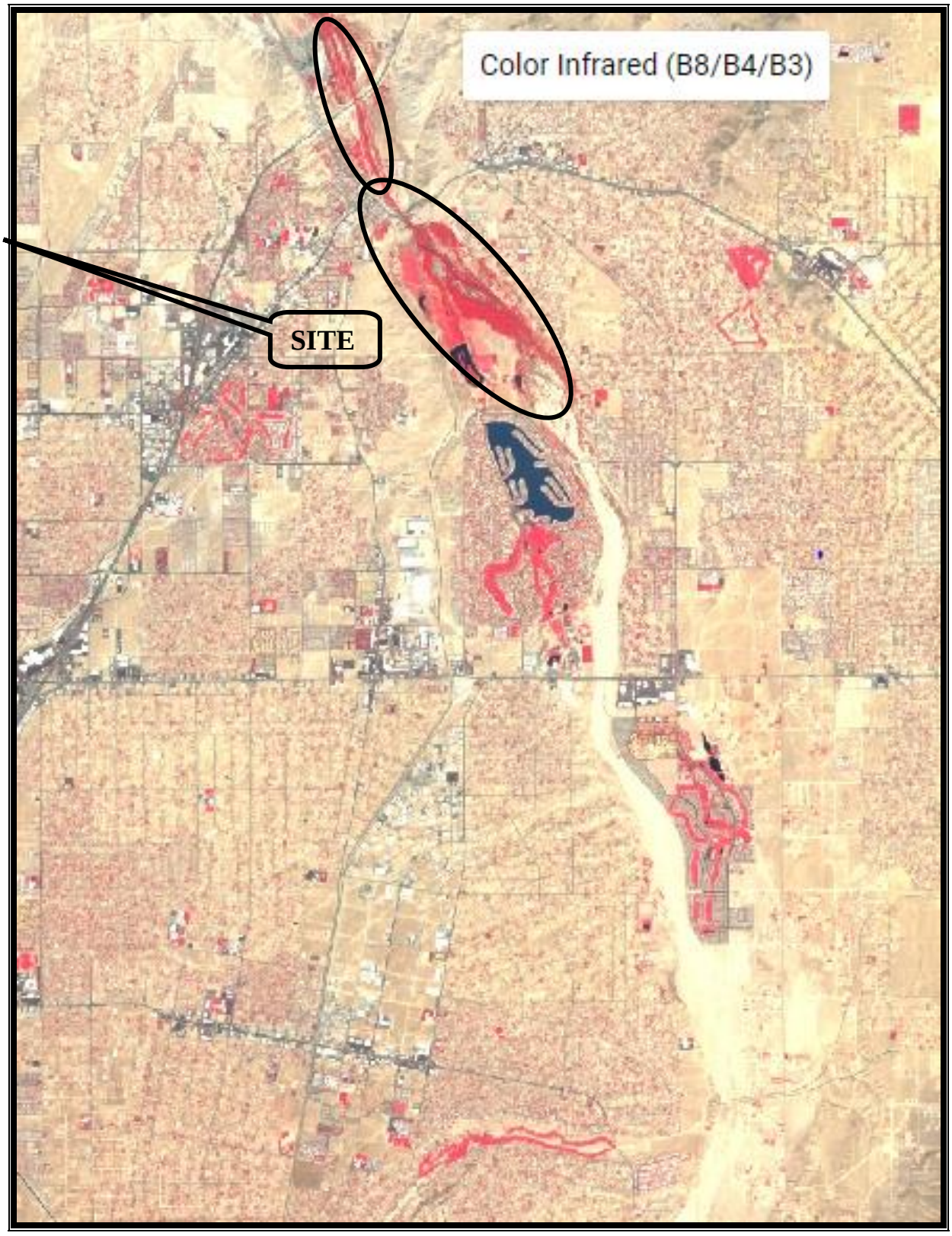
HISTORICAL NATURAL & MANMADE RIPARIAN AREA



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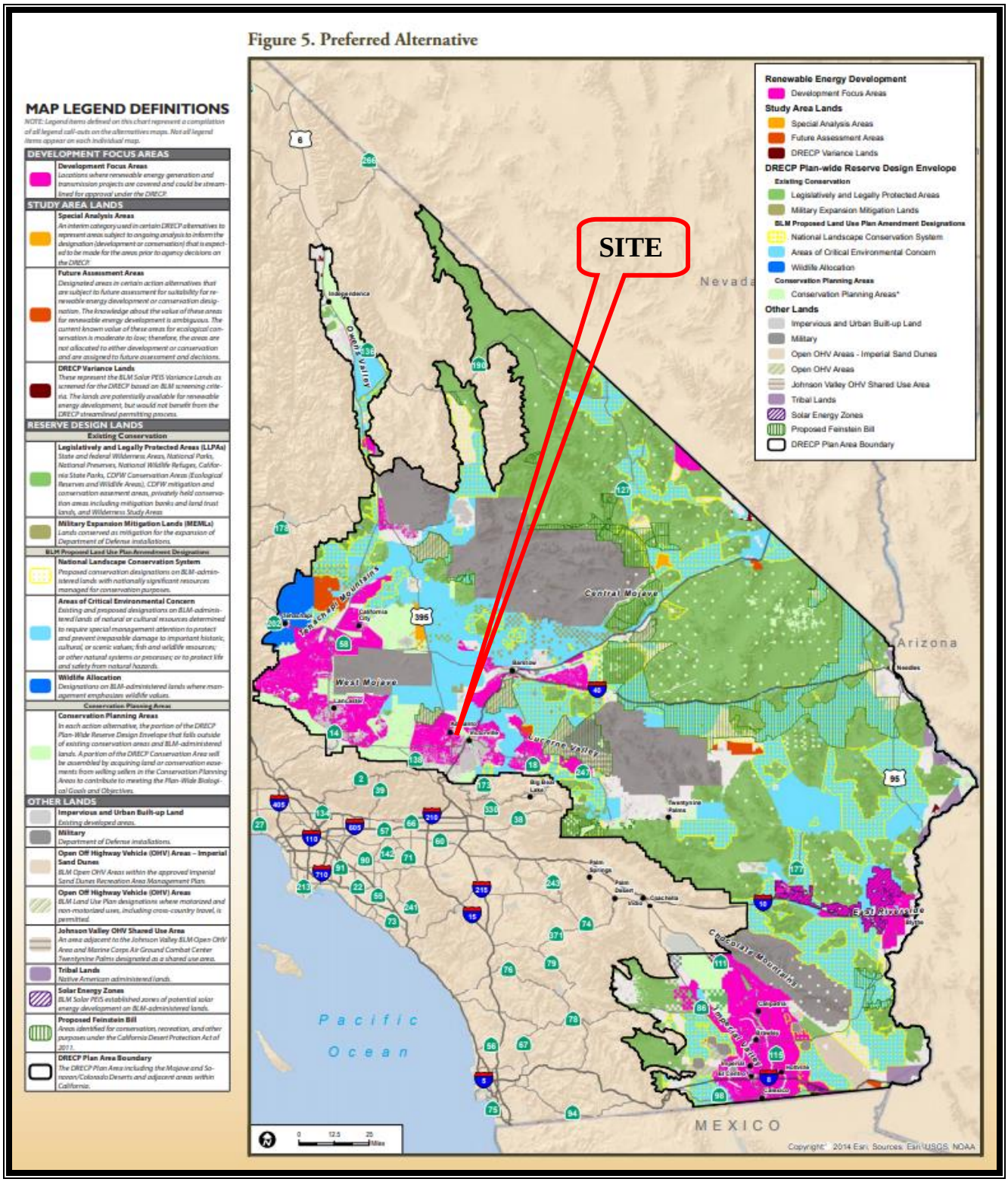
DRAFT DESERT RENEWABLE ENERGY CONSERVATION PLAN
DRECP – INFORMATION



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NEIGHBORHOOD (2018) AERIAL MAP

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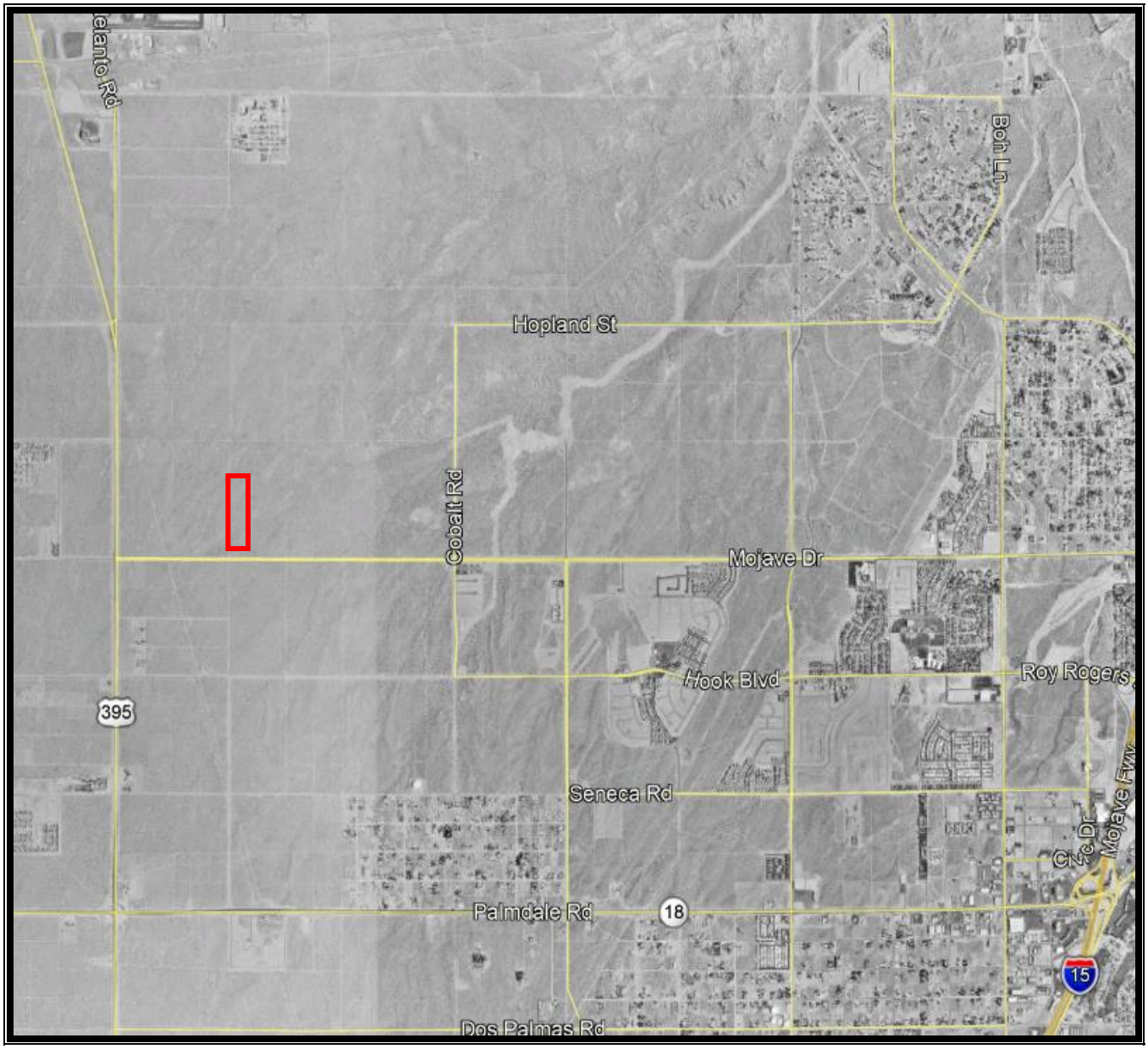
NEIGHBORHOOD HISTORICAL (1994) AERIAL MAP



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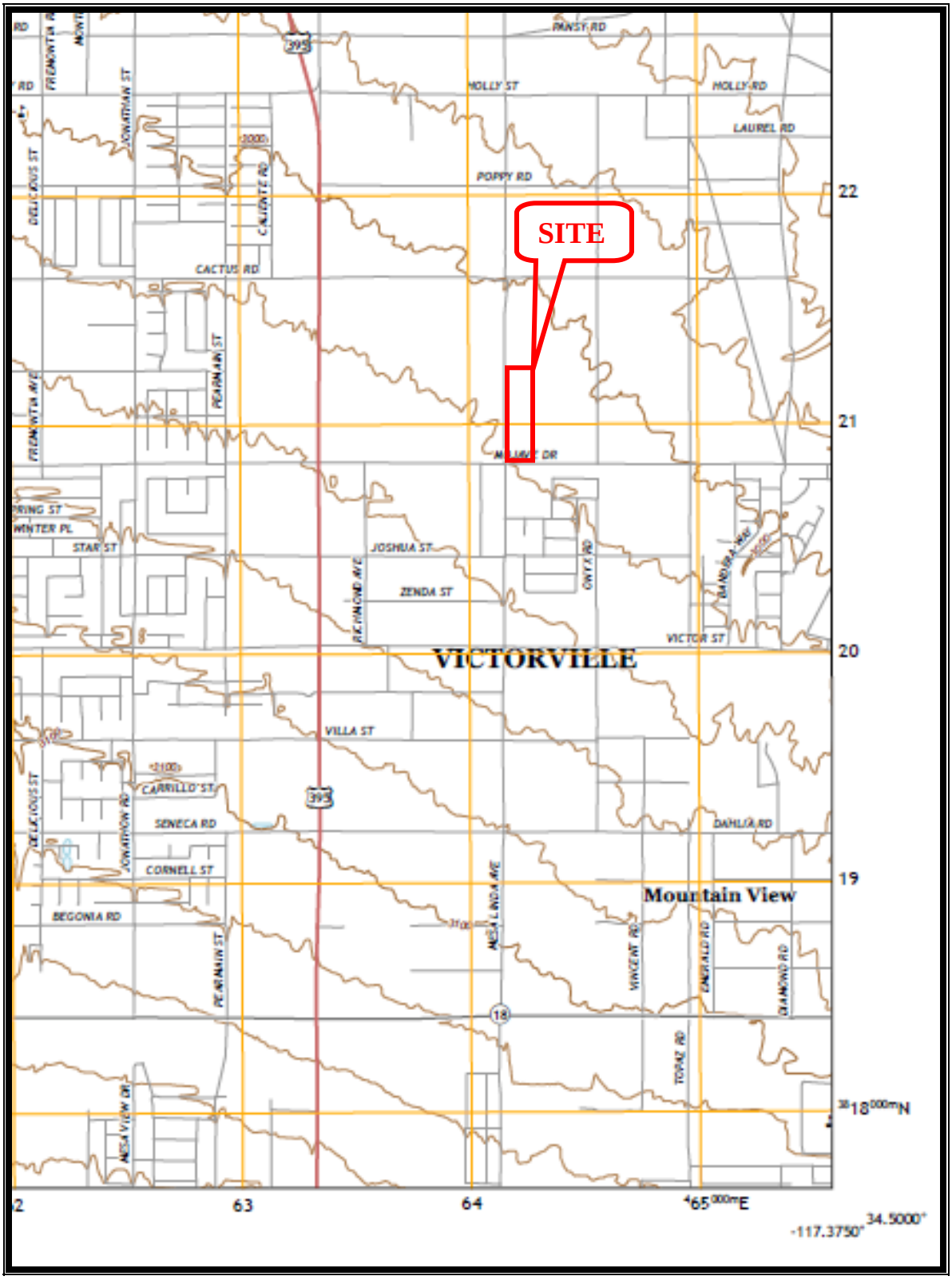
USGS QUAD SHEET (ADELANTO 2018)



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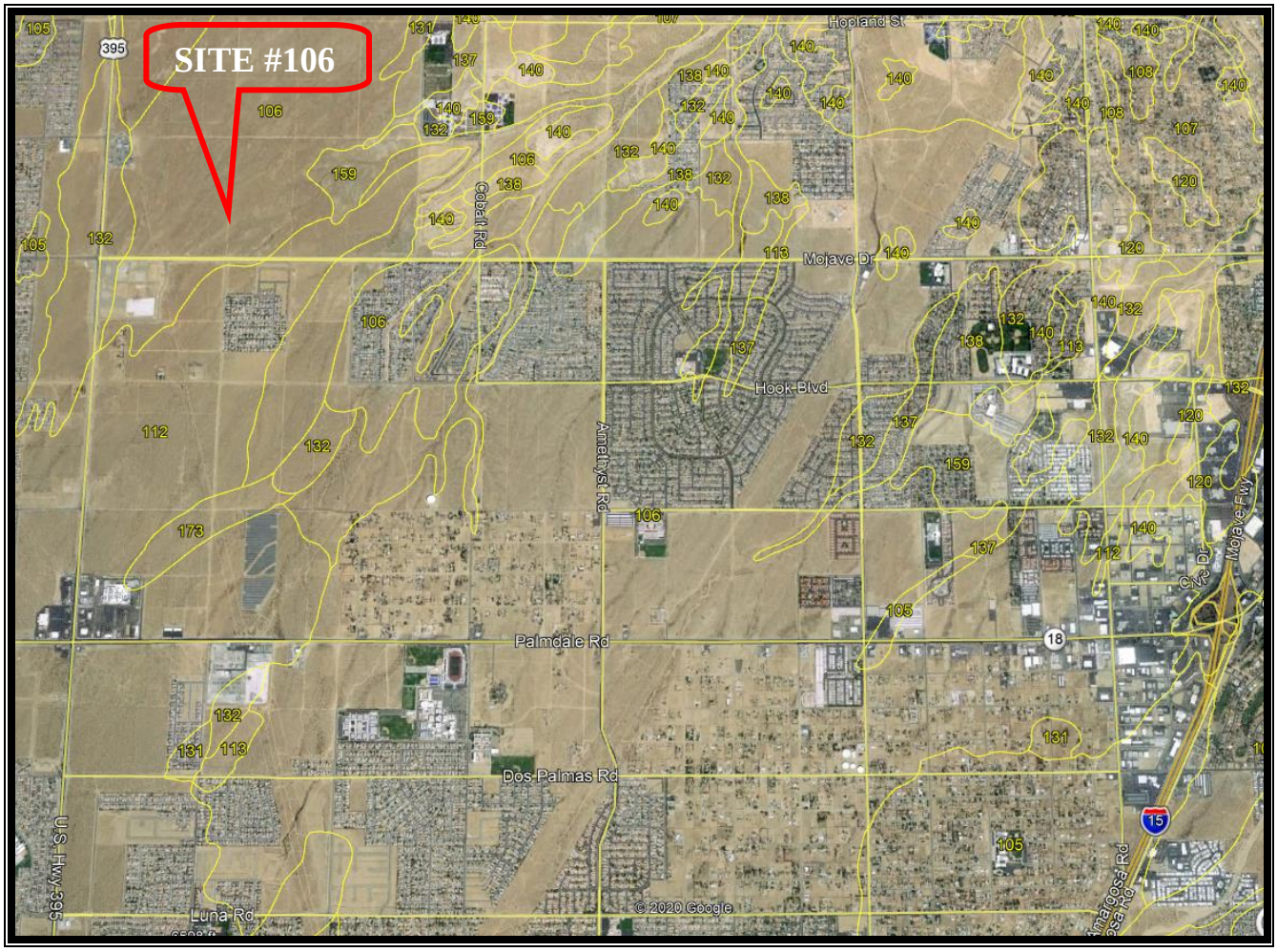
SOIL MAP INFORMATION



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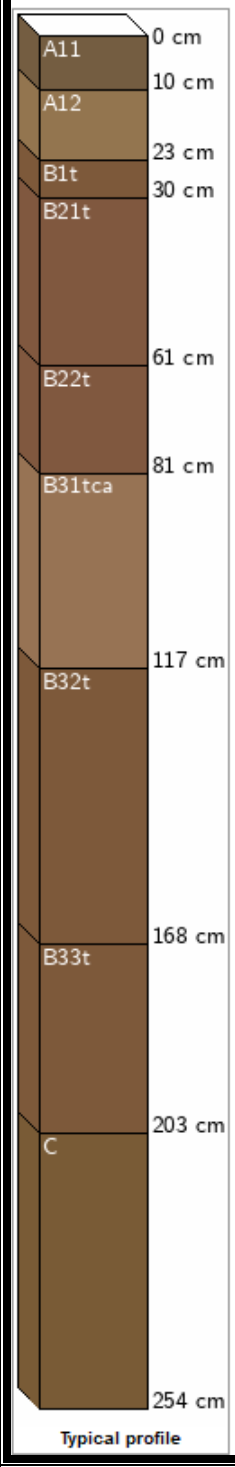
SOILS INFORMATION CAN INDICATE A VARIETY OF PLANTS & ANIMALS



Soil Taxonomy

Order:	*Aridisols*
Suborder:	*Argids [Map of Suborders]*
Greatgroup:	*Haplargids*
Subgroup:	*Typic Haplargids*
Family:	*Fine-loamy, mixed, thermic Typic Haplargids*
Soil Series:	*Bryman (Link to OSD) (Soil Series Explorer)*
Data:	*[Lab Data]*
Raw Data	*Component All Horizons*

Land Classification

Storie Index	*Grade 1 - Excellent (83.1)*
Land Capability Class **[non-irrigated]**	*7-e*
Land Capability Class **[irrigated]**	*2-e*
Ecological Site Description	*Sandy*
Forage Suitability Group	*n/a*

Soil Suitability Ratings

Waste Related	*Engineering*
Urban/Recreational	*Irrigation*
Wildlife	*Runoff*

Hydraulic and Erosion Ratings

Wind Erodibility Group	*2*
Wind Erodibility Index	*134*
T Erosion Factor	*5*
Runoff	
Drainage	*Well drained*
Hydric Rating / Hydrologic Group	*No [Group C]*
Parent Material:	*alluvium derived from granite sources*
Total Plant Available Water (cm):	*20.99*

Geomorphology

Landform	*fan remnants [Backslope]*

Plants

Symbol	Scientific Name	Common Name	Range Prod.
LADI2	*Larrea divaricata*	*creasote bush*	*15*
ACHY	*Achnatherum hymenoides*	*Indian ricegrass*	*10*
BRRU2	*Bromus rubens*	*red brome*	*10*
GRSP	*Grayia spinosa*	*spiny hopsage*	*5*
SCBA	*Schismus barbatus*	*Mediterranean schismus*	*5*
SEFLD	*Senecio flaccidus var. douglasii*	*Douglas' ragwort*	*5*
ACSP12	*Achnatherum speciosum*	*desert needlegrass*	*5*
ACAMP	*Acamptopappus*	*goldenhead*	*5*
YUBR	*Yucca brevifolia*	*Joshua tree*	*5*
AMDU2	*Ambrosia dumosa*	*white bursage*	*5*
ERODI	*Erodium*	*stork's bill*	*5*

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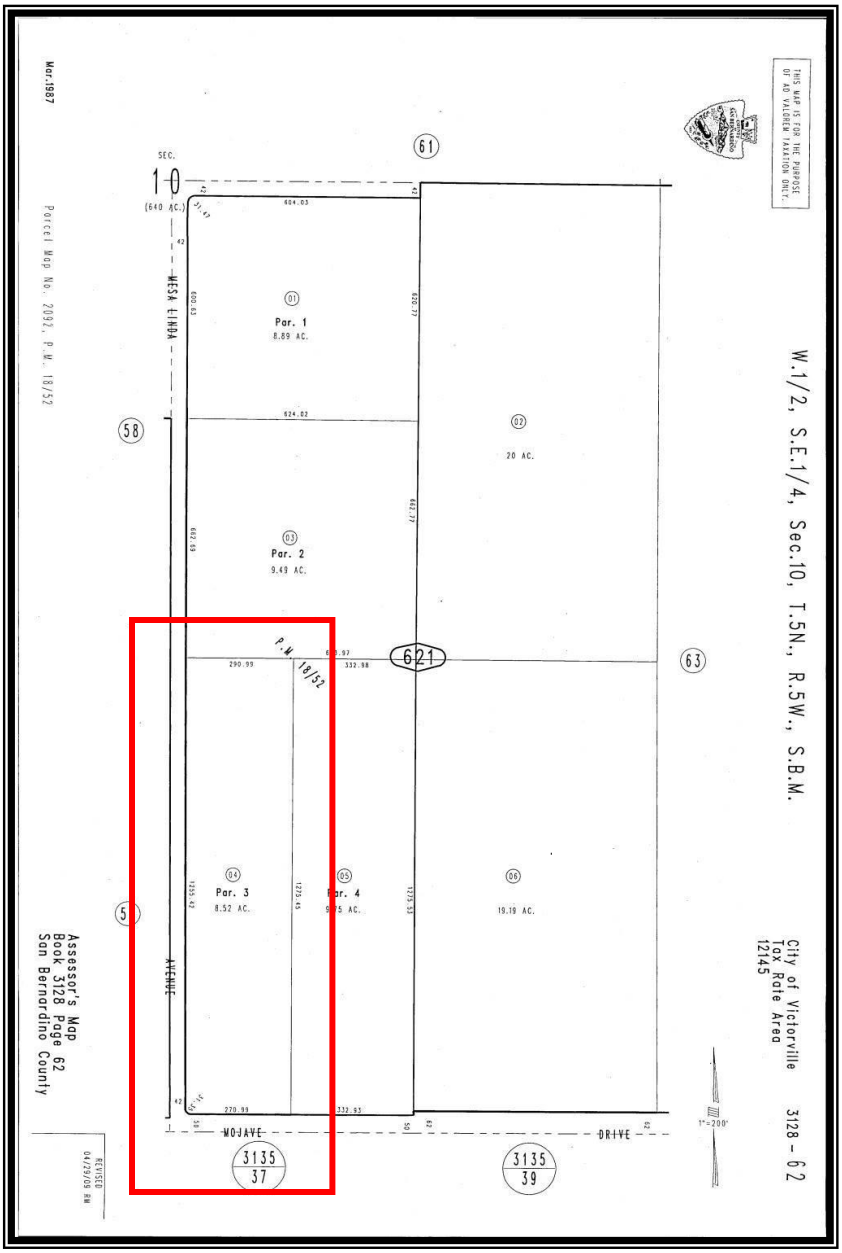
ASSESSOR'S PARCEL MAP

– APN 3128-621-04 0000



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ASSESSOR'S PARCEL MAP INFORMATION
– APN 3128-621-04 0000

Property Information			
Owner(s):	Ohana Alliance Group Inc	**Mailing Address:**	5740 71st St, Sacramento, CA 95824
Owner Phone:	Unknown	**Property Address:**	Mojave Rd, Victorville, CA 92394
Vesting Type:	N/A	**Alt. APN:**	3128-621-04-0000
County:	San Bernardino	**APN:**	3128-621-04-0000
Map Coord:	315-B6	**Census Tract:**	009110
Lot#:		**Block:**	
Subdivision:		**Tract:**	
Legal:	Parcel Map 2092 Parcel 3		

Property Characteristics					
Use:	Vacant Land (Nec)	**Year Built / Eff. :**	/	**Sq. Ft. :**	
Zoning:		**Lot Size Ac / Sq Ft:**	8.52 / 371131	**# of Units:**	

Sale and Loan Information					
Sale / Rec Date:	12/05/2019 / 12/20/2019	***$/Sq. Ft.:**	$395,000	**2nd Mtg.:**	
Sale Price:	$498,000	**1st Loan:**		**Prior Sale Amt:**	$395,000
Doc No.:	000000470834	**Loan Type:**		**Prior Sale Date:**	01/18/2005
Doc Type:	Grant Deed	**Transfer Date:**	12/20/2019	**Prior Doc No.:**	88030
Seller:	Got Storage Inc	**Lender:**		**Prior Doc Type:**	Deed

*$/Sq. Ft. is a calculation of Sale Price divided by Sq. Feet.

Tax Information			
Imp Value:		**Exemption Type:**	
Land Value:	$498,000	**Tax Year / Area:**	2019 / 012-145
Total Value:	$498,000	**Tax Value:**	
Total Tax Amt:	$6,889.51	**Improved:**	

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PICTURES OF SITE

JOSHUA TREE #1 AND UPCLOSE OF BASAL INJURY FROM RODENTS

JOSHUA TREE #2 AND BASAL INJURY FROM RODENTS

JOSHUA TREE #3 - HEALTHY TO BE RELOCATED IN PLANTER AREA

JOSHUA TREE #4 - HEALTHY TO BE RELOCATED IN PLANTER AREA

JOHUA TREE #5 – DEAD STANDING

JOSHUA TREE CLONE ABOUT 50 FEET EAST OF SITE (OFF-SITE)

CHOLLA #1 – DYING/DEAD

CHOLLA #1 – DYING/DEAD

ANT HILL – NO OBSERVABLE INTERESTING ARTIFACTS (TYPICAL)

SWC: EXISTING RIGHT OF WAY AT MOJAVE AND MESA LINDA (2x2 HUB)

SWC: LOOKING EAST ALONG MOJAVE DRIVE

SWC: LOOKING NORTH ALONG MESA LINDA DIRT ROAD

SWC: LOOKING NORTHWEST AT VACANT DESERT TO WEST

SWC: LOOKING NORTHEAST ACROSS SITE

SEC: LOOKING WEST ALONG MOJAVE DRIVE

SEC: LOOKING NORTHWEST ACROSS SITE

SEC: LOOKING NORTHEAST AT VACANT DESERT

SEC: LOOKING SOUTH AT NEARBY SUBDIVISIONS

NWC: LOOKING SOUTHEAST ACROSS SITE

NEC: LOOKING SOUTH-SOUTHWEST ACROSS SITE

NEC: LOOKING WEST-SOUTHWEST ACROSS SITE

NEC AREA WITH OFF-HIGHWAY VEHICULAR TRACKS

NWC: LOOKING SOUTH ALONG MESA LINDA

NWC: LOOKING SOUTHEAST ACROSS SITE

NWC: LOOKING EAST

REFERENCES

ENVIRONMENTAL & LAW ORIENTED

California Department of Fish & Game – Jones, Rebecca, Environmental Scientist. Telephone conversation on Sept. 27, 2001 & Jan., Feb, Sept & Nov. 2002, Mar. 2003, and other conversations over the years.

California Environmental Quality Act–2004 Statutes and Guidelines, Association of Environmental Professional, 280 pp

California Native Plant Protection Act of 1977 (Section 1904)

California Native Plant Society (CNPS) (Smith and Berg, 1988)

San Bernardino County Development Code: All activities for all transplanting shall conform to Section 811.0415, 811.0420 & amendments, and all other applicable portions of the local jurisdiction or according to the Local Agency.

Endangered Species Act Conference, (CLE International, Attorney continuing education, 1994)

Mojave River Ground Water Basins Investigations, by the Department of Water Resources, 1964

Soil Survey of San Bernardino County – Mojave River Area, by United States Department of Agriculture, Soil Conservation Service, US Government Printing Office: 1985-167-S/20004

Bass, Ronald E., et. al. 1996. **CEQA Deskbook**, Solano Press Books, Point Arena, CA 368 pp

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CURRICULUM VITAE – RESUME OVERVIEW of RANDOLPH J. COLEMAN

B. S. Degree: University of California - IRVINE - CIVIL & *Environmental* ENGINEERING, 1980

Environmental Impact Report Analysis	*Adv. Transportation Modeling*	*Environmental Economics*	*Planning Theory*
Public Health Aspects of Pollution	*Adv. Wastewater Treatment*	*Noise and Vibration Control*	*Air Pollution Control*

STATE LICENSES AND PROFESSIONAL DESIGNATIONS ATTAINED (STATE, YEAR, #, EXPIRES, ETC.):

Licensed Real Estate Broker: CA-1982 (#00836955 – Expires 10/28/23)
Registered Civil Engineer: CA-1983 (#36293 – Exp. 06/30/22), AZ (#16969 – Exp. 6/30/23), NV (#7441-12/31/2020)
Licensed Land Surveyor: CA-1984 (#5413 – Exp. 09/30/22) and NV (#7441- 12/21/2020)
Contractor's License: CA-1988 [Engineering "A" & Building "B" CA (No current license or RMO)
Registered Environmental Assessor: CA-1994 (DTSC & Cal/EPA #05791 – Program ended in 2013)
Water Treatment Operator T2 #32553 (2010) & **Water Operator D2#38614** (2011): CA. DPH (Passed D3/T3 tests)
Qualified SWPPP Developer/Practitioner: (CASQA-2011 - #21595 - Exp. 10/30/2021)
Certified Arborist #WE-8024A –Life Member-International Society of Arboriculture (2007 -Exp.-12/2021)
Certified Wildlife Biologist - Life Member of Western Chapter/The Wildlife Society (2010 -Exp.-12/2021)
AICP-CEP- American Institute of Certified Planners-Certified Environmental Planner (1994 - #9892– Exp. 12/2021)

CDP -	Certified Downtown Professional (2008 - California Downtown Association)
SR/WA -	Senior Member, International Right of Way Association (#4462-Retired)
Builder - MIRM -	Member, Institute of Residential Marketing (non-member of NAHB-09/30/1992 #none)
CAAHS [SHMS] -	Certified Active Adult Housing Specialist (2009) [Senior Housing Marketing/Management Specialist]
CAPS/CGP -	Certified Aging-in-Place Specialist (2008) / Certified Green Professional (2008)
CSP -	Certified Hew Home Sales Professional (1992)
R.E. Broker - CCIM -	Certified Commercial-Investment Member (1989 - #3167)
ALC -	Accredited Land Consultant (1994 - #772 – Retired – Realtors Land Institute)
CRB -	Certified Real Estate Brokerage Manager (1987 - #8514)
CRS/CSP -	Certified Residential Specialist (1992 - #19091)/
GAA -	General Accredited Appraiser (#492)
GRI -	Graduate of the Realtors Institute (1987 - #8483)

CERTIFICATES, RECENT CONFERENCES, MEMBERSHIP, ENVIRONMENTAL & BIOLOGICAL TRAINING:
UC Riverside Certificates: Geographical Information Systems Certificate (24+ units) & Global Positioning Systems (21.5 units)
Desert Ecology, Field Ecology, Botany, Geology & Ornithology Certificates – UC Riverside (21/21/12/12 units)
LAFCO Conference 2011 (Napa)
Advances in Desert Weeds Management 2010-11: Center for Conservation Biology, UC Riverside Palm Desert Campus
Southern California Association of Governments Conference 2010-11: @ La Quinta, CA
Largest Metropolitan Planning Organization (MPO) in the U.S. for 18 million people within 38,000 square miles and serving six (6) of ten (10) counties in Southern California - Los Angeles, Orange, Riverside, San Bernardino, Imperial, and Ventura Counties.
Habitat Conservation Plans: Moving across Boundaries: UC Riverside & San Diego Zoo-(Nov.16-17, 2009)
Governor's Conference–Siting & Permitting Large-Scale Projects in the California Desert: @ UC Riverside-Mar. 24, 2010
Congressional Cities Conference: @ Washington D.C. - 2009 -11 [meet w/Senators, Congressmen, staffs, various Dept.'s]
San Bernardino County-City Conference: @ Arrowhead - 2009 -11
San Bernardino Water Conference: @ Ontario Convention Center – 2008 - 2009
Wildlife Management & **Ecosystem Management** – 3 unit courses taught by Dr. Cameron Barrow, UC Riverside Research Center
Water Treatment Plant Operation I @ CSU Sacramento – 6 units - April 216, 2010
Sp. Dist. & Local Gov. Institute (2010 Workshops): HR Principles for Managing Employees, Supplying Water & Board Secretaries
40-Hr & 8-Hr Transportation [Cert. #11671]: HAZWOPER – Haz. Waste Operations-29CFR1910.120 (e) (3)-DOT HM-126(f) **38-Hr.**
Army Corps of Engineers Wetland Delineation Method Training & Management (Jan. 2007 in San Diego)
Life Member: Sierra Club & Desert Tortoise Council & 2-Day Workshop (Nov. 2002) for handling and monitoring Tortoises
Member: The Wildlife Society - Attended California Burrowing Owl Symposium in Sacramento (Nov. 2003)
Attended Mojave Ground Squirrel 2-Day Workshop (Apr. 2005)
Rare Pond Species Survey Techniques Workshop – Western Pond Turtle, CA Tiger Salamander & Red-legged Frog (Mar 2009)
Member: California Native Plant Society - 4-Day Vegetation Mapping Workshop - CDFG & CNPS (11/2006)
3-Day Botanical Protocol Workshop – UC Davis, CDFG & CNPS (05/07) & 2-Day Riparian Ecology & Plant ID. (11/07)

The International Society of Arboriculture

Hereby Announces That

Randy Coleman

Has Earned the Credential

ISA Certified Arborist ®

By successfully meeting ISA Certified Arborist certification requirements through demonstrated attainment of relevant competencies as supported by the ISA Credentialing Council

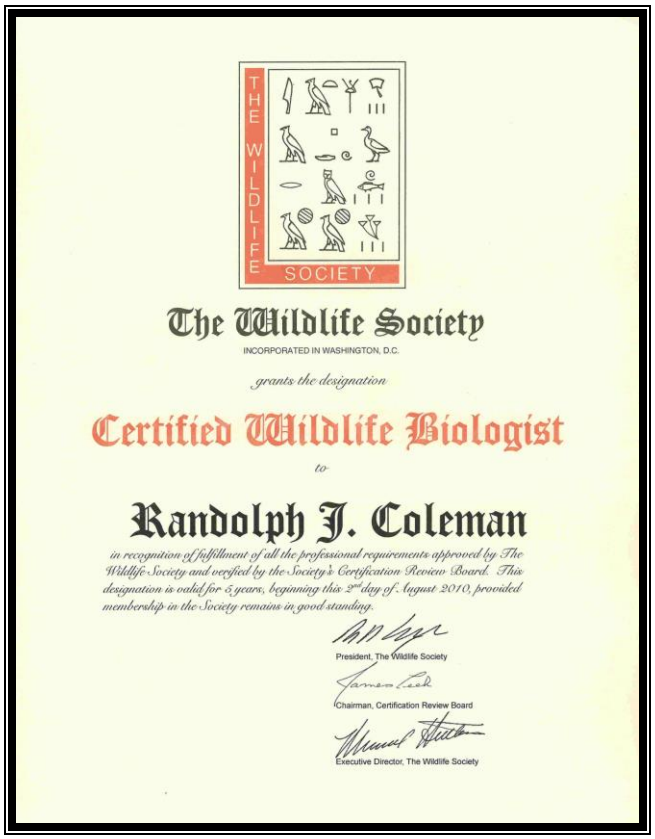
Caitlyn Pollihan
CEO & Executive Director

14 July 2007
Issue Date

31 December 2022
Expiration Date

WE-5034A
Certification Number

ANAB ACCREDITED PERSONNEL CERTIFICATION #4567 ISA Certified Arborist



THE WILDLIFE SOCIETY

The Wildlife Society

INCORPORATED IN WASHINGTON, D.C.

grants the designation

Certified Wildlife Biologist

to

Randolph J. Coleman

in recognition of fulfillment of all the professional requirements approved by The Wildlife Society and verified by the Society's Certification Review Board. This designation is valid for 5 years, beginning this 2nd day of August 2010, provided membership in the Society remains in good standing.

President, The Wildlife Society

Chairman, Certification Review Board

Executive Director, The Wildlife Society

The International Society of Arboriculture

Hereby Announces That

Randy Coleman

Has Earned the Credential

ISA Tree Risk Assessment Qualification®

By successfully meeting ISA Tree Risk Assessment Qualification certification requirements through demonstrated attainment of relevant competencies as supported by the ISA Credentialing Council

Caitlyn Pollihan
CEO & Executive Director

7 March 2014
Issue Date

7 March 2024
Expiration Date

CERTIFICATE OF TRAINING

CALIFORNIA CONSTRUCTION GENERAL PERMIT

QUALIFIED SWPPP DEVELOPER (QSD)
AND
QUALIFIED SWPPP PRACTITIONER (QSP)

RANDOLPH J. COLEMAN

Aug 02, 2017 - Oct 30, 2019

Certificate # 21595

California Stormwater Quality Association and
California Construction General Permit Training Team

CASQA

Representative Species for each Mojave Desert 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

Representative Species for each Plant Community – continued

Creosote Bush Scrub

COMMON NAME	SCIENTIFIC NAME
Creosote Bush	Larrea tridentata
Bur Sage (Burrow Bush)	Franseria dumosa
Galleta grass	Hilaria rigida
Boxthorn	Lycium andersonii
Cheese Bush	Hymenoclea salsola
Ephedra	Ephedra nevadensis
Krameria	Krameria parvifolia
Indian Ricegrass	Oryzopsis hymenoides
Cholla	Opuntia ramosissima
Wild Buckwheat	Erigonum fasciculatum
Hedgehog cactus	Echinocerus englemannii

Alkali Sink

Salt Bush	Atriplex polycarpa
Mojave Salt Bush	Atriplex spinifera
Hoary Salt Bush	Atriplex canescens
Salt grass	Distichlis spicata

Desert Riparian

Cottonwood	Populus fremontii
Willow	Salix Sp.
Composites	Compositae Sp.
Galleta Grass	Hilaria rigida
Golden Bush	Haplopappus acradenius

Representative Wildlife Species –

Joshua Tree Woodland & Juniper Woodland & Creosote Bush Scrub

COMMON NAME	SCIENTIFIC NAME
REPTILES	
Desert Night Lizard	Xantusia vigilis
Desert Whiptail Lizard	Aspidoscelis tigris
Mojave Green Rattlesnake	Crotalus scutulatus
Sidewinder Rattlesnake	Crotalus cerastes
BIRDS	
Red-tailed hawk	Buteo jamaicensis
Sparrow hawk	Falco sparverius
Morning Dove	Zenaidura macroura
Anna's hummingbird	Calypte anna
Scrub jay	Aphelocoma coerulescens
Common raven	Corvus corax
Greater Roadrunner	Geococcyx californianus
House wren	Troglodytes aedon
Sage sparrow	Amphispize belli
MAMMALS	
Coyote	Canis latrans
Gray fox	Urocyon cinereoargenteus
California ground squirrel	Citellus beecheyi
Little pocket mouse	Perognathus longimembris
Desert kangaroo rat	Dipodomys deserti
Desert wood rat	Neotoma lepida
Blacktail jackrabbit	Lepus californicus
Desert Cottontail	Sylvilagus auduboni

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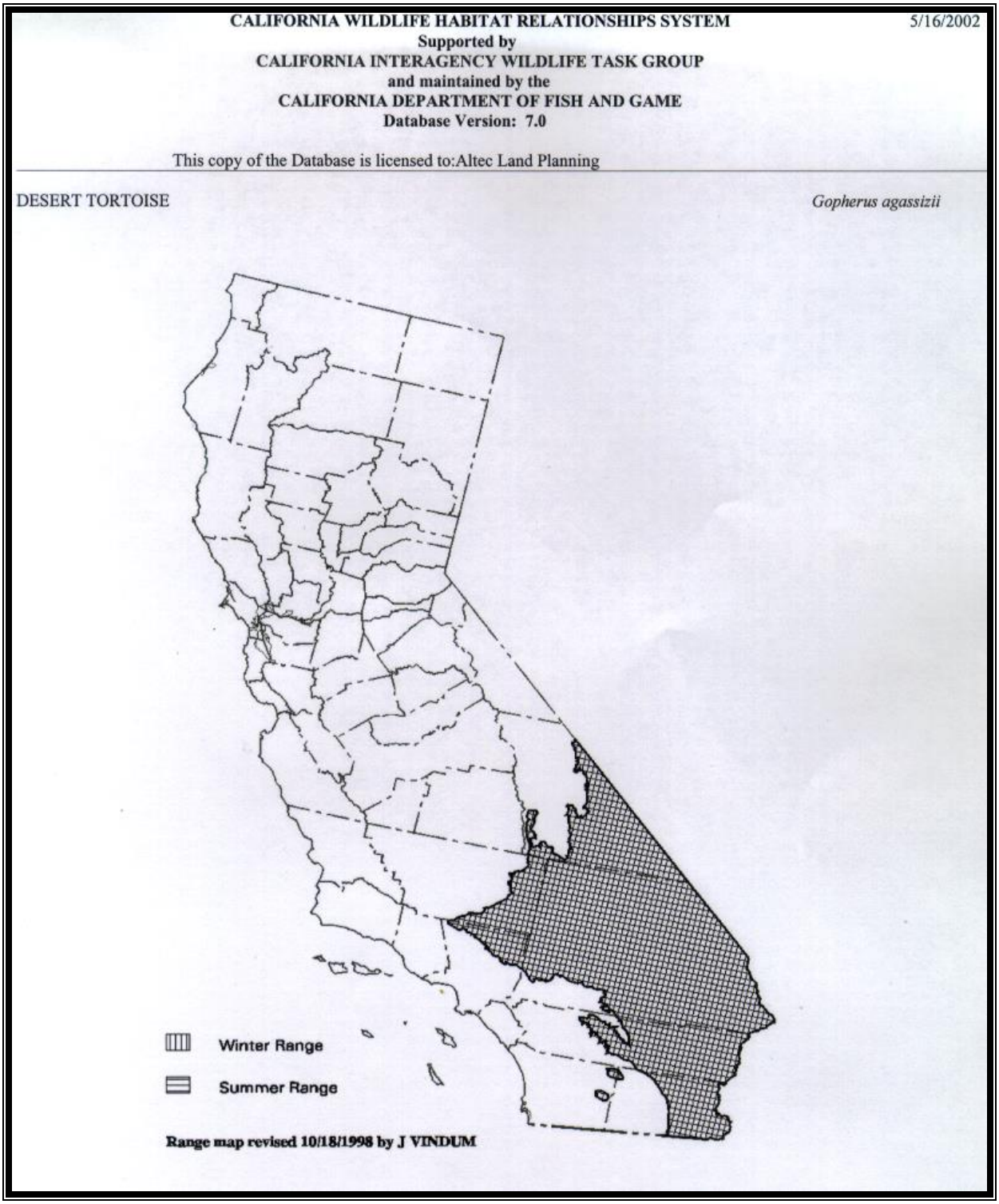
DESERT TORTOISE RANGE WITHIN CALIFORNIA



NOTE: Species range maps are not as often as the location database. Therefore, discrepancies may exist. If there are differences, the location data can be assumed more inclusive.

REPTILES

SPECIES ACCOUNTS

Desert tortoise

(Gopherus agassizii)

CA: Threaten (1989)
FED: Threaten (1990)
General Habitat: Mojavean Desert Scrub & Sonoran Desert Scrub

The desert tortoise is a medium-sized tortoise with an adult carapace length of about eight to 14 inches. Males, on average, are larger than females and are distinguished by having a concave plastron, longer gular horns, and larger chin glands on each side of the lower jaw, and a longer tail. Carapace color varies from light yellow-brown (horn color) to dark gray-brown. A composite of characteristics often is necessary to distinguish the desert tortoise from the other species of gopher tortoises, but its most-unique feature is its exceptionally large hind feet.

The desert tortoise ranges from southern Nevada and extreme southwestern Utah south through southeastern California and southwestern Arizona into northern Mexico. In California, desert tortoises occur in northeastern Los Angeles, eastern Kern, and southeastern Inyo counties, and over most of San Bernardino, Riverside, and Imperial counties. The desert tortoise inhabits river washes, rocky hillsides, and flat desert having sandy or gravelly soil. Creosote bush, burro-bush, saltbush, Joshua tree, Mojave yucca and cacti are often present in the habitat along with other shrubs, grasses, and wildflowers.

The desert tortoise's range in California has been reduced 50 to 60 percent since the 1920s and is now highly fragmented. Much of the tortoise's habitat was degraded by a combination of human-related activities including livestock grazing, energy and mineral development, and OHV use. In addition, illegal shooting and collecting directly reduced the tortoise population. The desert tortoise continues to suffer from severe population losses due to disease and predation on juvenile tortoises by ravens. A disease called upper respiratory tract disease has appeared in many parts of the desert tortoise's range; the most severe outbreaks have occurred in California's west Mojave Desert, where long-term study plots have found population declines reaching 70 percent. The DFG, USFWS, BRD, and BLM are coordinating research on this disease. Veterinarians from the DFG, UCD, the University of Florida, and private practitioners are involved in the effort. Other tortoise diseases have shown up in several parts of the Southern California deserts. The disease outbreaks are probably due, in part, to population stresses related to droughts.

Studies indicate that raven predation has caused at least localized serious reductions in the number of young tortoises surviving to adulthood. USFWS bird surveys found a 1,500 percent increase in ravens in the Mojave Desert between 1968 and 1988. Another threat to desert tortoise populations includes the proposed 250 square mile expansion of Fort Irwin. 182 square miles of this proposed expansion are designated by the USFWS as desert tortoise critical habitat.

The DFG acquired over 22,000 acres of desert tortoise habitat in 1986. Some of these lands were acquired with California Endangered Species Tax Check-Off funds, which were also used to investigate the disease and raven problems. Also, DPR has provided OHV Green Sticker funds to the DFG to solve the raven problem and provide public education.

A federal Recovery Plan was completed in 1994, and USFWS has designated about six million acres as critical habitat, most of which is in California. The Recovery Plan will be implemented in California by a series of large-scale ecosystem management plans. The DFG is participating in multi-agency teams that are drafting these plans.

The status in 1999 of the desert tortoise: ***Declining.***
Threatened and Endangered Species

NOTE: The Mojave Desert Plan went into public review until September 2003, San Bernardino County had filed a lawsuit against it, and the implementation by the various agencies will provide the potential for the Tortoise as a single species plan or as a multi-species habitat conservation zone depending upon the outcome of these current events. Results: Tortoise designated as an Endangered Species a single species plan.

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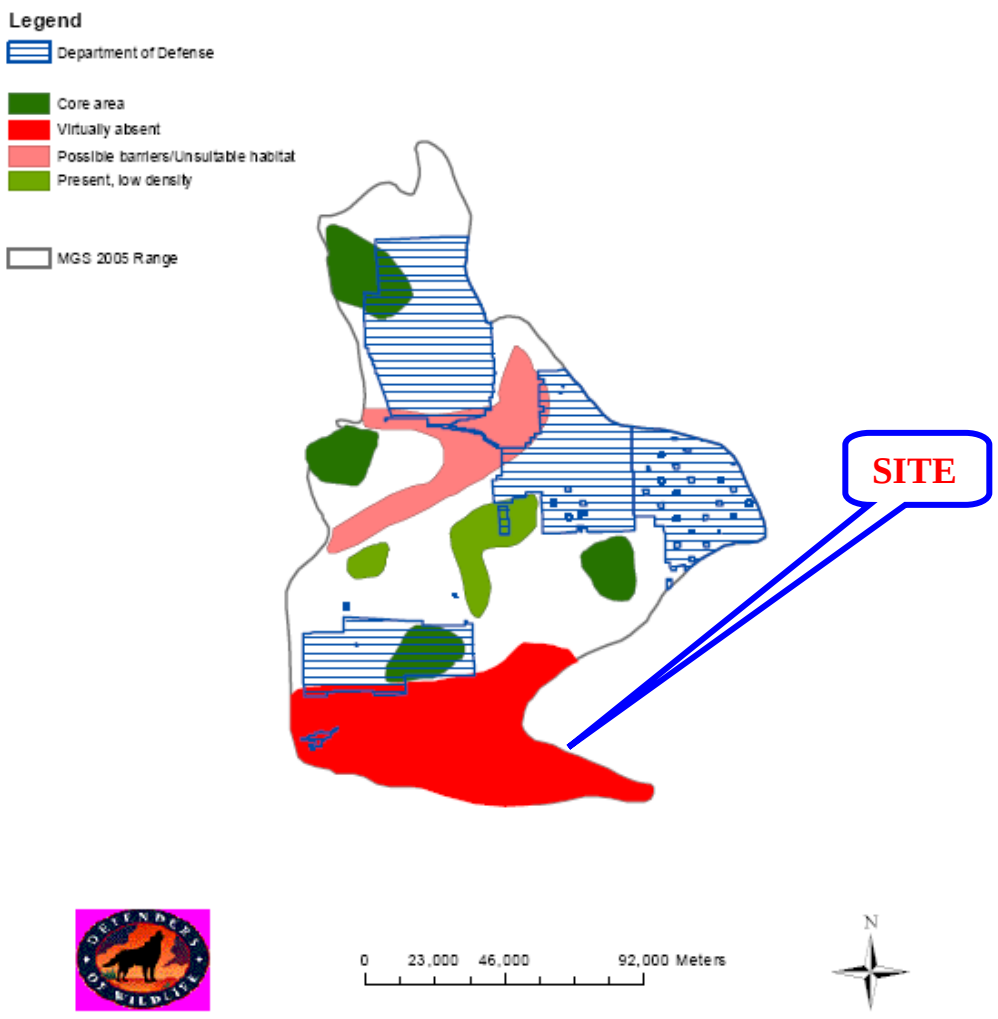
CURRENT MOHAVE GROUND SQUIRREL STATUS

N.T.S.

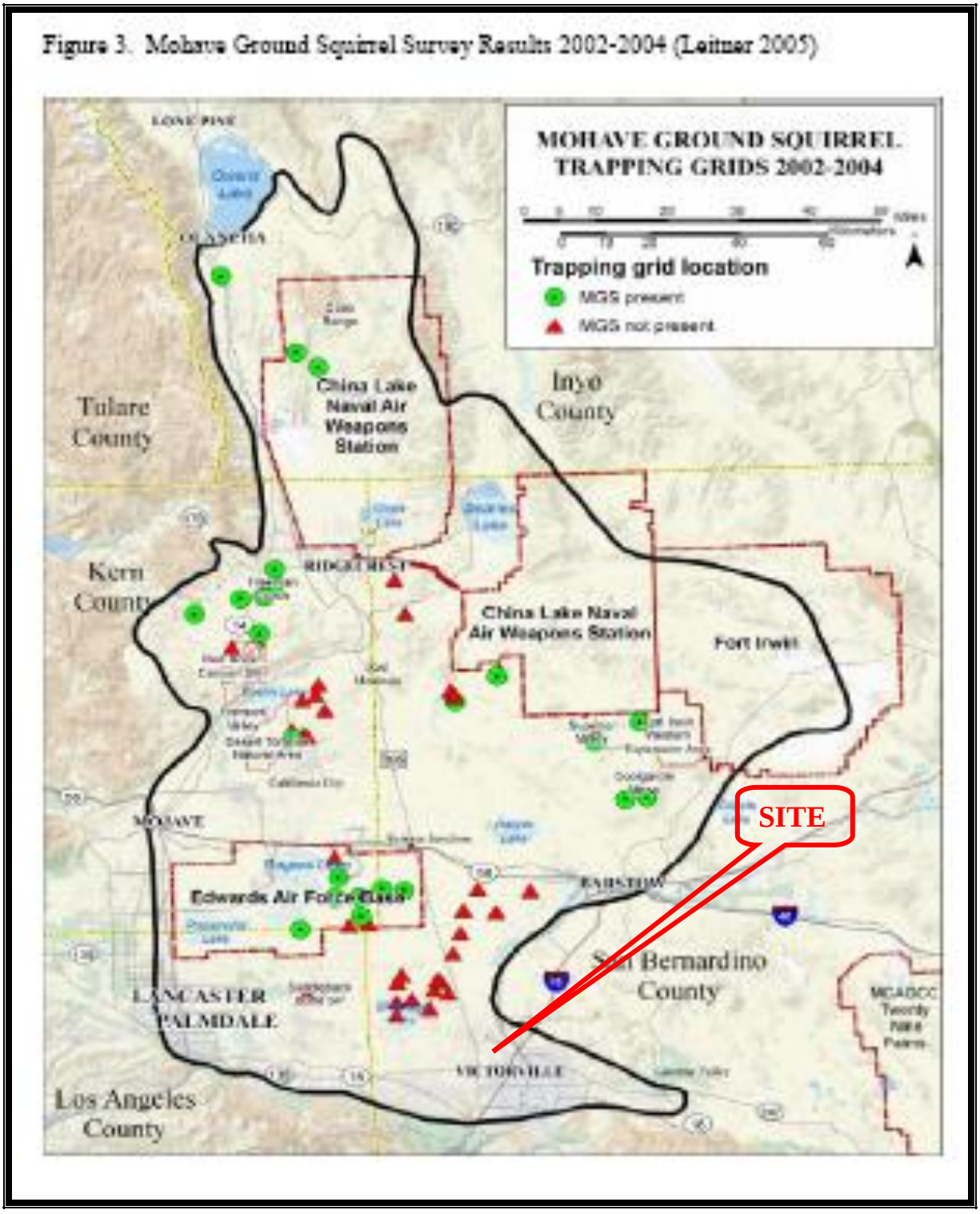
(Source: Petition to List the Mohave Ground Squirrel, September 12, 2005)

Figure 5. Current Mohave Ground Squirrel Status.
Status coverages from Leitner (2005b). Please note that the colored areas on Figure 5 are meant to be approximate and do not represent hard boundaries or even necessarily proportional areas inhabited by Mohave ground squirrels.



MOHAVE GROUND SQUIRREL SURVEY RESULTS 2002-2004

N.T.S.
(Source: Petition to List the Mohave Ground Squirrel, September 12, 2005)



PRESUMED HISTORIC RANGE OF THE MOHAVE GROUND SQUIRREL

N.T.S.
(Source: Petition to List the Mohave Ground Squirrel, September 12, 2005)

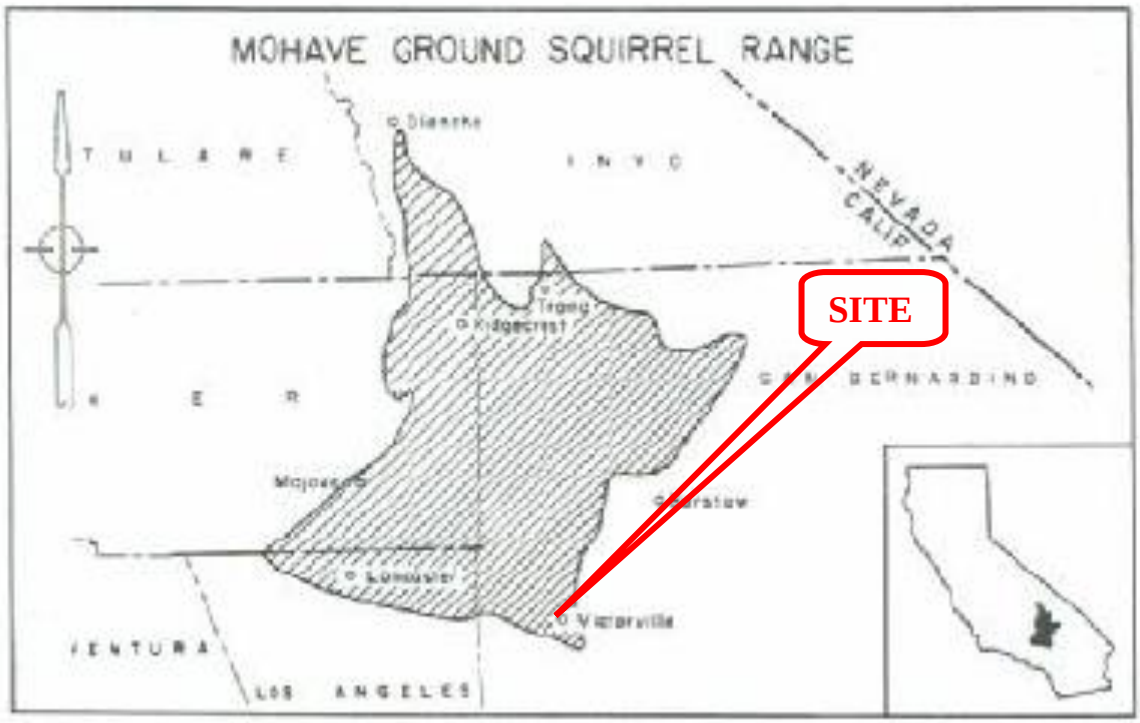


Figure 1. Presumed historic range of the Mohave ground squirrel (California Department of Fish and Game, 1980).

Federal Register: April 27, 2010 (Volume 75, Number 80)]
[Proposed Rules] and [Page 22063-22070]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr27ap10-22]

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17 [Page 22064 – 22065 - 22066]

[FWS-R8-ES-2010-0006]
[MO 92210-0-0008 B2]

Endangered and Threatened Wildlife and Plants; 90-day Finding on a Petition to List the Mohave Ground Squirrel as Endangered with Critical Habitat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 90-day petition finding and initiation of status review.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 90-day finding on a petition to list the Mohave ground squirrel (Xerospermophilus mohavensis) as an endangered species under the Endangered Species Act of 1973, as amended (Act). Based on our review, we find that the petition presents substantial scientific or commercial information indicating that listing the Mohave ground squirrel may be warranted. Therefore, with the publication of this notice, we are initiating a status review of the species to determine if listing the species is warranted. To ensure that this status review is comprehensive, we are requesting scientific and commercial data and other information regarding this species. Based on the status review, we will issue a 12-month finding on the petition, which will address whether the petitioned action is warranted, as provided in section 4(b)(3)(B) of the Act. We will make a determination on critical habitat for this species, which was also requested in the petition, if and when we initiate a listing action.

DATES: To allow us adequate time to conduct this review, we request that we receive information on or before June 28, 2010. After this date, you must submit information directly to the Ventura Fish and Wildlife Office (see FOR FURTHER INFORMATION CONTACT section below). Please note that we may not be able to address or incorporate information that we receive after the date noted above.

ADDRESSES: You may submit information by one of the following methods:
Federal eRulemaking Portal: http://www.regulations.gov.
Search for docket FWS-R8-ES-2010-0006 and then follow the instructions for submitting comments.
U.S. mail or hand-delivery: Public Comments Processing, Attn: FWS-R8-ES-2010-0006; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.
We will post all information received on http://www.regulations.gov. This generally means that we will post any personal information you provide us (see the Information Solicited section below for more information).

FOR FURTHER INFORMATION CONTACT: Michael McCrary, Listing and Recovery Coordinator, Ventura Fish and Wildlife Office, 2593 Portola Road, Suite B, Ventura, CA 93003; telephone (805) 644-1766; facsimile (805) 644-3958. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at (800) 877-8339.

SUPPLEMENTARY INFORMATION:

Information Solicited

When we make a finding that a petition presents substantial information indicating that listing a species may be warranted, we are required to promptly review the status of the species (status review). For the status review to be complete and based on the best available scientific and commercial information, we request information on the Mohave ground squirrel from government agencies, Native American Tribes, the scientific community, industry, and any other interested parties. We seek information on:

(1) The species' biology, range, and population trends, including:
(a) Habitat requirements for feeding, breeding, and sheltering;
(b) Genetics and taxonomy;
(c) Historical and current range, including distribution patterns;
(d) Historical and current population levels, and current and projected trends; and
(e) Past and ongoing conservation measures for the species, its habitat, or both.

(2) Historical and current survey information on the Mohave ground squirrel, including survey methods and design, time of year, weather information, time of day, site selection method, and descriptions of physical characteristics of landscapes, soil, and vegetation.

(3) The factors that are the basis for making a listing determination for a species under section 4(a) of the Act (16 U.S.C. 1531 et seq.), which are:
(a) The present or threatened destruction, modification, or curtailment of the species' habitat or range;
(b) Overutilization for commercial, recreational, scientific, or educational purposes;
(c) Disease or predation;
(d) The inadequacy of existing regulatory mechanisms; or
(e) Other natural or manmade factors affecting its continued existence.

(4) Information on management programs for the conservation of the Mohave ground squirrel.

(5) Information on current or expected future development within the range of the Mohave ground squirrel, including but not limited to: the extent or magnitude of habitat loss, degradation, or fragmentation from development for energy, transportation, agriculture, military training; land management prescriptions; or recreation, and how they may affect the conservation of the Mohave ground squirrel.

(6) Information on the population status of predators of the Mohave ground squirrel, including information on the occurrence and extent/severity of predation by coyotes, house cats, common ravens, domestic dogs, and feral dogs on the Mohave ground squirrel, and the effect of this predation on the Mohave ground squirrel's long-term survival.

(7) Information on morphological, behavioral, genetic, or ecological variability in the Mohave ground squirrel, and any change in that variability.

(8) Information on environmental change within the range of the Mohave ground squirrel.

(9) Information on the importance of certain areas or populations to the long-term conservation of the Mohave ground squirrel that may help us identify potentially significant portions of the species' range. This may include information that demonstrates the following factors are important to a portion of the Mohave ground squirrel's range:
(a) The quality, quantity, and distribution of habitat relative to the biological requirements of the species;
(b) The historical values of the habitat to the species;
(c) The frequency of use of the habitat; and
(d) The uniqueness or importance of the habitat for other reasons, such as breeding, feeding, seasonal movements, wintering, or suitability for population expansion, or for genetic diversity.

Please include sufficient information with your submission (such as full references) to allow us to verify any scientific or commercial information you include.

If, after the status review, we determine that listing the Mohave ground squirrel is warranted, we will propose critical habitat (see definition in section 3(5)(A) of the Act), in accordance with section 4 of the Act, to the maximum extent prudent and determinable at the time we propose to list the species. Therefore, within the geographical range currently occupied by the Mohave ground squirrel, we request data and information on:

(1) What may constitute “physical or biological features essential to the conservation of the species”;

(2) Where these features are currently found; and

(3) Whether any of these features may require special management considerations or protection, including managing for the potential effects of climate change.

In addition, we request data and information on “specific areas outside the geographical area occupied by the species” that are “essential for the conservation of the species.” Please provide specific comments and information as to what, if any, critical habitat you think we should propose for designation if the species is proposed for listing, and why such habitat meets the definition of critical habitat in section 3 of the Act and the requirements of section 4 of the Act.

Submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or threatened species must be made “solely on the basis of the best scientific and commercial data available.”

You may submit your information concerning this finding by one of the methods listed in the ADDRESSES section. If you submit information via http://www.regulations.gov, your entire submission--including any personal identifying information--will be posted on the website. If you submit a hardcopy that includes personal identifying information, you may request at the top of your document that we

withhold this personal identifying information from public view. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on http://www.regulations.gov.

Information and supporting documentation that we received and used in preparing this finding, will be available for public inspection at http://www.regulations.gov, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office (see FOR FURTHER INFORMATION CONTACT).

Background

Section 4(b)(3)(A) of the Act requires that we make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. We are to base this finding on information provided in the petition, supporting information submitted with the petition, and information otherwise available in our files. To the maximum extent practicable, we are to make this finding within 90 days of our receipt of the petition and publish our notice of this finding promptly in the Federal Register.

Our standard for substantial scientific or commercial information within the Code of Federal Regulations (CFR) with regard to a 90-day petition finding is "that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted" (50 CFR 424.14(b)). If we find that substantial scientific or commercial information was presented, we are required to promptly commence a review of the status of the species, which is subsequently summarized in our 12-month finding.

Petition History

On September 5, 2005, we received a petition, dated August 30, 2005, from Defenders of Wildlife and Dr. Glenn R. Stewart to list the Mohave ground squirrel as endangered, and to designate critical habitat concurrently with the listing. The petition identified the scientific name for Mohave ground squirrel as Spermophilus mohavensis; however, the name was changed in 2009 to Xerospermophilus mohavensis (Helgen et al. 2009, p. 273), and we refer to it in this petition finding by its current name. The petition clearly identified itself as such and included the requisite identification information for the petitioners, as required in 50 CFR 424.14(a). The petition contained detailed information on the natural history and biology of the Mohave ground squirrel, and the current status and distribution of the species. It also contained information on what the petitioners reported as potential threats to the species. In a March 28, 2006, letter to the petitioners, we informed them that we would not be able to address their petition at that time because further action on the petition was precluded by court orders and settlement agreements for other listing actions that required us to use nearly all of our listing funds for fiscal year 2006. We also stated our initial review of the petition did not indicate that an emergency situation existed, and that emergency listing was not necessary.

Previous Federal Actions

On December 13, 1993, the Service received a petition dated December 6, 1993, from Dr. Glenn R. Stewart of California Polytechnic State University, Pomona, California, requesting the Service to list the Mohave ground squirrel as a threatened species. At that time, the species was a category 2 candidate (November 15, 1994; 59 FR 58988), and was first included in this category on September 18, 1985. Category 2 included taxa for which information in the Service's possession indicated that listing the species as endangered or threatened was possibly appropriate, but for which sufficient data on biological vulnerability and threats were not available to support a proposed listing rule. On September 7, 1995, we published our 90-day petition finding, which determined that the 1993 petition did not present substantial information indicating that the petitioned action may be warranted (60 FR 46569).

Species Information

The Mohave ground squirrel (Xerospermophilus mohavensis) is a distinct, full species with no recognized subspecies. The petitioners presented sufficient, reliable information related to the taxonomic status of the Mohave ground squirrel. It was discovered in 1886 by F. Stephens and described as a distinct monotypic species by Merriam (1889, p. 15). The type locality is near Rabbit Springs in the Lucerne Valley, San Bernardino County, California.

The Mohave ground squirrel is a medium-sized squirrel. Total length is approximately 23 centimeters (cm) (9 inches (in)) with a tail length of 6.4 cm (2.5 in). The upper body is grayish brown, pinkish gray, cinnamon gray, and pinkish cinnamon without stripes or flecking. The underparts of the body and the tail are white (Ingles 1965, p. 171). The skin is darkly pigmented and dorsal hair tips are multi-banded.

The closest relative of the Mohave ground squirrel is the round-tailed ground squirrel (Xerospermophilus tereticaudus). It has a contiguous, but not overlapping, geographic range with the Mohave ground squirrel.

Mating and Reproduction

The Mohave ground squirrel mating season occurs from mid-February to mid-March (Harris and Leitner 2004, p. 1). Recht (c.f. Gustafson 1993, p. 83) reported that male Mohave ground squirrels are territorial during the mating season. Females may enter male Mohave ground squirrel territory and remain for 1 or 2 days. After copulation, the females establish their own home ranges. John Harris (personal communication, Mills College, Oakland, CA, as cited in the petition, p. 14) observed male Mohave ground squirrels staking out the overwintering sites of females to mate with them when they emerged.

Gestation is about 30 days with litter size ranging from four to nine (Best 1995, p. 3). Parental care continues through mid-May, with juvenile Mohave ground squirrels emerging above ground between 10 days to 2 weeks later (Gustafson 1993, p. 84). Mortality for

juveniles is high during the first year with more male Mohave ground squirrels lost than females. Female Mohave ground squirrels can breed at 1 year of age if environmental conditions are favorable (Leitner and Leitner 1998, p. 28).

The reproductive success of the Mohave ground squirrel is dependent on the amount of fall and winter precipitation. Leitner and Leitner (1998, p. 20) found a positive correlation between fall and winter rainfall and recruitment of juvenile squirrels the following year. In a low rainfall year, Mohave ground squirrels may forego breeding, or the low availability of food due to low rainfall may cause reproductive failure (Leitner and Leitner 1998, p. 29).

Range and Distribution

The presumed historical range of the Mohave ground squirrel, which is based on the current range and historical locations of suitable habitat, is the northwest portion of the Mojave Desert in parts of Inyo, Kern, Los Angeles, and San Bernardino Counties, California. This area is bounded on the south and west by the San Gabriel, Tehachapi, and Sierra Nevada ranges, and on the northeast by the Owens Lake and Coso, Slate, Quail, Granite, and Avawatz Mountains. The southeastern edge of the historical range is bordered by the Mojave River with the exception of one locality east of the Mojave River in the Lucerne Valley. The historical range of the Mohave ground squirrel is assumed to have included that area of the Antelope Valley west of the communities of Palmdale, Lancaster, Rosamond, and Mojave, although there are no records of the species being sighted or captured there.

The current range of the Mohave ground squirrel is similar to the historical range, except it excludes the western portion of the Antelope Valley in Los Angeles and Kern Counties and possibly some of the area from Victorville to the south and southeast to Lucerne Valley in San Bernardino County. Urban and agricultural development in these areas has resulted in the loss or modification of Mohave ground squirrel habitat. The Mohave ground squirrel has the smallest range of any ground squirrel species in the United States. Gustafson (1993, p. 8) states the geographic range of the Mohave ground squirrel encompasses approximately 1,968,000 hectares (ha) (4,863,000 acres ac)).

Activity Patterns, Movements, and Home Range

The active season for the Mohave ground squirrel is short, generally from early March to August (Bartholomew and Hudson 1960, p. 194), but may begin as early as mid-January to late February. Initiation depends on temperature and elevation (Gustafson 1993, p. 19). During this time, Mohave ground squirrels must mate, gather enough nutrition to produce and sustain a litter, and ensure nutritional reserves to last during the inactive season. During the inactive season, Mohave ground squirrels exist in their burrows in a state of torpor (a state of reduced physiological activity or sluggishness) to conserve their reserves of energy and water.

The length of the active season varies by sex, age, and availability of food resources. In dry years, which are often non-reproductive years, Mohave ground squirrels may enter their state of torpor as early as spring (Leitner et al. 1995, p. 83). The active season for an adult is shorter than for a juvenile as adults do not need to acquire as much energy for the inactive season as juveniles do. The active season for an adult female is generally longer than for a male because females need to acquire additional energy for litter production and lactation (Leitner et al. 1997, pp. 114-115).

Mohave ground squirrels are diurnal; they spend much of the day above ground (Recht 1977, p. 56). As temperatures increase into the spring and early summer, Mohave ground squirrels will spend more time in the shade of shrubs or briefly use their burrows. Burrows are usually located beneath large shrubs. Mohave ground squirrels may use several burrows at night throughout a season; they also use other burrows for predator avoidance and temperature regulation. The burrow used for the inactive season is dug specifically for that period (Recht 1977, p. 9).

Mohave ground squirrels exhibit a behavior called natal dispersal. Upon dispersing from the burrow where they were born, some males will move and take up residence at least 1,009 meters (m) (3,280 feet (ft)) from the natal burrow while females move a shorter distance of 200 to 300 m (650 to 980 ft) from their natal burrows (Leitner and Leitner 1998, p. 34; Harris and Leitner 2005, p. 191).

The home range of the Mohave ground squirrel varies among years and between sexes during the mating season. The mean home range is 0.74 ha (1.83 ac) for mating females and 6.73 ha (16.63 ac) for males. Outside the breeding season, the mean home range size is 1.20 ha (2.96 ac) for females and 1.24 ha (3.06 ac) for males (Harris and Leitner 2004, pp. 20-521).

Population Demographics

The behavioral characteristics of the Mohave ground squirrel as discussed above, make it difficult to determine or estimate population tatus and trends because the species spends much of the year underground and populations appear to be sensitive to both seasonal and annual rainfall patterns. That is, in dry years or dry fall seasons, reproduction during the following spring season may be unsuccessful and population size may contract (Leitner and Leitner 1998, pp. 29-31).

Survey results suggest that the Mohave ground squirrel has a patchy distribution throughout its range (Hoyt 1972, p. 7; Gustafson 1993, p. viii). Most reported information describes the number of animals trapped or number trapped as compared to the trapping effort. We are aware of only one location where information on population trend was available (Leitner 2005, p. 3). In the northwest portion of the range of the Mohave ground squirrel, trapping results are available for the Coso Range within China Lake Naval Air Weapons Station (NAWS). The surveys span 1992 to 1996 and 2001 to 2005. The total number of Mohave ground squirrels captured during the first survey period was more than twice that of the second (Leitner 2005, p. 3).

Brooks and Matchett (2002) analyzed the data from all known Mohave ground squirrel studies. Forty-nine percent of the sites were identified from observing or trapping only one Animal.

Habitat and Life History Requirements.

The habitat requirements of the Mohave ground squirrel are varied. The species has been found in a variety of vegetative communities including Mojave Creosote Scrub, Desert Saltbush Scrub, Desert Sink Scrub, Desert Greasewood Scrub, Shadscale Scrub, and Joshua Tree (Yucca brevifolia) Woodland (Gustafson 1993, pp. ix, 81). Creosote Bush Scrub is the vegetation community in which the Mohave ground squirrel is most often found. Mohave ground squirrels usually inhabit flat to moderately sloping terrain. They prefer deep rather than shallow soils and gravelly soils rather than sandy soils (Aardahl and Roush 1985, p. 23). Soil characteristics are important as the Mohave ground squirrel constructs burrows for temperature regulation, predator avoidance, and inactive season use.

The food habits of the Mohave ground squirrel are diverse. Recht (1977, p. 80) called the Mohave ground squirrel a facultative specialist; its foraging strategy falls between that of a specialist and a generalist. The Mohave ground squirrel specializes in foraging on certain plant species over short periods of time. As the availability of forage species changes throughout the active season, the Mohave ground squirrel adapts its foraging strategy to maximize energy intake in a changing environment. Observations and fecal analysis indicate that Mohave ground squirrels consume a variety of annual and perennial plants and arthropods (Leitner and Leitner 1992, p. 12; Gustafson 1993, pp. 77-83). At one study site, the leaves of three shrub species made up 60 percent of the Mohave ground squirrel diet based on fecal analysis (Leitner and Leitner 1998, p. 34). In a study by Leitner and Leitner (1992) in the northern part of its range, the Mohave ground squirrel was found to consume leaves of annual and perennial plants, their fruits and seeds, fungi, and butterfly larvae. Mohave ground squirrels appear to exploit food sources that are available on an intermittent basis. They may also select particular food items over others because of higher water content. Leitner and Leitner (1992, p. 5) concluded that the Mohave ground squirrel is flexible in exploiting high-quality food resources.

Predation and Mortality

There is little documentation on the natural predators of the Mohave ground squirrel. There is circumstantial evidence of predation by coyotes (Canis latrans), prairie falcons (Falco mexicanus), and common ravens (Corvus corax) (Leitner et al. 1997, p. 49; J. Harris, personal communication, as cited in the petition, p. 15). There may be other natural predators of the Mohave ground squirrel.

Mortality is high for the Mohave ground squirrel during the first year and appears to be skewed toward males (Brylski et al. 1994, p. 64; Leitner and Leitner 1998, p. 28). Mortality may also be caused by extended periods of low amounts of fall and winter rainfall, which results in reduced availability of forage and water, and can increase vulnerability to disease.

Evaluation of Information for This Finding

Section 4 of the Act (16 U.S.C. 1533), and implementing regulations at 50 CFR 424, set forth the procedures for adding species to, or removing a species from, the Federal Lists of Endangered and Threatened Wildlife and Plants. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

In making this 90-day finding, we evaluated whether information on threats to the Mohave ground squirrel, as presented in the petition and other information available in our files, is substantial, thereby indicating that the petitioned action may be warranted. Our evaluation of this information is presented below.

A. The Present or Threatened Destruction, Modification, or Curtailment of the Species' Habitat or Range

Evaluation of Information Provided in the Petition and Available in Service Files

The petitioners presented information regarding threats to the Mohave ground squirrel from reduced range and habitat destruction, including: urban and rural [Page 22067] development on private and public lands; agricultural development; military activities; livestock grazing; transportation; energy development; and that the cumulative impacts of drought, habitat destruction, habitat fragmentation, and decrease in precipitation with climate change pose a threat greater than the drought episodes to which the Mohave ground squirrel is adapted.

The range of the Mohave ground squirrel is the smallest of all ground squirrels in the United States. Based on information provided by the petitioners, the Mohave ground squirrel appears to have been nearly extirpated from the southern portion of its range, which represents approximately 20 percent of its range (Leitner as cited in the petition, p. 8). This assertion is based on the results of surveys conducted for the Mohave ground squirrel from 2002 to 2004 (Leitner 2004 as cited in the petition, p. 17). The portion of the recently reduced range includes an area south of State Highway 58 in the Palmdale-Lancaster area and the Victorville to Lucerne Valley area.

Private Lands

On private lands, which comprise about 31 percent of the current range of the Mohave ground squirrel, the petitioners claim 2.8 percent of the range of the Mohave ground squirrel has been lost to urban and rural development and approximately 2 percent (37,000 ha (92,000 ac)) o agricultural fields. The information on impacts to the Mohave ground squirrel from agricultural development was derived from Hoyt (1972, p. 8), Aardahl and Roush (1985, p. 2), and Gustafson (1993, pp. 23-24). The petitioners also stated that they have no updated data to quantify the extent or intensity of this threat. We have no information in our files to dispute the figures presented by the petitioners; however, we currently do not have information to determine whether a 2.8 percent loss to urban and rural development and a 2 percent loss to agricultural development is biologically significant to the Mohave ground squirrel.

Public Lands

Public lands managed by the Bureau of Land Management (BLM) account for about 31.8 percent of the species' range. The petitioners stated that BLM's land management plan for the West Mojave Desert (West Mojave Plan) would allow new development throughout much of the range of the Mohave ground squirrel and would not protect the four Mohave ground squirrel "core areas" (see petition, p. 17). "Core areas" are defined by the petitioners as locations where Mohave ground squirrels have been reliably captured over time, or where there are thriving populations. The petitioners stated that activities that result in the loss of habitat in these "core areas" or prevent dispersal among these "core areas" will impede and eventually prohibit conservation of the Mohave ground squirrel.

Public land managed by the Department of Defense accounts for about 34.5 percent of the species' current range. The petitioners stated that current military training at Fort Irwin threatens Mohave ground squirrels by crushing animals, compacting and otherwise disturbing soils, collapsing burrows, destroying shrubs used for cover, and reducing spring annual plants used by Mohave ground squirrels for forage (Bury et al. 1977, pp. 16, 18). According to the petitioners, Fort Irwin's training currently affects 7.4 percent of the range of the Mohave ground squirrel, and the proposed expansion of Fort Irwin will affect additional lands within the range of the Mohave ground squirrel and will fragment one of the four Mohave ground squirrel "core areas" as identified by the petitioners.

Additionally, 2.7 percent of the current range of the Mohave ground squirrel occurs on other public `protected lands' (see petition, p. 40) including; federally designated wilderness areas, State park land, California Department of Fish and Game land, and the Desert Tortoise Natural Area.

Livestock Grazing

The petitioners stated that livestock grazing has the potential to degrade Mohave ground squirrel habitat through changes in soil structure, including accelerated erosion and collapsing burrows, changes in vegetative structure, reduced availability of native forage species (Laabs 2002, p. 5; Campbell 1988, pp. 569, 574), and direct competition with Mohave ground squirrels for limited quality and quantity of forage (Leitner and Leitner 1998; pp. 29, A6, A7, A15, and A23). According to the petitioners' GIS analysis, 27 percent of the range of the Mohave ground squirrel has been impacted by livestock grazing.

Aardahl and Roush (1985, p. 23), as cited in the petition, stated that "land uses which affect the availability of forbs and grasses have the potential to influence the long-term population of the Mohave ground squirrel," but this does not "mean that properly managed livestock grazing will cause a significant negative impact on the Mohave ground squirrel." Twenty-one of 22 study sites surveyed were grazed by sheep or cattle in varying degrees; the study site with the highest total adjusted captures of Mohave ground squirrels showed considerable signs of grazing (Aardahl and Roush 1985, p. 23). The petitioners did not provide information, and we have no information in our files, on the extent or magnitude of the impacts of livestock grazing on the Mohave ground squirrel.

Transportation

The petitioners identified the extensive network of highways and roads in the range of the Mohave ground squirrel as a threat. The petitioners claim impacts from highway and road establishment and vehicle use include habitat loss, fragmentation, and degradation, and direct mortality from vehicle strikes (Gustafson 1993, pp. 23, 26; BLM 2003, p. 30; Leitner as cited in the petition, p. 22). The petitioners stated that there is evidence of surface disturbance to roadsides up to 400 m (1,312 ft) away from the road, and that 37 percent of transects conducted by the BLM in the West Mojave Desert were bisected by roads. The petitioners calculated that the total area of the network of roads and highways affected 65,964 ha (163,000 ac) or 3.3 percent of the range of the Mohave ground squirrel. The petitioners provided additional information that impacts from roads on the desert tortoise have been documented more than 3,962 m (13,000 ft) from the highest level traffic road (Hoff and Marlow 2002, p. 454) and that similar impacts likely occur to the Mohave ground squirrel.

We do not agree that impacts to the desert tortoise from roads that have been measured more than 3,962 m (13,000 ft) from the highest traffic roads are the same as those to the Mohave ground squirrel. The Hoff and Marlow study (2002, p. 454) reported on the abundance of desert tortoise sign at intervals from roads. This study was specific to the desert tortoise. It did not examine the effects of roads on the Mohave ground squirrel. Therefore, any application of the results from this research to the Mohave ground squirrel is inferred and is not supported by the data. However, we agree with the petitioners that roads and highways result in direct mortality to Mohave grounds squirrels from vehicle collisions and habitat loss and degradation.

Energy Development

According to the petitioners, geothermal exploration and development and the construction of [Page 22068] solar energy plants in the range of the Mohave ground squirrel have caused, and will likely cause, adverse impacts to the Mohave ground squirrel and loss or degradation of habitat (Leitner and Leitner 1989, p. 2). The petitioners did not quantify the amount of habitat affected. We acknowledge that energy development for geothermal and solar energy has occurred within the range of the Mohave ground squirrel and that this development can result in the degradation or loss of habitat used by the Mohave ground squirrel. The petitioners do not provide information, and we do not have information in our files, on the extent of this loss or degradation and how it will affect the conservation of the Mohave ground squirrel.

Cumulative Impacts of Habitat Destruction, Fragmentation, and Decreased Precipitation

The petitioners provided information that indicates the reproduction and survival of the Mohave ground squirrel is ultimately linked to rainfall (Harris and Leitner 2004, pp. 517, 518). Mohave ground squirrels may fail to persist in certain areas during drought episodes

(Leitner and Leitner 1998, p. 31). The petitioners assert the cumulative impacts of habitat destruction, habitat fragmentation, and overall decrease in precipitation due to climate change are a greater threat to the Mohave ground squirrel than the periods of low rainfall and drought episodes with which the Mohave ground squirrel evolved.

Based on information from the Intergovernmental Panel on Climate Change (Watson et al. 2002, pp. 8, 9), we acknowledge temperatures in southern California are likely to increase and precipitation is likely to decrease in the future. With hotter, drier conditions and more extreme weather patterns in southern California than those with which the Mohave ground squirrel evolved; the species may be negatively affected. However, we believe that climate change models that are currently available are not yet capable of making meaningful predictions of climate change for specific, local areas such as the range of the Mohave ground squirrel (Parmesan and Matthews 2005, p. 354). We are not currently aware of models that predict how climate in the range of the Mohave ground squirrel will change, and we do not know how any change may alter the range of, or otherwise threaten, the species.

Summary of Factor A

In summary, the petitioners presented information regarding threats to the Mohave ground squirrel from reduced range and habitat destruction, including urban and rural development on private and public lands; agricultural development; military activities; livestock grazing; transportation; and energy development. We found the petition and information in our files presents substantial information that these activities may have contributed to a recent range contraction in the southern portion of the Mohave ground squirrel's range, and may threaten the Mohave ground squirrel across its current range by removing shrubs needed for cover and forage, disturbing soil, or removing or degrading other habitat features necessary for Mohave ground squirrel life history requirements. Additionally, one or more of these activities may threaten what the petitioners identify as “core areas” for the Mohave ground squirrel by removing habitat, fragmenting the habitat, and preventing dispersal among the “core areas.” However, we determined the petition does not present substantial information indicating that climate change may be a threat to the species. Additionally, information on the subject of climate change in our files is not specific to the Mohave ground squirrel. We will evaluate the effects of climate change, including reduced precipitation and any cumulative effects of habitat fragmentation or loss on the Mohave ground squirrel, when we conduct our status review.

On the basis of our evaluation of the information in the petition and information in our files, we determined that the petition presents substantial information indicating that listing the Mohave ground squirrel as endangered may be warranted due to destruction, modification, or curtailment of the species' habitat or range.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

The petitioners did not provide information or list any threats to the Mohave ground squirrel from overutilization for commercial, recreational, or educational purposes. The petitioners stated that the utilization of the Mohave ground squirrel for scientific purposes is strictly controlled by the California Department of Fish and Game.

Summary of Factor B

On the basis of our evaluation, we determined that the petition does not present substantial information indicating that listing the Mohave ground squirrel as endangered may be warranted due to the overutilization for commercial, recreational, scientific, or educational purposes. Additionally, we do not have substantial information in our files to suggest that overutilization for commercial, recreational, scientific, or educational purposes may threaten the Mohave ground squirrel. However, we will evaluate all factors, including threats from overutilization for commercial, recreational, scientific, or educational purposes, when we conduct our status review.

C. Disease or Predation

Evaluation of Information Provided in the Petition and Available in Service Files

The petitioners did not provide information or list any threat to the Mohave ground squirrel from disease, and we do not have information in our files regarding potential threats to this species due to disease.

The petitioners stated that there is little documentation of the Mohave ground squirrel's natural predators, but claimed that predation by coyotes, common ravens, house cats, domestic dogs, and feral dogs is a concern. Although the petitioners stated that cat’s prey on small mammals and dogs dig up rodent burrows, they did not present any information on the level of mortality or population impacts from predation for Mohave ground squirrels, any other ground squirrel species, or any small mammal species. The petitioners noted that the numbers of common ravens and coyotes, known predators of the Mohave ground squirrel, have increased, posing an increased predation risk to Mohave ground squirrel populations. However, there is no information provided that the numbers of cats, dogs, common ravens, or coyotes have increased in the range of the Mohave ground squirrel, and there is no evidence to indicate that there is increased predation by these predators on the Mohave ground squirrel. We do not have information in our files to indicate that predation is a threat to the survival of the Mohave ground squirrel.

Summary of Factor C

On the basis of our evaluation, we determined that the petition does not present substantial information indicating that listing the Mohave ground squirrel as endangered may be warranted due to disease or predation. Additionally, we do not have substantial information in our files to suggest that disease or predation threaten the Mohave ground squirrel. However, we will evaluate all factors, including threats from disease and [Page 22069] predation, when we conduct our status review.

D. The Inadequacy of Existing Regulatory Mechanisms

Evaluation of Information Provided in the Petition and Available in Service Files

The petitioners stated that current regulations have proven inadequate to conserve the Mohave ground squirrel; that only 9 percent of the range of the Mohave ground squirrel has any kind of protected status; and that, although the Mohave ground squirrel is a State-listed species, this listing provides no conservation assurances for the Mohave ground squirrel on Federal lands.

The California Endangered Species Act provides protection for the Mohave ground squirrel on private and State-owned land, and on Federal lands in relation to activities carried out by non-Federal entities that are required to obtain a State permit or authorization.

The major military installations within the range of the Mohave ground squirrel have implemented Integrated Natural Resources Management Plans that cover the Mohave ground squirrel and implement actions to manage for the species. In their management plan for the West Mojave Desert, the BLM considers the Mohave ground squirrel an umbrella species, a species whose habitat requirements include those of many other species and whose conservation should automatically conserve a host of other species. BLM has implemented a plan that establishes a Mohave ground squirrel Conservation Area that contains 35 percent of the species' historical range on BLM land.

Summary of Factor D

On the basis of our evaluation, we determined that the petition does not present substantial information indicating that listing the Mohave ground squirrel as endangered may be warranted due to the inadequacy of existing regulatory mechanisms. Additionally, we do not have substantial information in our files to suggest that existing regulatory mechanisms are inadequate and thus threaten the Mohave ground squirrel. However, we will evaluate all factors, including threats from the inadequacy of existing regulatory mechanisms, when we conduct our status review.

E. Other Natural or Manmade Factors Affecting the Species' Continued Existence

Evaluation of Information Provided in the Petition and Available in Service Files

The petitioners stated that pesticide use may adversely affect the Mohave ground squirrel. According to the petitioners, Mohave ground squirrels live in native vegetative communities adjacent to agricultural fields and other areas where rodenticides are used. Mohave ground squirrels use these areas for forage and shelter. The petitioners claim that if rodenticides are used on agricultural fields, Mohave ground squirrels could be adversely affected, or they could be exterminated by the State Rodent Program. In the early part of the 20th century, the Los Angeles Agricultural Commission used poison grain to target and eliminate ground squirrels in the Antelope Valley, which includes the historical range of the Mohave ground squirrel.

Although we are aware that rodenticides, such as those that include strychnine as the active ingredient, may be used to kill ground squirrels, there is no information in the petition or our files to indicate that rodenticides are used to specifically target Mohave ground squirrels or that any rodenticides currently used within the range of the Mohave ground squirrel are adversely affecting the status of this species.

Summary of Factor E

On the basis of our evaluation, we determined that the petition does not present substantial information indicating that listing the Mohave ground squirrel as endangered may be warranted due to other natural or manmade factors affecting its continued existence. Additionally, we do not have substantial information in our files to suggest that other natural or manmade factors threaten the Mohave ground squirrel. However, we will evaluate all factors, including threats from other natural or manmade factors affecting its continued existence, when we conduct our status review.

Finding

The petition and supporting information have identified numerous factors affecting the Mohave ground squirrel, including: reduced range, urban and rural development, agricultural development, military activities, livestock grazing, transportation and energy development, and cumulative impacts of habitat destruction, fragmentation, and decreased precipitation (Factor A); predation (Factor C); the lack of regulatory mechanisms protecting the species and its habitat (Factor D); and pesticide use (Factor E).

On the basis of our evaluation under section 4(b)(3)(A) of the Act, we have determined that the petition presents substantial scientific or commercial information indicating that listing the Mohave ground squirrel as endangered may be warranted. This finding is based on information provided by the petitioners and in our files for Factor A. In particular, there is substantial information to indicate habitat based threats under Factor A may remove shrubs needed for cover and forage, disturb soil, or remove or degrade other habitat features necessary for Mohave ground squirrel life history requirements across its current range. The information provided by the petitioners and in our files for Factors B, C, D, and E was not substantial. In considering what factors might constitute threats, we must look beyond the mere exposure of the species to the factor to determine whether the species responds to the factor in a way that causes actual impacts to the species. If there is exposure to a factor, but no response, or only a positive response, that factor is not a threat. If there is exposure and the species responds negatively, the factor may be a threat and we then attempt to determine how significant a threat it is. If the threat is significant, it may drive or contribute to the risk of extinction of the species such that the species may warrant listing as threatened or endangered as those terms are defined by the Act. This does not necessarily require empirical proof of a threat. The combination of exposure and some corroborating evidence of how the species is likely impacted could suffice. The mere identification of factors that could impact a species negatively may not be sufficient to compel a finding that listing may be warranted. The information

shall contain evidence sufficient to suggest that these factors may be operative threats that act on the species to the point that the species may meet the definition of threatened or endangered under the Act.

Because we have found that the petition presents substantial information that listing the Mohave ground squirrel may be warranted, we are initiating a status review to determine whether listing the Mohave ground squirrel under the Act is warranted. We will issue a 12-month finding as to whether the petitioned action is warranted.

The "substantial information" standard for a 90-day finding Differs [Page 22070] from the Act's "best scientific and commercial data" standard that applies to a status review to determine whether a petitioned action is warranted. A 90-day finding does not constitute a status review under the Act. In a 12-month finding, we will determine whether a petitioned action is warranted after we have completed a thorough status review of the species, which is conducted following a substantial 90-day finding. Because the Act's standards for 90-day and 12-month findings are different, as described above, a substantial 90-day finding does not mean that the 12-month finding will result in a warranted finding.

The petitioners also requested that we designate critical habitat for the Mohave ground squirrel. If we determine in our 12-month finding that listing the Mohave ground squirrel is warranted, we will address the designation of critical habitat at the time of the proposed rulemaking.

References Cited

A complete list of all references cited is available on the Internet at http://www.regulations.gov and upon request from the Ventura Fish and Wildlife Office (see FOR FURTHER INFORMATION CONTACT section above).

Author

The primary authors of this notice are staff members of the Ventura Fish and Wildlife Office (see FOR FURTHER INFORMATION CONTACT section above).

Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

Dated: April 12, 2010
Signed: Daniel M. Ashe
Deputy Director, U.S. Fish and Wildlife Service
[FR Doc. 2010-9377 Filed 4-26-10; 8:45 am]
BILLING CODE 4310-55-S

California Commission OKs Petition Protecting Joshua Trees Under State's Endangered Species Act

Iconic Desert Plant Legally Protected During Yearlong Review - by **Center for Biological Diversity** September 23, 2020

SACRAMENTO, Calif. September 22, 2020— The California Fish and Game Commission agreed today to accept a petition protecting western Joshua trees under the state's Endangered Species Act, granting legal protection to the iconic trees for at least a year.

Joshua trees are threatened by climate change, fire and habitat destruction from urban sprawl and other development in their Mojave Desert home.

"This is a huge victory for these beautiful trees and their fragile desert ecosystem," said Brendan Cummings, the Center for Biological Diversity's conservation director, and a Joshua Tree resident. "If Joshua trees are to survive the inhospitable climate, we are giving them, the first and most important thing we can do is protect their habitat. This decision will do that across most of their range."

Today's vote grants Joshua trees candidate status under the California Endangered Species Act, giving them legal protection during a yearlong review to determine whether the species should be formally protected under the state law.

The vote affirms the California Department of Fish and Wildlife's April recommendation, which came in response to a petition from the Center.

Commissioners also agreed to give developers of 15 shovel-ready industrial solar projects in Kern and San Bernardino counties so-called "take authorization," allowing them to kill Joshua trees. In exchange the developers must pay into a state fund that will be used to purchase and permanently preserve Joshua tree habitat. This exemption applies only during the review period and requires developers to pay approximately $10,000 an acre, based on a ratio of 1.5 acres for every acre of occupied habitat that is destroyed.

"This summer's raging wildfires, heatwaves and hurricanes confirm our dire climate crisis and the need to urgently achieve 100% renewable energy," said Cummings. "But the best places to put solar panels are on rooftops, parking lots and degraded farmland, not pristine desert habitats. We disagree that these exemptions are needed, but we understand the commission's decision."

Recent studies show Joshua trees are dying off because of hotter, drier conditions, with very few younger trees becoming established. Even greater changes are projected over the coming decades. Earlier this year scientists projected that the Joshua tree will be largely gone from its namesake national park by the end of the century.

Last year the U.S. Fish and Wildlife Service denied federal protection to the species.

"Joshua trees face extinction in the wild and there's not much time left to save them. Human-caused climate change is making matters worse," said Cummings. "It's critical that the state stood up for these spectacular trees, because the federal government, local officials and for-profit corporations are facilitating their destruction."

Climate change could wipe out western Joshua trees, which already are failing to reproduce at drier, lower elevations. Prolonged droughts are projected to be more frequent and intense over the coming decades, shrinking the species' range and leading to more tree deaths. Higher elevations, where Joshua trees might survive increasing temperatures and drying conditions, are at risk of fire due to invasive non-Habitat loss and degradation are also major threats. Outside of Joshua Tree National Park, off-road vehicle use, cattle grazing, powerlines and pipelines and large-scale energy projects are destroying habitat. Approximately 40% of the western Joshua tree's range in California is on private land, with only a tiny fraction protected from development. Current projections show that virtually all of this habitat will be lost without stronger legal protections for the trees.

"Developers are bulldozing Joshua trees every day to build roads, powerlines, strip malls and vacation rentals," said Cummings. "If these beautiful plants are to have any hope of surviving in a warming world, we have to stop killing them. The California Endangered Species Act may be the only hope for saving these iconic symbols of the Mojave Desert."

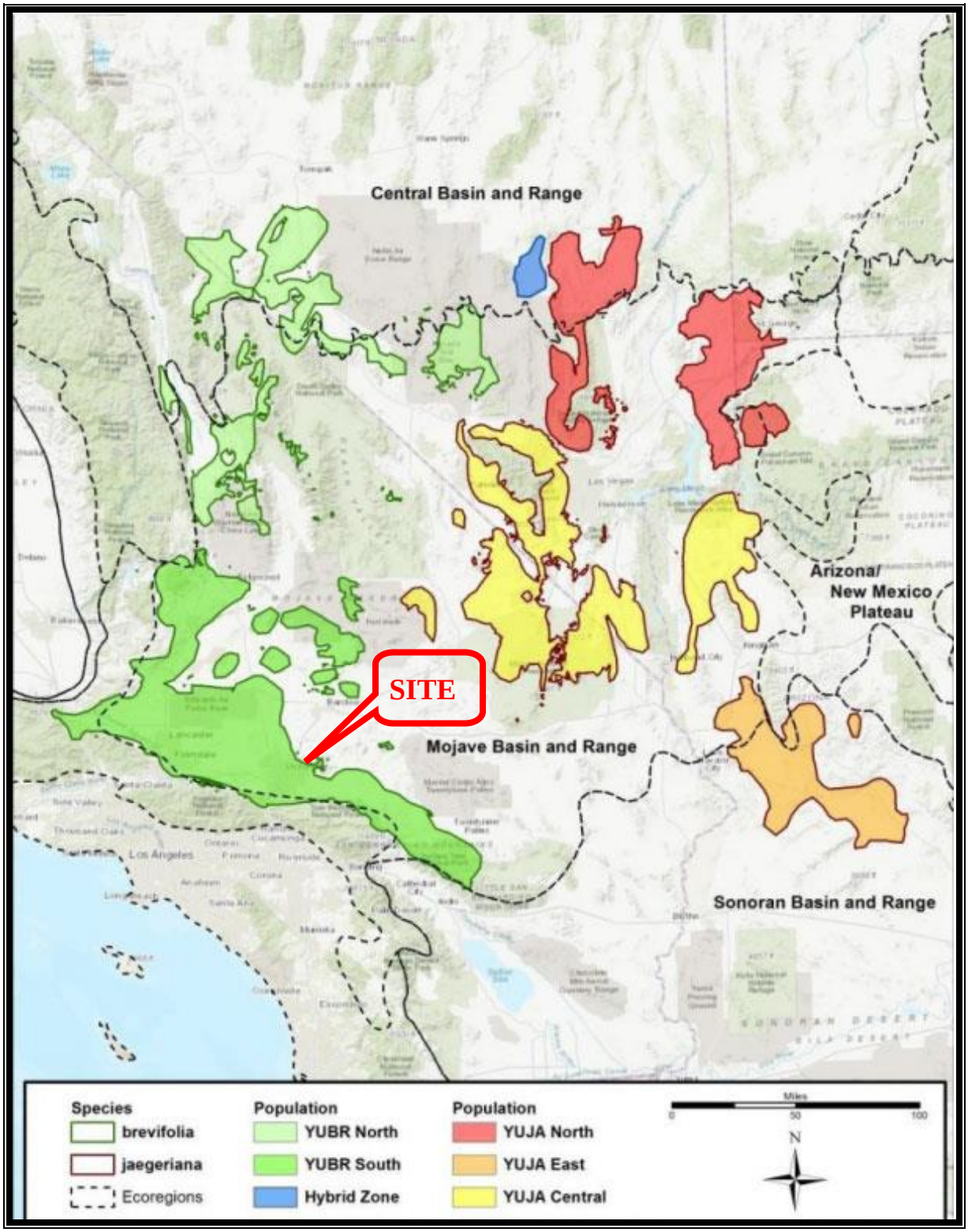
The Joshua tree has recently been recognized as composed of two distinct species, the western Joshua tree (*Yucca brevifolia*) and the eastern Joshua tree (*Y. Jaegeriana*). The two species occupy different areas of the desert, are genetically and morphologically distinguishable, and have different pollinating moths.

Today's vote addresses the western species. The western Joshua tree has a boomerang-shaped range stretching from Joshua Tree National Park westward along the northern slopes of the San Bernardino and San Gabriel Mountains, through the Antelope Valley, northward along the eastern flanks of the southern Sierra Nevada and eastward to the edges of Death Valley National Park and into Nevada.

The eastern Joshua tree's range in California is centered in the Mojave National Preserve and extends east into Nevada, Arizona, and Utah.

If Joshua trees win protection under California's Endangered Species Act, state and local agencies will have to manage threats to them, including developing a recovery plan outlining a strategy to protect the species in the face of climate change.

Western Joshua Tree CESA Petition & DFW's Evaluation of Petition Map



California Looks at Protections for Iconic Joshua Tree

April 13, 2020 NATHAN SOLIS *Conservationists say climate change and urban sprawl could erase the Joshua tree from California's deserts by the end of the century.*

The iconic Joshua tree in California's Mojave Desert.

(CN) — The Joshua trees of the Mojave Desert may get a lifeline from California following the Trump administration's refusal to give them federal endangered species protection last year.

The emblematic species of the West face threats from urban sprawl on undeveloped wilderness and the unrelenting effects of climate change. Researchers estimate with more frequent drought and wildfires in California, most or all of the Joshua trees in the Golden State could be gone in the next 80 years.

This past October, the Center for Biological Diversity petitioned California Fish and Game Commission to list the Joshua tree as threatened, which would require state and local agencies to mitigate harm to the species' habitat and slow down the destruction of undeveloped land.

On Monday, the California Department of Fish and Wildlife wrote in summary memo there is "sufficient scientific information available to indicate that the petitioned action may be warranted and recommends that the petition be accepted and considered.

In its 39-page report, the California Department of Fish and Wildlife writes that the petitioners provide enough evidence on the western Joshua tree (Yucca brevifolia) that "identifies predation, invasive species, wildfires, climate change, and habitat loss to human development as the factors affecting the ability of western Joshua tree to survive and reproduce, stating that these factors are often related, synergistic, and collectively threaten the continued viability of the species.

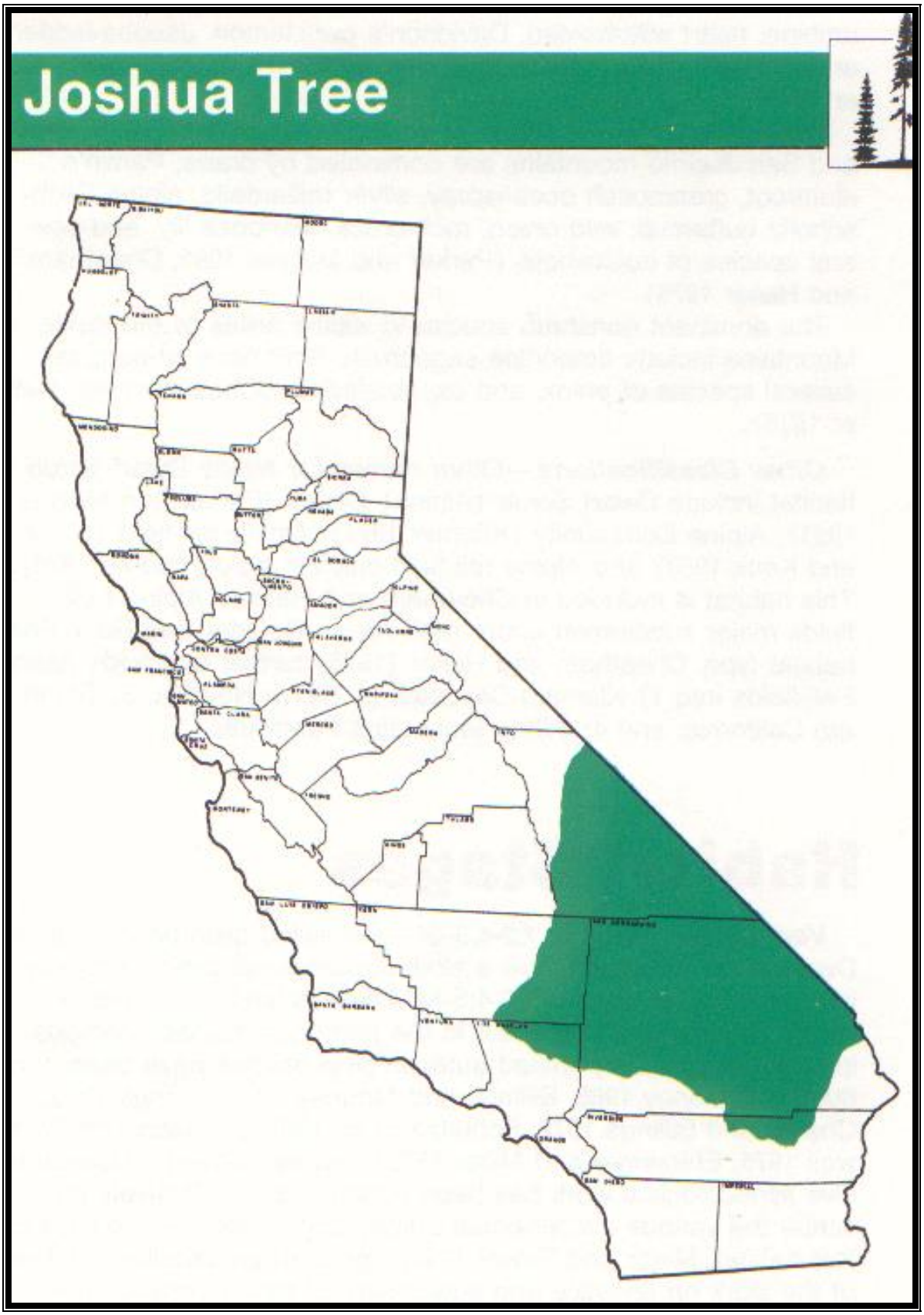
Drought will likely lead to higher deaths of Joshua trees along with invasive grass species which will lead to more frequent fires according to the report's findings.

Later this summer, the state's Fish and Game Commission could take up the petition and determine if they will accept Fish and Wildlife's recommendation to consider the western species of the Joshua tree as a candidate for protection under California's Endangered Species Act.

We are elated that Joshua trees are a step closer to protection," said Brendan Cummings, the center's conservation director and a Joshua Tree resident. "These beautiful trees face huge threats that could drive them extinct in the wild. We urge the state to finalize these protections quickly so Joshua trees can survive and thrive in California for generations to come.

According to the Center for Biological Diversity, approximately 40% of the Joshua tree range in California is located on private land. Joshua Tree National Park spans an area larger than the state of Rhode Island across portions the Mojave and Colorado deserts.

The Joshua tree was identified as one species until recently, when botanists determined there are two distinct species. The petition seeks to address the species in the national park westward toward the northern slopes of the San Bernardino and San Gabriel mountains, through the Antelope Valley, north toward the southern Sierra Nevada and east to the edges of Death Valley National Park and into Nevada.


Joshua Tree

California Wildlife Habitat Relationships System
California Department of Fish and Game
California Interagency Wildlife Task Group

JOSHUA TREE HABITAT

By: William F. Laudenslayer Jr.

Vegetation

Structure - Joshua Tree habitats are characterized as open woodlands of widely scattered Joshua trees (Miller and Stebbins 1964, Cheatham and Haller 1975, Küchler 1977) with a low to more or less dense community of broad-leaved evergreen and deciduous shrubs (Küchler 1977) found in Desert Scrub habitats (Vasek and Barbour 1977). Joshua Tree habitats generally include little herbaceous understory (Cheatham and Haller 1975). Joshua trees usually are the only arborescent shrubs present (Cheatham and Haller 1975) however, in some areas, especially in the eastern Mojave Desert, other yuccas as well as scattered junipers and pinyons may coexist. Joshua trees, though very conspicuous, generally contribute little vegetation cover or stem density; thus, they should be regarded dominant only in terms of stature (Rowlands 1978). Large Joshua trees may exceed 6 m (20 ft) in height with maximum height ranging from 12 to 15 m (40 to 50 ft) (Jaeger 1957, Cheatham and Haller 1975, Thorne 1976, Küchler 1977).

Composition - Joshua trees are rarely found as pure stands (Parker and Matyas 1981) but generally are associated with other overstory trees and shrubs. Coexisting overstory species include California juniper, Utah juniper, singleleaf pinyon, and Mojave yucca (Munz 1974, Cheatham and Haller 1975, Paysen et al. 1980, Parker and Matyas 1981). Many plants typical to Joshua tree habitats exist in adjacent Desert Scrub or Juniper habitats which Joshua trees may also inhabit (Paysen et al. 1980). Shrub species include big sagebrush, blackbrush, Nevada ephedra, California buckwheat, Cooper goldenbush, burrobush, creasotebush, Anderson's wolfberry, Cooper wolfberry, squawthorn, spiny menodora, Opuntia, bladdersage, longspine horsebrush, and Spanish bayonet (Shelford 1963, Bradley and Deacon 1967, Munz 1974, Cheatham and Haller 1975, Küchler 1977, Parker and Matyas 1981). Grasses and forbs include red brome, big galleta, bush muhly, and desert needlegrass (Bradley and Deacon 1967, Cheatham, and Haller 1975).

Other Classifications - Other names for Joshua Tree habitat include Joshua Tree Series (Paysen et al. 1980, Parker and Matyas 1981), Joshua Tree Woodland - 7.3 (Cheatham and Haller 1975), Joshua Tree Woodland - 29 (Munz and Keck 1970) (No Munz and Keck 1970 in Habitat Lit Cite. I used Munz and Keck 1973 for Lit Cite at end.), and Joshua Tree Scrub - 40 (Küchler 1977).

Habitat Stages

Vegetation Changes - 1;2-3:S-M. After disturbance or invasion, Joshua Tree habitats slowly proceed through the successional sequence. Joshua trees of "typical form" (i.e., var. Jaegeriana) (P. G. Rowlands, pers. comm.) generally do not begin to branch until they reach a height of 1.5 to 1.8 m (5 to 6 ft) (Jaeger 1957).

Duration of Stages- The time necessary for Joshua tree habitats to progress through successional stages is not known but most likely relates to precipitation, fire, soil characteristics, and livestock use.

Biological Setting

Habitat - Joshua Tree habitats generally occur at moderate elevations in the Mojave Desert between creosotebush scrub and pinyon-juniper woodlands (Vasek and Barbour 1977). At lower elevations, Joshua Trees intergrade with Desert Scrub (DSC), Alkali Scrub (ASC) (Cheatham and Haller 1975), and Desert Succulent Shrub (DSS). At higher elevations, Joshua trees interface with Pinyon-Juniper (PJN) (Cheatham and Haller 1975, Thorne 1976) and Sagebrush (SGB) (Thorne 1976). Joshua Tree habitats also may be adjacent to Desert Riparian (DRI) and Desert Wash (DSW) habitats within the elevational zone inhabited by Joshua Trees.

Wildlife Considerations. Because Joshua Trees are the only sizable trees in many Joshua Tree habitats (Jaeger 1957), this species enhances the shrublike character of Desert Scrub habitat. Joshua Trees provide song perches, lookout posts, and nest sites for birds (e.g., ladder-backed woodpecker, cactus wren, Scott's oriole). The sharp spiny leaves provide protective havens for birds and lizards (Miller and Stebbins 1964). The desert night lizard requires fallen Joshua tree branches, dead clumps of Joshua Trees or other yucca species, or other debris for shelter (Stebbins 1966)

Physical Setting

Joshua Tree habitats occur in broad valleys where soils are deep, on alluvial or rocky slopes, and on pediments with minimal runoff surrounding desert mountains and mesas (Webber 1953, Jaeger 1957, Munz 1974, Thorne 1976, Parker and Matyas 1981, Turner 1982). Soils must be well drained but may vary considerably in other characteristics.

Typical soils may be loose, porous, loamy, sandy, or fine gravelly (Webber 1953, Jaeger 1957, Thorne 1976, Turner 1982) and are more permeable with lower salt concentrations and more organic matter than other soils, especially those at lower elevations (Bradley and Deacon 1967). Hot, dry summers and cool to cold, moist winters are characteristic of areas occupied by Joshua trees and their associates. Highest July temperatures range between 28 to 44 C (82 to 111 F) and lowest January temperatures range between 9 and 3 C (16 and 37 F) (Rowlands et al. 1982, P. G. Rowlands pers. comm.).

Most precipitation is in winter, though summer rainfall occurs, especially in the eastern Mojave Desert. Total precipitation ranges from 11 to 30 cm (4 to 12 in) per year and potential evapotranspiration from 2 to 15 times as great as precipitation (Rowlands et al. 1982, P. G. Rowlands pers. comm.). Slope aspect influences the elevations at which Joshua trees grow. In Nevada, Joshua trees generally occupy north-facing slopes at elevations between 1280 and 1830 m (4200 and 6000 ft) but may be found down to 1190 m (3900 ft). In contrast, Joshua trees on south-facing slopes may be found up to 1980 m (6500 ft) (Bradley and Deacon 1967).

Distribution

The elevational distribution of Joshua Tree habitats varies from 750 to 2300 m (2500 to 7500 ft) (Munz 1974, Cheatham and Haller 1975, Thorne 1976, Rowlands et al. 1982, P. G. Rowlands pers. comm.) but maximum development occurs above 1000 m (3026± to 3011± ft) (Shelford 1963). Joshua Tree habitats generally are found at most points on the periphery of the Mojave Desert; however, these habitats do not occur where the Mojave Desert contacts Sonoran Desert scrub habitats (Turner 1982).

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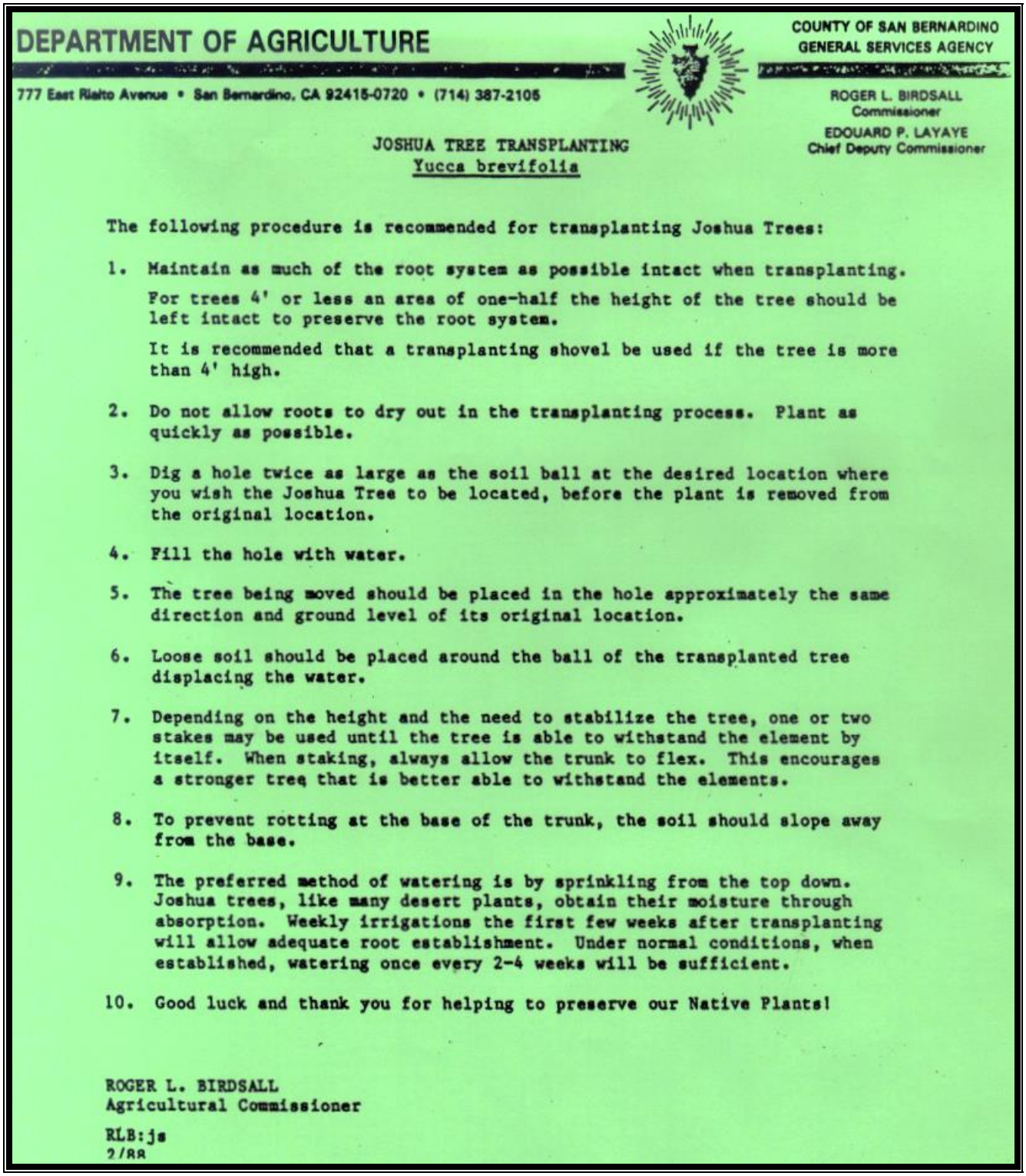

DEPARTMENT OF AGRICULTURE

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COUNTY OF SAN BERNARDINO
GENERAL SERVICES AGENCY

ROGER L. BIRDSALL
Commissioner

EDOUARD P. LAYAYE
Chief Deputy Commissioner

JOSHUA TREE TRANSPLANTING
Yucca brevifolia

The following procedure is recommended for transplanting Joshua Trees:

1. Maintain as much of the root system as possible intact when transplanting.

   For trees 4' or less an area of one-half the height of the tree should be left intact to preserve the root system.

   It is recommended that a transplanting shovel be used if the tree is more than 4' high.

2. Do not allow roots to dry out in the transplanting process. Plant as quickly as possible.

3. Dig a hole twice as large as the soil ball at the desired location where you wish the Joshua Tree to be located, before the plant is removed from the original location.

4. Fill the hole with water.

5. The tree being moved should be placed in the hole approximately the same direction and ground level of its original location.

6. Loose soil should be placed around the ball of the transplanted tree displacing the water.

7. Depending on the height and the need to stabilize the tree, one or two stakes may be used until the tree is able to withstand the element by itself. When staking, always allow the trunk to flex. This encourages a stronger tree that is better able to withstand the elements.

8. To prevent rotting at the base of the trunk, the soil should slope away from the base.

9. The preferred method of watering is by sprinkling from the top down. Joshua trees, like many desert plants, obtain their moisture through absorption. Weekly irrigations the first few weeks after transplanting will allow adequate root establishment. Under normal conditions, when established, watering once every 2-4 weeks will be sufficient.

10. Good luck and thank you for helping to preserve our Native Plants!

ROGER L. BIRDSALL
Agricultural Commissioner

RLB:js
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