Biological Resource Assessment of APNs 3111-001-047 and 093 Lancaster, California

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B.S. Degree, Wildlife Management Humboldt State University Biological Resource Assessment of APNs 3111-001-047 and 093, Lancaster, California

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Abstract

Development has been proposed for APNs 3111-001-047 and 093. The approximately 17.5 acre (7.1 ha) study area was located north of Avenue M-6 and east of 40th Street West, T6N, R12W, a portion of the N1/2 of the SW1/4 of the NW1/4 of Section 6, S.B.B.M. A line transect survey was conducted on 26 September 2024 to inventory biological resources. The proposed project area was characteristic of a highly impacted Joshua tree (Yucca brevifolia) and California juniper (Juniperus californica) woodland and desert scrub plant community. A total of 27 plant species and 25 wildlife species or their sign were observed during the line transect survey. No desert tortoises (Gopherus agassizii) or their sign were observed during the field survey. No Mohave ground squirrels (Xerospermophilus mohavensis) were observed or audibly detected during the field survey. There was no suitable habitat for Mohave ground squirrels within the study area. No desert kit foxes (Vulpes macrotis) or their sign were observed during the field surveys. No burrowing owls (Athene cunicularia), or their sign were observed during the field survey. California ground squirrel (Citellus beecheyi) sign was observed within the western portion of the study site. Vegetation within the study area provided nesting sites for migratory birds. No Swainson's hawk nests have been sighted within 5 miles of the project site. A western Joshua tree census and ITP application have been accomplished for this site. No other sensitive plants, specifically, alkali mariposa lily (Calochortus striatus), desert cymopterus (Cymopterus deserticola), and Barstow woolly sunflower (Eriophyllum mohanense) were observed during the field survey. No other state or federally listed species are expected to occur within the proposed project area. No wetlands or ephemeral desert washes were observed within the study area.

Recommended Protection Measures:

Western Joshua trees (WJT) are currently being considered for listing under the California Endangered Species Act and are also protected under the Western Joshua Tree Conservation Act (WJTCA). Consultation with California Department of Fish and Wildlife would be required to take WJTs. Compensation and mitigation for impacts to Joshua trees will be determined through the Incidental Take Permit process. A WJT census and ITP application have been accomplished for this site (Aspen Environmental Group 2024).

Consistent with the "Staff Report on Burrowing Owl Mitigation" a take avoidance (preconstruction) burrowing owl survey will be accomplished no more than 14 days prior to ground disturbance activities to ensure no owls have moved into the study site (CDFG 2012). If burrowing owls are found to have moved into the site methods noted within the Staff Report will be applied as appropriate.

If possible, removal of vegetation will occur outside the breeding season for migratory birds. Breeding generally lasts from February to July but may extend beyond this time frame. If vegetation removal will occur during or close to the nesting season, a qualified biologist will survey all potential nesting areas to be disturbed as close as possible but no more than one week prior to removal. If active bird nests are found, impacts to nests will be avoided by either

delaying work or establishing initial buffer areas of a minimum of 500 feet (152 m) around active raptor nests or 50 feet (15 m) around smaller active migratory bird species nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

Significance:

Given the condition of the study area, the adjacent land uses, isolated and fragmented location, mitigation for WJTs, and lack of other sensitive wildlife species sign this project is not expected to result in a significant adverse impact to biological resources.

Development has been proposed for APNs 3111-001-047 and 093 (Figure 1). Development would include installation of access roads and utilities (water, sewer, electric, etc.). The entire project area would be graded prior to construction activities.

An environmental analysis should be conducted prior to any development project. An assessment of biological resources is an integral part of environmental analyses (Gilbert and Dodds 1987). The purpose of this study was to provide an assessment of biological resources potentially occurring within or utilizing the proposed project area. Specific focus was on the presence/absence of rare, threatened, and endangered species of plants and wildlife. Species of concern included the desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), desert kit fox (*Vulpes macrotis*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), western Joshua tree (*Yucca brevifolia*), desert cymopterus (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohanense*), and alkali mariposa lily (*Calochortus striatus*).

Study Area

The approximately 17.5 acre (7.1 ha) study area was located north of Avenue M-6 and east of 40th Street West, T6N, R12W, a portion of the N1/2 of the SW1/4 of the NW1/4 of Section 6, S.B.B.M. (Figures 2 and 3). Avenue M-4, a dirt road, formed the northern boundary of the study site. Disturbed Western Joshua tree (WJT) woodland and desert scrub habitat was present north of Avenue M-4 with water tanks and residential housing a short distance further north. Avenue M-6 formed the southern boundary of the study site. Highly disturbed fields with a few scattered WJTs were present south of Avenue M-6. The eastern boundary was adjacent to highly disturbed Joshua tree woodland and desert scrub habitat. The western boundary of the study area was formed by 40th Street West. Residential housing was present west of 40th Street West.

Methods

A line transect survey was conducted to inventory plant and wildlife species occurring within the proposed project area (Cooperrider et al. 1986, Davis 1990). The USFWS (2010) has provided recommendations for survey methodology to determine presence/absence and abundance/distribution of desert tortoises. Line transects were walked in an east-west orientation. Line transects were approximately 990 to 1320 feet (302 to 402 m) long and spaced

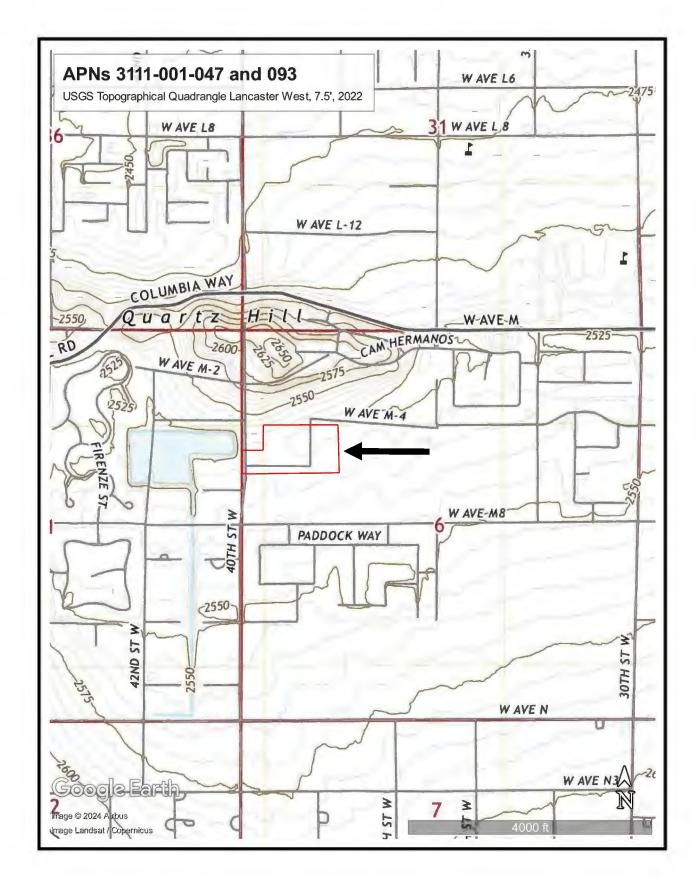
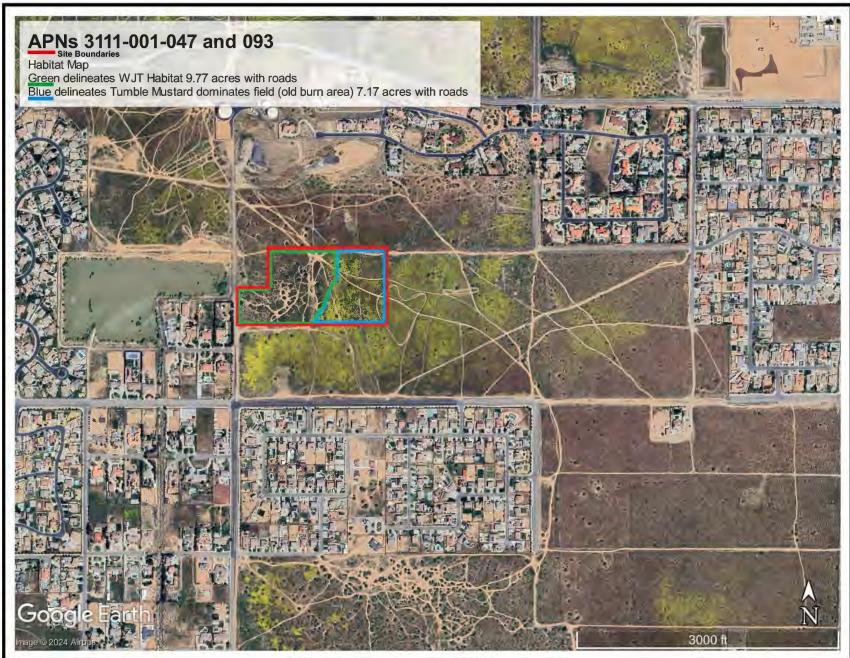


Figure 2. Approximate location of study area as depicted on excerpt from Lancaster West, 2022, 7.5', USGS Topographical Maps.



about 50 feet (15 m) apart (U.S. Fish & Wildlife Service 2010). The California Department of Fish and Game (2012) prepared recommendations for burrowing owl survey methodology. Consistent with the survey protocol the entire site was surveyed, and adjacent areas were evaluated (CDFG 2012). A habitat assessment was conducted for Mohave ground squirrels to determine shrub species diversity, cover, and forage potential on the study site.

All observations of plant and animal species were recorded in field notes. Field guides were used to aid in the identification of plant and animal species (Arnett and Jacques 1981, Blatt 2019, Borror and White 1970, Burt and Grossenheider 1976, Gould 1981, Jaeger 1969, Knobel 980, Robbins et al. 1983, Stark 2000). Observations were aided with the use of 10x42 binoculars. Observations of animal tracks, scat, and burrows were also utilized to determine the presence of wildlife species inhabiting the proposed project area (Cooperrider et al. 1986, Halfpenny 1986, Murie 1974, Lowrey 2006). Review of documented sightings of sensitive plant and wildlife species was accomplished using the California Natural Diversity Database (CNDDB 2023), and eBird.org. A previous survey in the area (Hagan 2022) was reviewed for historical sightings and background information. Photographs were taken of the study site (Figures 4 and 5).

Results

A total of 12 line transects were walked on 26 September 2024 within the study area. Weather conditions consisted of warm temperatures (estimated 80-90 degrees F), 0% cloud cover, and a light breeze. A sandy loam surface soil texture was characteristic throughout the study area. No blue line streams were noted within the study site on the USGS topographic map. No streams or washes were noted within the study site on Google Earth aerial photography of the area. No wetlands or ephemeral desert washes were observed within the study area. Topography of study site was approximately 2,525 to 2,535 feet (770 to 773 m) above sea level.

The proposed project area was characteristic of a highly impacted Joshua tree and California juniper (*Juniperus californica*) woodland and desert scrub plant community (Barbour and Major 1988, Barbour et.al. 2007). A total of 27 plant species were observed during the line transect survey (Table 1). Approximately 7 acres (2.8 ha) of the eastern portion of the study area was all but devoid of shrub species and WJTs (Figure 5). The dominant annual throughout the study area was tumble mustard (*Sisymbrium altisissiimum*). A total of 100 WJTs were present within the study area (Aspen 2024). No alkali mariposa lilies, desert cymopterus, or Barstow woolly sunflowers or their habitat were observed within the study area.

A total of 25 wildlife species, or their sign were observed during the line transect survey (Table 2). No desert tortoises or their sign were observed during the field survey. No suitable desert tortoise habitat was present within the study site. No burrowing owls or their sign were observed during the field survey. California ground squirrel (*Citellus beecheyi*) sign was observed within the western portion of the study site. California ground squirrel burrows can provide future available cover sites for burrowing owls. Vegetation within the study area provided potential nesting sites for migratory birds. No Swainson's hawk nests have been sighted within 5 miles of the project site (eBird 2024). No MGS were observed or audibly detected during the field survey. Suitable habitat for Mohave ground squirrels was not present





Figure 4. Representative photographs of the western 7.5 acres (3 ha) of the study area.





Figure 5. Representative photographs of the eastern 7 acres (4 ha) of the study area.

Table 1. List of plant species that were observed during the line transect survey of APNs 3111-001-047 and 093, Lancaster, California.

Common Name

Scientific Name

Joshua tree California juniper Four-wing saltbush Mormon tea

Peachthorn
Winterfat
Rabbit brush

Desert straw
Flattop buckwheat
Angle-stem buckwheat
Spotted buckwheat
Turkey mullein
Vinegar weed

Autumn vinegar-weed

Goldfields
Blue mantle
Fiddleneck
Rattlesnake weed
Prickly lettuce
Russian thistle

Russian thistle
Red stemmed filaree
Tumble mustard
Sahara mustard
Annual burweed

Cheatgrass Red brome Schismus Yucca brevifolia
Juniperus californica
Atriplex canescens
Ephedra nevadensis
Lycium cooperi
Eurotia lanata

Chrysothamnus nauseosis Stephanomeria pauciflora Eriogonum deflexum Eriogonum angulosum Eriogonum maculatum Eremocarpus setigerus Trichostema lanceolatum Lessingia germanorum Lasthenia californica Eriastrum diffusum Amsinckia tessellata Euphorbia albomarginata

Lactuca seriola
Salsola iberica
Erodium cicutarium
Sisymbrium altisissiimum
Brassica tournefortii
Franseria acanthicarpa
Bromus tectorum

Bromus tectorum Bromus rubens Schismus sp.

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of APNs 3111-001-047 and 093, Lancaster, California.

Common Name

Rodents
Kangaroo rat
Pocket gopher
Desert cottontail
Black-tailed jackrabbit
California ground squirrel

Coyote Domestic dog Horse

Desert spiny lizard Side blotched lizard

Prairie falcon California quail Mourning dove Common raven Say's phoebe

Northern mockingbird

House finch

White crowned sparrow

Spider Harvester ants Ants, small, black

Fly

Dragonfly

Darkling beetle

Scientific Name

Order: Rodentia
Dipodomys sp.
Thomomys bottae
Sylvilagus auduboni
Lepus californicus
Citellus beecheyi
Canis latrans
Canis familiaris
Equus sp.

Sceloporus magister Uta stansburiana

Falco mexicanus
Callipepla californica
Zenaida macroura
Corvus corax
Sayornis saya
Mimus polyglottos
Carpodacus mexicanus
Zonotrichia leucophrys

Order: Araneida Order: Hymenoptera Order: Hymenoptera Order: Diptera

Order: Odonata

Coelocnemis californicus

within or adjacent to the study site (CDFW 2019, Lietner and Leitner 2017). No desert kit foxes, or their sign were observed during the field survey. No other wildlife species of concern were observed within the study site.

Dirt roads surrounded and intersected the study site. Evidence of a large historical fire was observed within the south and east portion of the study site. Scattered litter was observed throughout the study area. Large trash dumps containing, construction debris, yard waste, and household waste were observed within the western portion of the study area. Off-highway vehicle (OHV) tracks were observed within the study area. People hiking and walking dogs were observed within and adjacent to the study area. OHV riders were observed within and around the study site.

Discussion

It is probable that most annual species were visible during the time the field survey was performed. Approximately 7 acres (2.8 ha) of the eastern portion of the study site and areas to the south and east appeared to have been impacted by a historical fire which removed nearly all perennial vegetation leaving a few Joshua trees and California juniper trees. Based on historical Google Earth photos this fire appears to predate 2003. Several wildlife species would be expected to occur within the proposed project area (Table 3).

Human impacts in the area have severely degraded and fragmented the study site and general area. These impacts are expected to increase as urban development continues to occur near the study area. This urban development has effectively removed wildlife corridor potential to all but birds and urbanized wildlife. Burrowing animals within the proposed project area are not expected to survive construction activities. More mobile species, such as lagomorphs (rabbits and hares), coyotes (*Canis latrans*), and birds are expected to survive construction activities. Development of this site will result in less cover and foraging opportunities for the species occurring within and adjacent to the study area.

The desert tortoise is listed as a state endangered and federal threatened species. The proposed project area was located within the geographic range of the desert tortoise. The proposed project site was not located in critical habitat designated for the Mojave population of the desert tortoise. No desert tortoises or their sign were observed within the study area. No suitable habitat for desert tortoises was present within the study area. No desert tortoises are considered present within the study site. No protection measures are recommended for desert tortoises.

Burrowing owls are considered a species of special concern by the California Department of Fish and Wildlife (CDFW). No burrowing owls, or their sign were observed during the survey. California ground squirrel burrows could become cover sites for burrowing owls within the study site in the future.

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. Vegetation within the study area provides nesting sites for migratory birds. Swainson's hawk is a state listed threatened species. Swainson's hawks appear to be linked most

Table 3. List of plants and wildlife species that may occur within of APNs 3111-001-047 and 093, Lancaster, California.

Common Name

Scientific Name

Sun cups
California poppy
Pygmy-leaved lupine
Lacy phacelia
Comb-bur
Jimson weed
Tansy mustard

Camiissonia campestris Eschscholtzia californica Lupinus bicolor Phacelia tanacetifolia Pectocarya recurvata Datura meteloides Descurainia sophia

Deer mouse Merriam kangaroo rat Peromyscus maniculatus Dipodomys merriami

Western whiptail

Cnemidophorus tigris

Rock dove Cactus wren Greater roadrunner Horned lark Columba livia
Campylorhynchus brunneicapillus
Geococcvx californianus

Eremophila alpestris

Cabbage white butterfly Grasshopper

Pieris rapae
Order: Orthoptera

often to active agricultural fields, parks, and large retention basins within the Antelope Valley. Nesting for Swainson's hawk appears to be tied to active agricultural fields. This is based on an assessment of the pattern of Swainson's hawk sightings documented over time within eBird.org (eBird 2024). No Swainson's hawk nest sightings have been documented within 5 miles of the study site (eBird 2024). No mitigation measures for Swainson's hawks are recommended.

The Mohave ground squirrel (MGS) is a state listed threatened species. The proposed project area was not located within the geographic range of the MGS. The western limit of the geographic range of the MGS is State Highway 14. In addition, the study area lacked suitable habitat to support MGS (CDFW 2019, Leitner and Leitner 2017). No protection measures are recommended for MGS.

The WJT was proposed for listing and became a candidate species in September 2020. This afforded the WJT full protection as a listed species while the decision to list or not was made. This required the development of a California Endangered Species Act (CESA) Incidental Take Permit (ITP) and associated mitigation. In February 2023 the California Department of Fish and Wildlife (CDFW) determined that listing was not recommended, however the California Fish and Game Commission was split on its decision as to list or not. The outcome of the Commission meeting was to develop the Western Joshua Tree Conservation Act (WJTCA) to be considered by the State Legislature. On 29 June 2023 the bill was sent to the Senate Natural

Resources and Water Committee. The WJTCA was sent to the Governor and signed into law on 10 July 2023 effective immediately. The WJTCA did not eliminate the candidacy and requirements under CESA and thereby CESA mitigation banking but provides an additional mitigation path for the WJT through a mitigation fund. Developers may choose whether to mitigate under CESA or under the WJTCA. This would be expected to change in the future leaving only the WJTCA pathway.

No suitable habitat for alkali mariposa lilies, Barstow woolly sunflowers, or desert cymopterus was observed within the study site. Based on the results of the field survey these species do not occur within the study area and no protection measures are recommended. No other state or federally listed threatened or endangered species are expected to occur within the proposed project area (CNDDB 2024a, CNDDB 2024b).

Landscape design should incorporate the use of native plants to the maximum extent feasible. Native plants that have food and cover value to wildlife should be used in landscape design (Adams and Dove 1989). Diversity of native plants should be maximized in landscape design (Adams and Dove 1989).

Recommended Protection Measures:

Western Joshua trees (WJT) are currently being considered for listing under the California Endangered Species Act and are also protected under the Western Joshua Tree Conservation Act (WJTCA). Consultation with California Department of Fish and Wildlife would be required to take WJTs. Compensation and mitigation for impacts to Joshua trees will be determined through the Incidental Take Permit process. A WJT census and ITP application have been accomplished for this site (Aspen Environmental Group 2024).

Consistent with the "Staff Report on Burrowing Owl Mitigation" a take avoidance (preconstruction) burrowing owl survey will be accomplished no more than 14 days prior to ground disturbance activities to ensure no owls have moved into the study site (CDFG 2012). If burrowing owls are found to have moved into the site methods noted within the Staff Report will be applied as appropriate.

If possible, removal of vegetation will occur outside the breeding season for migratory birds. Breeding generally lasts from February to July but may extend beyond this time frame. If vegetation removal will occur during or close to the nesting season, a qualified biologist will survey all potential nesting areas to be disturbed as close as possible but no more than one week prior to removal. If active bird nests are found, impacts to nests will be avoided by either delaying work or establishing initial buffer areas of a minimum of 500 feet (152 m) around active raptor nests or 50 feet (15 m) around smaller active migratory bird species nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

Significance:

Given the condition of the study area, the adjacent land uses, isolated and fragmented location, mitigation for WJTs, and lack of sensitive wildlife species sign this project is not expected to result in a significant adverse impact to biological resources.

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