

REPORT OF BIOLOGICAL SURVEYS

FOR THE

**IVANPAH UNDERGROUND WATERLINE AND 69kV
OVERHEAD POWERLINE RIGHTS-OF-WAY PROJECT**

**LOCATED IN UNINCORPORATED
SAN BERNARDINO COUNTY, CALIFORNIA AND
UNINCORPORATED CLARK COUNTY, NEVADA**

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1.0 INTRODUCTION

1.1 Background and Scope of Work

This document provides the results of general biological surveys and focused biological surveys conducted by Glenn Lukos Associates, Inc. (GLA) for an approximately 30-mile linear Study Area (approximately 403.90 acres) associated with the Ivanpah Underground Waterline and 69kV Overhead Powerline Rights-Of-Way Project in unincorporated San Bernardino County, California. Portions of the linear Study Area also extend into unincorporated Clark County, Nevada. In general, the Study Area included areas proposed for development for the Project, which occur along and adjacent to existing highways and roadways.

The scope of this report includes a discussion of existing conditions for the approximately 30-mile linear alignment, all methods employed regarding the general biological surveys and focused biological surveys, and the documentation of botanical and wildlife resources identified (including special-status species). Methods of the study include a review of relevant literature, field surveys, and a Geographical Information System (GIS)-based analysis of vegetation communities. As appropriate, this report is consistent with accepted scientific and technical standards and survey guideline requirements issued by the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS), Nevada Department of Conservation and Natural Resources (DCNR), Bureau of Land Management (BLM), and other applicable agencies/organizations.

The field study focused on a number of primary objectives that would comply with the California Environmental Quality Act (CEQA) requirements, including (1) general reconnaissance; (2) general biological surveys; (3) habitat assessments for special-status plant species; (4) habitat assessments for special-status wildlife species; and (5) focused surveys for special-status wildlife species. Observations of all plant and wildlife species were recorded during the biological studies and are included as Appendix A: Floral Compendium and Appendix B: Faunal Compendium.

1.2 Site Location

The Ivanpah Underground Waterline and 69kV Overhead Power Line Rights-Of-Way Project (“Project”) [Exhibit 1] comprises approximately 30 linear miles and 403.90 acres (Study Area) as depicted on the U.S. Geological Survey (USGS) Crescent Peak, Hart Peak, Highland Spring, Hopps Well, McCullough Mountain, and Nipton, California - Nevada 7.5-minute topographic quadrangle maps within San Bernardino County, California and Clark County, Nevada [Exhibit 2]. The Study area extends from Nipton, California east along Highway 164 to Walking Box Ranch Road, then extends south along Walking Box Ranch Road to the limits of the Castle Mountain Mine property. Land use adjacent to the Study Area along Highway 164 consists of undeveloped land managed by the BLM within California and Nevada. Land use adjacent to the Study Area along Walking Box Ranch Road consists of undeveloped land managed by the BLM within Nevada and California, as well as a small section of undeveloped land within the Mojave National Preserve within California. Castle Mountain Mine Venture maintains a separate

authorization for access and other uses within the Mojave National Preserve. The site’s center point of latitude and longitude is: 35.50035 N and -115.03627 W.

2.0 METHODOLOGY

In order to adequately identify biological resources in accordance with the requirements of CEQA, Glenn Lukos Associates (GLA) assembled biological data consisting of the following main components:

- Performance of habitat assessments, and site-specific biological surveys, to evaluate the presence/absence of special-status species in accordance with the requirements of CEQA, the California Endangered Species Act (CESA), Nevada Endangered Species Act (NESA), and Federal Endangered Species Act (FESA);
- Performance of focused surveys for rare plants;
- Performance of a focused survey for burrowing owl; and
- Performance of a focused survey for desert tortoise.

The focus of the biological surveys was determined through initial site reconnaissance, a review of the California Natural Diversity Database (CNDDDB) (CDFW 2023), CNPS 9th edition online inventory (CNPS 2023), Natural Resource Conservation Service soil data (NRCS 2023), the Nevada Department of Conservation and Natural Resources’ At-Risk Plant and Animal Tracking List (DCNR 2024), the Nevada Department of Conservation and Natural Resources’ Plant and Animal Watch List (DCNR 2024), the Bureau of Land Management Nevada Special-Status Species List (BLM 2023), and other pertinent literature and knowledge of the region. Site-specific general surveys within the Study Area were conducted on foot in the proposed development areas for each target plant or animal species identified below as well as in the avoided open space. Table 2-1 provides a summary list of survey dates, survey types and personnel.

Table 2-1. Summary of Biological Surveys for the Study Area

Survey Type	2023 Survey Dates	Biologist(s)
General Biological Survey	12/19	CW, JF
Survey Type	2024 Survey Dates	Biologist(s)
Focused Plant Surveys	3/26, 3/27, 4/16, 4/17, 4/18, 4/19, 6/13, 6/14	BL, IR, WJ
Focused Burrowing Owl Surveys	3/25, 3/26, 3/27, 4/16, 4/17, 4/18, 4/19, 6/13, 6/14, 7/10, 7/11	BL, CW, JA, JF, SC, WJ
Focused Desert Tortoise Surveys	3/26, 4/17, 4/18	JA, JF, SC

BL = Brinna Lee, CW = Chris Waterston; IR = Ian Rhodes; JA = Jeff Ahrens, JF = Jason Fitzgibbon; SC = Stephanie Cashin; WJ = Wanisa Jaikwang

Individual plants and wildlife species were evaluated in this report based on their “special-status.” For this report, plants were considered “special-status” based on one or more of the following criteria:

- Listing through the Federal and/or State Endangered Species Act (ESA); and/or
- CNPS Rare Plant Inventory Rank 1A, 1B, 2A, 2B, 3, or 4; and/or
- Listing through the DCNR's Plant and Animal Watch List; and/or
- Listing through the DCNR's At-Risk Plant and Animal Tracking List; and/or
- Listing through the BLM's Nevada Special-Status Species List.

Wildlife species were considered “special-status” based on one or more of the following criteria:

- Listing through the Federal and/or State ESA; and
- Designation by the State as a Species of Special Concern (SSC) or California Fully Protected (FP) species.
- Listing through the DCNR's Plant and Animal Watch List; and/or
- Listing through the DCNR's At-Risk Plant and Animal Tracking List; and/or
- Listing through the BLM's Nevada Special-Status Species List.

2.1 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Study Area, and consisted of five components: (1) a literature search; (2) preparation of a list of target special-status plant species that could occur within the Study Area; (3) general field reconnaissance survey(s); and (4) habitat assessments and focused surveys for special-status plants.

2.1.1 Literature Search

Prior to conducting fieldwork, pertinent literature on the flora of the region was examined. A thorough archival review was conducted using available literature and other historical records. These resources included the following:

- California Native Plant Society, Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v9.5) (CNPS 2023)
- CNDDDB for the USGS 7.5' quadrangle(s): Crescent Peak, Hart Peak, Highland Spring, Hopps Well, McCullough Mountain, and Nipton, California – Nevada (CDFW 2023)
- Nevada Department of Conservation and Natural Resources' At-Risk Plant and Animal Tracking List (DCNR 2024)
- Nevada Department of Conservation and Natural Resources' Plant and Animal Watch List (DCNR 2024)
- Bureau of Land Management Nevada Special-Status Species List (BLM 2023)

2.1.2 Special-Status Plant Species and Habitats Evaluated for the Study Area

A literature search was conducted to obtain a list of special-status plants with the potential to occur within the Study Area. The CNDDDB was initially consulted to determine well-known occurrences of plants and habitats of special concern in the region. Other sources used to develop a list of target species for the survey program included the CNPS online inventory (2023).

Based on this information, vegetation profiles and a list of target sensitive plant species and habitats that could occur within the Study Area were developed and incorporated into a mapping and survey program to achieve the following goals: (1) prepare a detailed floristic compendium; (2) identify the potential for any special-status plants that may occur within the Study Area; and (3) prepare a map showing the distribution of any sensitive botanical resources associated with the Study Area, if applicable.

2.1.3 Botanical Surveys

GLA biologists Brinna Lee, Ian Rhodes, Jeff Ahrens, Jason Fitzgibbon, Stephanie Cashin and Wanisa Jaikwang visited the site on March 26 and 27, April 16, 17, 18, and 19, and June 13 and 14, 2024, to conduct general and focused plant survey(s). Survey(s) were conducted in accordance with accepted botanical survey guidelines (CDFW 2018, CNPS 2001, Nelson 1984, USFWS 2000). As applicable, survey(s) were conducted at appropriate times based on precipitation and flowering periods. An aerial photograph, a soil map, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Study Area. Survey(s) were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field survey(s) were identified and recorded following the above-referenced guidelines. A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Baldwin et al. (2012), and Munz (1974).

2.2 Wildlife Resources

Wildlife species were evaluated and detected during the field survey(s) by sight, call, tracks, and scat. Site reconnaissance was conducted in such a manner as to allow inspection of the entire Study Area by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during the visit(s). A complete list of wildlife species observed within the Study Area is provided in Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow the Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFW 2016), Standard Common and Scientific Names for North American Amphibians, Turtles, Reptiles, and Crocodilians 6th Edition, Collins and Taggart (2009) for amphibians and reptiles, and the American Ornithological Society Checklist of Middle and North American Birds (Chesser et al. 2022) for birds. The methodology (including any applicable survey protocols) utilized to conduct general survey(s), habitat assessment(s), and/or focused surveys for special-status animals are included below.

2.2.1 General Surveys

Birds

During the general biological and reconnaissance survey within the Study Area, birds were identified incidentally within each habitat type. Birds were detected by both direct observation and by vocalizations and were recorded in field notes.

Mammals

During general biological and reconnaissance survey within the Study Area, mammals were identified incidentally within each habitat type. Mammals were detected both by direct observations and by the presence of diagnostic sign (i.e. tracks, burrows, scat, etc.).

Reptiles and Amphibians

During general biological and reconnaissance surveys within the Study Area, reptiles and amphibians were identified incidentally during surveys within each habitat type. Habitats were examined for diagnostic reptile sign, which include shed skins, scat, tracks, snake prints, and lizard tail drag marks. All reptiles and amphibian species observed, as well as diagnostic sign, were recorded in field notes.

2.2.2 Special-Status Animal Species Evaluated for the Study Area

A literature search was conducted to obtain a list of special-status wildlife species with the potential to occur within the Study Area. Species were evaluated based on species identified by the CNDDDB as occurring (either currently or historically) on or in vicinity of the Study Area, and any other special-status animals that are known to occur within the vicinity of the Study Area, or for which potentially suitable habitat occurs on the Study Area.

2.2.3 Habitat Assessment for Special-Status Animal Species

GLA biologists Chris Waterston and Jason Fitzgibbon conducted habitat assessments for special-status animal species on December 19, 2023. An aerial photograph, soil map and/or topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa within the Study Area.

2.2.4 Focused Surveys for Special-Status Animal Species

Burrowing Owl

GLA biologists conducted focused surveys for the burrowing owl for all suitable habitat areas within the Study Area. Surveys were conducted in accordance with survey guidelines described in the 2012 CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). The guidelines stipulate that four separate focused survey visits be conducted with the first visit being conducted between February 15 and April 15, then another three visits – at least three weeks apart each – be

conducted between April 15 and July 15, with at least one visit being conducted after June 15. Due to the large size of the Study Area, the Study Area was divided into multiple survey polygons (A, B, C, D, E, and F) - none exceeding 80 acres - with one surveyor being assigned one polygon for each survey window. Focused burrowing owl surveys were conducted on March 25, 26, and 27, April 16, 17, 18, and 19, June 13 and 14, and July 10 and 11, 2024. The burrowing owl survey visits were conducted within the timeline stated in the 2012 CDFW Staff Report on Burrowing Owl Mitigation, which is from morning civil twilight to 10:00AM, and from two hours prior to sunset up until evening civil twilight.

In accordance with the CDFW guidelines, burrowing owl surveys were conducted during weather that was conducive to observing owls outside their burrows and detecting burrowing owl sign and not during rain, high winds (>12km/hr), dense fog, or temperatures under 20 °C. Refer to Table 2-2 below for survey condition details.

Surveys were conducted by walking meandering transects throughout areas of suitable habitat. Exhibit 5 identifies the burrowing owl survey areas within the Study Area. In order to provide adequate visual coverage of the survey areas, transects were spaced no more than 20 meters apart, adjusting for vegetation height and density. At the start of each transect, and at least every 100 meters along transects, the survey area was scanned for burrowing owls using binoculars. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) in order to identify potentially occupied burrows. Mapped suitable burrow locations are depicted on Exhibit 5. Table 2-2 summarizes the burrowing owl survey visits. The results of the burrowing owl surveys are documented in Section 4.0 of this report.

Table 2-2. Summary of Burrowing Owl Surveys

Survey Date	Survey Pass	Biologist(s)	Polygons Surveyed	Survey Period Time	Start/End Temperature (°F)	Wind Speed Range (mph)	Cloud Cover (%)
3/25/24	1	JA, SC	A, B	1711/2008	60/57	3 - 10	0
3/26/24	1	JA	C	0527/1000	55/62	0 - 6	50
3/26/24	1	SC	D	1650/2000	66/60	8 - 11	50
3/27/24	1	JA, SC	E, F	0541/1000	57/59	0 - 1	0
4/16/24	2	JA	A	1644/1931	74/66	6 - 8	0
4/17/24	2	BL, WJ	B, C	0554/1000	61/72	3 - 5	0
4/18/24	2	BL, WJ	D, E	0540/1000	68/78	4 - 9	50
4/19/24	2	JF	F	0542/1000	65/74	0 - 5	0
6/13/24	3	BL, JA, JF	A, B, C	1755/2055	90/82	6 - 11	0
6/14/24	3	BL, JA, JF	D, E, F	0545/1000	70/85	0 - 3	0
7/10/24	4	CW, JF, SC	A, B, C	1756/1956	92/90	5 - 6	0
7/11/24	4	CW, JF, SC	D, E, F	0545/1000	77/94	3 - 4	0

BL = Brinna Lee; CW = Chris Waterston; JA = Jeff Ahrens; JF = Jason Fitzgibbon; SC = Stephanie Cashin; WJ = Wanisa Jaikwang

Desert Tortoise

The Study Area contains suitable habitat for the desert tortoise which is listed as federally and state threatened by the USFWS and CDFW. GLA biologists conducted focused surveys for the

desert tortoise in 2024 throughout the entirety of the Study Area. Surveys were conducted in accordance with the 2010 and 2018 USFWS Mojave Desert Tortoise Pre-Project Survey Protocol, which for “small project areas” (less than 500 acres) requires a single survey pass of 10 meter wide belt transects to cover the entire Action Area; which is defined to be any lands subject to ground-disturbing activities associated with the Project and coincides with the Project footprint for the purposes of this report. The desert tortoise survey area and transects are depicted on Exhibit 6.

All suitable habitat was inspected for diagnostic tortoise sign (e.g., live tortoises, and tortoise sign including carapace remnants, bones, scutes, limbs, scats, burrows, pellets, tracks, eggshell fragments, courtship rings, drinking sites, mineral licks, etc.). The desert tortoise surveys were conducted on March 26, April 17, and April 18, 2024. Pursuant to the survey protocol, the surveys were conducted during the tortoise’s most active periods when air temperatures are below 104 degrees Fahrenheit and seasonal foraging resources are most plentiful. Table 2-3 below lists the survey condition details. The results of the desert tortoise surveys are documented in Section 4.0 of this report.

Table 2-3. Summary of Desert Tortoise Surveys

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover (%)
3/26/24	JA, JF, SC	1111/1533	59/61	0 - 10	50
4/17/24	JA, JF, SC	1132/1912	72/74	5 - 8	0 - 50
4/18/24	JA, JF, SC	1118/1858	74/78	4 - 9	0 - 100

JA = Jeff Ahrens; JF = Jason Fitzgibbon; SC = Stephanie Cashin

3.0 REGULATORY SETTING

The proposed Project is subject to state and federal laws and regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural resources, including state and federally listed plants and animals; special-status species which are not listed as threatened or endangered by the state or federal governments; and special-status vegetation communities.

3.1 Endangered Species Acts

3.1.1 California Endangered Species Act

California’s Endangered Species Act (CESA) defines an endangered species as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.” The State defines a threatened species as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection

and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species.” Candidate species are defined as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.” Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating “No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided.” Under the CESA, “take” is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Exceptions authorized by the state to allow “take” require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Section 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

3.1.2 Federal Endangered Species Act

The FESA of 1973 defines an endangered species as “any species that is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to “take” any listed species. “Take” is defined in Section 3(18) of FESA: “...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Further, the USFWS, through regulation, has interpreted the terms “harm” and “harass” to include certain types of habitat modification that result in injury to, or death of species as forms of “take.” These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

3.1.3 State and Federal Take Authorizations

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).

- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.
- In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

3.2 California Environmental Quality Act

3.2.1 CEQA Guidelines Section 15380

CEQA requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections 5.1.1 and 5.2.2 below set forth these thresholds and guidelines. Furthermore, pursuant to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW recognizes that plants with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, or 2B in the CNPS *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants that are regionally important, such as locally rare species, disjunct populations of more common plants, or plants with a CRPR of 3 or 4.

3.2.2 Special-Status Plants, Wildlife and Vegetation Communities Evaluated Under CEQA

Federally Designated Special-Status Species

Within recent years, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. This term is employed in this document, but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For this report the following acronyms are used for federal special-status species:

- FE Federally listed as Endangered
- FT Federally listed as Threatened
- FPE Federally proposed for listing as Endangered
- FPT Federally proposed for listing as Threatened
- FC Federal Candidate Species (former C1 species)

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (FP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California SSC are designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDDB project. Informally listed taxa are not protected but warrant consideration in the preparation of biotic assessments. For some species, the CNDDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For this report the following acronyms are used for State special-status species:

- SE State-listed as Endangered
- ST State-listed as Threatened
- SR State-listed as Rare
- SCE State Candidate for listing as Endangered
- SCT State Candidate for listing as Threatened
- FP State Fully Protected
- SSC State Species of Special Concern

CNDDDB Global/State Rankings

The CNDDDB provides global and state rankings for species and communities based on a system developed by The Nature Conservancy to measure rarity of a species. The ranking provides a shorthand formula about the rarity of a species/community and is based on the best information available from multiple sources, including state and federal listings, and other groups that recognize species as sensitive (e.g., Bureau of Land Management, Audubon Society, etc.). State and global rankings are used to prioritize conservation and protection efforts so that the rarest species/communities receive immediate attention. In both cases, the lower ranking (i.e., G1 or S1) indicates extreme rarity. Rare species are given a ranking from 1 to 3. Species with a ranking of 4 or 5 is considered to be common. If the exact global/state ranking is undetermined, a range is generally provided. For example, a global ranking of "G1G3" indicates that a species/community global rarity is between G1 and G3. If the animal being considered is a subspecies of a broader species, a "T" ranking is attached to the global ranking. The following are descriptions of global and state rankings:

Global Rankings

- G1 – Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or because of some factor(s) making it especially vulnerable to extinction.
- G2 – Imperiled globally because of rarity (6-20 occurrences), or because of some other factor(s) making it very vulnerable to extinction throughout its range.
- G3 – Either very rare and local throughout its range (21 to 100 occurrences) or found locally (even abundantly at some of its locations) in a restricted range (e.g., a physiographic region), or because of some other factor(s) making it vulnerable to extinction throughout its range.
- G4 – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 – Common, widespread and abundant.

State Rankings

- S1 – Extremely rare; typically 5 or fewer known occurrences in the state; or only a few remaining individuals; may be especially vulnerable to extirpation.
- S2 – Very rare; typically between 6 and 20 known occurrences; may be susceptible to becoming extirpated.
- S3 – Rare to uncommon; typically 21 to 50 known occurrences; S3 ranked species are not yet susceptible to becoming extirpated in the state but may be if additional populations are destroyed.
- S4 - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5 - Common, widespread, and abundant in the state.

California Native Plant Society/CNDDDB California Rare Plant Ranks

CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. In a collaborative effort with CDFW's CNDDDB Project, the CNPS Ninth Edition of the California Native Plant Society's *Inventory of Rare and Endangered Plants of California* categorizes plants of interest into six California Rare Plant Ranks (CRPR) based on their geographic distribution and potential threats to existing populations. The CNPS Inventory is used by CDFW as the candidate species list for plants that may be listed as state Threatened and Endangered by CDFW. The six categories of rarity that are summarized in Table 3-1.

Table 3-1. California Rare Plant Ranks 1, 2, 3, & 4, and Threat Code Extensions

CRPR	Comments
Rank 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California based on a lack of observation or detection for many years.
Rank 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere	Species, which are generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
Rank 2A – Plants presumed Extirpated in California, But Common Elsewhere	Species that are presumed extinct in California but more common outside of California
Rank 2B – Plants Rare, Threatened or Endangered in California, But More Common Elsewhere	Species that are rare in California but more common outside of California
Rank 3 – Plants About Which More Information Is Needed (A Review List)	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific rank. In addition, many of the Rank 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
Rank 4 – Plants of Limited Distribution (A Watch List)	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for Rank 3 species, CNPS lacks survey data to accurately determine status in California. Many species have been placed on Rank 4 in previous editions of the “Inventory” and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.
Extension	Comments
.1 – Seriously endangered in California	Species with over 80% of occurrences threatened and/or have a high degree and immediacy of threat.
.2 – Fairly endangered in California	Species with 20-80% of occurrences threatened.
.3 – Not very endangered in California	Species with <20% of occurrences threatened or with no current threats known.

3.3 State of Nevada

3.3.1 Nevada Endangered Species Act

Nevada’s Endangered Species Act (NESA) states that “A species or subspecies of native fish, wildlife and other fauna must be regarded as threatened with extinction when the Commission, after consultation with competent authorities, determines that its existence is endangered and its survival requires assistance because of overexploitation, disease or other factors or its habitat is threatened with destruction, drastic modification or severe curtailment. Any animal so declared to be threatened with extinction must be placed on the list of fully protected species, and no member of its kind may be captured, removed or destroyed at any time by any means except

under special permit issued by the Nevada Department of Wildlife.” The state defines wildlife as “...(a) wild mammals, which must be further classified as either game mammals, fur-bearing mammals, protected mammals or unprotected mammals; (b) wild birds, which must be further classified as either game birds, protected birds or unprotected birds. Game birds must be further classified as upland game birds or migratory game birds; (c) fish, which must be further classified as either game fish, protected fish or unprotected fish; (d) reptiles, which must be further classified as either protected reptiles or unprotected reptiles; (e) amphibians, which must be further classified as either game amphibians, protected amphibians or unprotected amphibians; (f) mollusks, which must be further classified as either protected mollusks or unprotected mollusks; (g) crustaceans, which must be further classified as either protected crustaceans or unprotected crustaceans. Protected wildlife may be further classified as either sensitive, threatened or endangered.”

NESA also states that “A species or subspecies of native flora shall be regarded as threatened with extinction when the State Forester Firewarden, after consultation with competent authorities, determines that its existence is endangered and its survival requires assistance because of overexploitation, disease or other factors or because its habitat is threatened with destruction, drastic modification or severe curtailment. Any species declared to be threatened with extinction shall be placed on the list of fully protected species, and no member of its kind may be removed or destroyed at any time by any means except under special permit issued by the State Forester Firewarden.” The state defines Critically Endangered plants as “species and subspecies of native plants declared to be threatened with extinction and placed on the list of fully protected species of native flora by the State Forester.” A person must obtain a permit from the Division of Forestry and pay all fees, before engaging in any activities that may: “(1) result in the removal or destruction of any plant on the list of fully protected species of native flora; or (2) disturb any management area established for any such plant.”

3.3.2 Non- Listed Special-Status Plants and Animals Evaluated Within the State of Nevada

Nevada Department of Conservation and Natural Resources At-Risk Plant and Animal Tracking List

The Nevada Division of Natural Heritage (NDNH) is a division of Nevada’s DCNR that systematically curates information on Nevada’s endangered, threatened, sensitive, rare, and at-risk plants and animals, providing the most comprehensive source of information on Nevada’s imperiled biodiversity. The At-Risk Plant and Animal Tracking List directs NDNH’s data acquisition priorities and provides current information of the status of the listed species, which include those with federal or other Nevada agency status, and those with global and/or state ranks 1-3. Documentation of population status and locations are encouraged.

Nevada Department of Conservation and Natural Resources Plant and Animal Watch List

The NDNH’s Plant and Animal Watch List includes species that could be declining in the State of Nevada or across much of their range. The list also included species that are less common than

previously thought and are likely to become considered at-risk in the future. The Watch List also includes species that were recently removed from the At-Risk Plant and Animal Tracking List because they were found to be more abundant or widespread than previously thought. The Watch also includes species that are considered to be management priorities for the BLM, but do not meet NDNH's conservation priority criteria.

Bureau of Land Management Nevada Special-Status Species List

The BLM Manual (6840) directs BLM to manage special status species and their habitats to minimize or eliminate threats affecting the status of the species or to improve the condition of the species' habitat. For clarity, special status species broadly describes two categories of conservation status: (1) species listed or proposed for listing under the Endangered Species Act (ESA), and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA, which are designated as BLM sensitive by the State Director(s).

The BLM's Nevada Special Status Species List includes an updated list of BLM sensitive species for Nevada specific to each management district, as designated by the State Director. The list was developed using the criteria set forth in BLM Manual Section 6840, Special-Status Species Management. Management of BLM-designated sensitive species follows the Special-Status Species policy as identified in BLM Manual 6840 (12/12/2008), which states that special-status species observation data shall be recorded using the BLM Nevada Special-Status Species Observation Form and data will be stored/managed centrally in BLM NV's statewide geospatial dataset. The special-status species addressed in this report are specific to the BLM's Southern Nevada District.

4.0 RESULTS

This section provides the results of general biological surveys, habitat assessments and focused surveys for special-status plants and animals.

4.1 Existing Conditions

The approximately 30-mile Study Area extends east for approximately 14 miles along the north side of Highway 164 from the unincorporated town of Nipton, California, to its intersection with Walking Box Ranch Road. From the intersection of Highway 164 and Walking Box Ranch Road, the Study Area extends south along Walking Box Ranch Road for approximately 16 miles. The Study Area along the north side of Highway 164 varies in width from approximately 80 to 160 feet and traverses primarily undeveloped land beyond the limits of the maintained road shoulder. The Study Area along Walking Box Ranch Road varies in width from approximately 60 to 90 feet and includes the dirt road itself, the road shoulders on both sides, and narrow portions of undeveloped land beyond both road shoulders. The Study Area is depicted on Exhibit 3 [Aerial Map]. Elevations at the property range from approximately 3,009 feet above mean sea level (AMSL) at Nipton, California, to 4,822 feet AMSL at the highest point on Highway 164.

4.2 Special-Status Vegetation Communities

The CNDDDB does not identify special-status vegetation communities for the Crescent Peak, Hart Peak, Highland Spring, Hopps Well, McCullough Mountain, and Nipton quadrangle maps. The Study area does not contain any special-status vegetation community types.

4.3 Special-Status Plants

The following special-status plants were detected within the Study Area: curved-spine beavertail (*Opuntia xcurvispina*), eastern Joshua tree (*Yucca jaegeriana*), Parish's club-cholla (*Grusonia parishii*), and purple-nerve cymopterus (*Cymopterus multinervatus*) [Exhibit 4 – Rare Plant Map].

Table 4-1 provides a list of special-status plants evaluated for the Study Area through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors; species identified by the CNDDDB and CNPS as occurring (either currently or historically) on or in the vicinity of the Study Area, and any other special-status plants that are known to occur within the vicinity of the Study Area, or for which potentially suitable habitat occurs within the site.

Table 4-1. Special-Status Plants Evaluated for the Study Area

Species Name	Status	Global/State Ranking	Habitat Requirements	Occurrence
Abert's sanvitalia <i>Sanvitalia abertii</i>	Federal: None CA: None CRPR: Rank 2B.2 NV: None BLM: None	Global: G5 CA: S2/S3 NV: S1	Pinyon and juniper woodland (carbonate).	Does not occur
Appressed muhly <i>Muhlenbergia appressa</i>	Federal: None CA: None CNPS: Rank 2B.2 NV: None BLM: None	Global: G5 CA: S3 NV: S1	Rocky soils in coastal scrub, Mojavean desert scrub, valley and foothill grassland.	Absent
Black grama <i>Bouteloa eriopoda</i>	Federal: None CA: None CRPR: Rank 4.2 NV: None BLM: None	Global: G5 CA: S4 NV: S2	Joshua tree woodland, pinyon and juniper woodland.	Does not occur
Borrego milk-vetch <i>Astragalus lentiginosus</i> var. <i>borreganus</i>	Federal: None State: None CRPR: Rank 4.3 NV: None BLM: None	Global: G5T4T5 CA: S4 NV: S1	Sandy soils in Mojavean desert scrub and Sonoran desert scrub.	Does not occur
Cima milk-vetch <i>Astragalus cimae</i> var. <i>cimae</i>	Federal: None CA: None CRPR: Rank 1B.2 NV: AR BLM: None	Global: G3T3 CA: S2 NV: S1	Clay soils in Great Basin scrub, Joshua tree woodland, and pinyon and juniper woodland.	Absent

Species Name	Status	Global/State Ranking	Habitat Requirements	Occurrence
Clark Mountain buckwheat <i>Eriogonum heermannii</i> var. <i>floccosum</i>	Federal: None CA: None CRPR: Rank 4.3 NV: None BLM: SS	Global: G5T3 CA: S4 NV: S1	Carbonate soil. Pinyon and juniper woodland.	Does not occur
Coville's purplemat <i>Nama demissa</i> var. <i>covillei</i>	Federal: None CA: None CRPR: Rank 1B.3 NV: None BLM: None	Global: G5T3 CA: S3 NV: None	Gravelly soils in Mojavean desert scrub.	Absent
Curved-spine beavertail <i>Opuntia xcurvispina</i> (<i>curvispina</i>)	Federal: None CA: None CRPR: Rank 2B.2 NV: WL BLM: None	Global: G3 CA: S1 NV: S1	Chaparral, Mojavean desert scrub, pinyon and juniper woodland.	Present on site
Desert tragia <i>Tragia ramosa</i>	Federal: None CA: None CRPR: Rank 4.3 NV: None BLM: None	Global: G5 CA: S4 NV: S3	Rocky soil. Chenopod scrub, Pinyon and juniper woodland.	Does not occur
Eastern Joshua tree <i>Yucca jaegeriana</i>	Federal: None CA: None CRPR: None NV: None BLM: SS	Global: G3 CA: None NV: S3	Flats, gentle slopes, mesas, and bajadas on a variety of substrates, but typically igneous, that are silty, loamy, or sandy, within many different plant communities	Present throughout the site at elevations above ~3,800 feet.
Harwood's eriastrum <i>Eriastrum harwoodii</i>	Federal: None CA: None CRPR: Rank 1B.2 NV: None BLM: None	Global: G5T2 CA: S2 NV: None	Desert dunes.	Does not occur
Nine-awned pappus grass <i>Enneapogon desvauxii</i>	Federal: None CA: None CRPR: Rank 2B.2 NV: None BLM: None	Global: G5 CA: S3 NV: S2	Pinyon and juniper woodland (rocky, carbonate).	Does not occur
Parish's club-cholla <i>Grusonia parishii</i>	Federal: None CA: None CRPR: Rank 2B.2 NV: None BLM: None	Global: G3G4 CA: S2 NV: S3	Sandy and rocky soils in Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub.	Present on site
Providence Mountains milk-vetch <i>Astragalus nutans</i>	Federal: None CA: None CRPR: Rank 4.3 NV: None BLM: None	Global: G3 CA: S3 NV: None	Sandy or gravelly soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland, and Sonoran desert scrub.	Absent
Purple-nerve cymopterus <i>Cymopterus multinervatus</i>	Federal: None CA: None CRPR: Rank 2B.2 NV: None BLM: None	Global: G5 CA: S2 NV: S2	Sandy or gravelly soils in Mojavean desert scrub and pinyon and juniper woodland.	Present on site

Species Name	Status	Global/State Ranking	Habitat Requirements	Occurrence
Red four o'clock <i>Mirabilis coccinea</i>	Federal: None CA: None CRPR: Rank 2B.3 NV: None BLM:	Global: G5 CA: S2 NV: S1	Pinyon and juniper woodland.	Does not occur
Revolute spurge <i>Euphorbia revoluta</i>	Federal: None CA: None CRPR: Rank 4.3 NV: None BLM: None	Global: G5 CA: S4 NV: S2	Rocky soils in Mojavean desert scrub.	Absent
Rosy two-toned beardtongue <i>Penstemon bicolor</i> ssp. <i>roseus</i>	Federal: None CA: None CRPR: Rank 1B.1 NV: AR BLM: SS	Global: G3T3Q CA: S1 NV: S3	Rocky or gravelly, sometimes disturbed areas. Joshua tree woodland, Mojavean desert scrub.	Absent
Rough menodora <i>Menodora scabra</i> var. <i>scabra</i>	Federal: None CA: None CRPR: Rank 2B.3 NV: None BLM: None	Global: G5T4T5 CA: S3 NV: None	Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland.	Absent
Scrub lotus <i>Acmispon argyraeus</i> var. <i>multicaulis</i>	Federal: None CA: None CRPR: Rank 1B.3 NV: AR BLM: None	Global: G4T2 CA: S2 NV: S1	Pinyon and juniper woodland (granitic).	Does not occur
Sky-blue phacelia <i>Phacelia coerulea</i>	Federal: None CA: None CRPR: Rank 2B.3 NV: None BLM: None	Global: G5 CA: S2 NV: S2	Mojavean desert scrub, pinyon and juniper woodland.	Absent
Thorny milkwort <i>Polygala acanthoclada</i>	Federal: None CA: None CRPR: Rank 2B.3 NV: None BLM: None	Global: G4 CA: S2S3 NV: None	Chenopod scrub, Joshua tree woodland, pinyon and juniper woodland.	Absent
Utah beardtongue <i>Penstemon utahensis</i>	Federal: None CA: None CRPR: Rank 2B.3 NV: None BLM: None	Global: G4 CA: S2 NV: S3	Rocky soils in chenopod scrub, Great Basin scrub, Mojavean desert scrub, pinyon and juniper woodland.	Absent
Utah vine milkweed <i>Funastrum utahense</i>	Federal: None CA: None CRPR: Rank 4.2 NV: None BLM: None	Global: G4 CA: S4 NV: S3	Sandy or gravelly soils in Mojavean desert scrub and Sonoran desert scrub.	Absent
Warty caltrop <i>Kallstroemia parviflora</i>	Federal: None CA: None CRPR: Rank 4.2 NV: None BLM: None	Global: G5 CA: S3 NV: S2	Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. Sometimes in disturbed areas.	Absent

Species Name	Status	Global/State Ranking	Habitat Requirements	Occurrence
Watson's amaranth <i>Amaranthus watsonii</i>	Federal: None CA: None CRPR: Rank 4.3 NV: None BLM: None	Global: G4G5 CA: S3 NV: None	Mojavean desert scrub, Sonoran desert scrub.	Absent
Wright's beebrush <i>Aloysia wrightii</i>	Federal: None CA: None CRPR: Rank 4.3 NV: None BLM: None	Global: G5 CA: S4 NV: S2	Rocky, often carbonate soils in Joshua tree woodland and pinyon and juniper woodland.	Absent

STATUS

Federal

FE – Federally Endangered
FT – Federally Threatened
FC – Federal Candidate

State of California

SE – State Endangered
ST – State Threatened

State of Nevada

CE – Critically Endangered
CY – Protected as a cactus or yucca
AR – At Risk
WL – Watch List

BLM

SS – Special-Status

CRPR

CNPS Rank 1A – Plants presumed extirpated in California and either rare or extinct elsewhere.
CNPS Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
CNPS Rank 2A – Plants presumed extirpated in California, but common elsewhere.
CNPS Rank 2B – Plants rare, threatened, or endangered in California, but more common elsewhere.
CNPS Rank 3 – Plants about which more information is needed (a review list).
CNPS Rank 4 – Plants of limited distribution (a watch list).

Threat Code extension

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

OCCURRENCE

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
- Confirmed present – The species was detected onsite incidentally or through focused surveys

4.3.1 Special-Status Plants Detected Within the Study Area

The following special-status plant species were detected within the Study area during focused plant surveys.

Curved-Spine Beavertail (*Opuntia xcurvispina*)

Curved-spine beavertail is designated as a CRPR 2B.2 species and is included on the NDNH's Plant and Animal Watch List but is not designated as a state or federal listed species. During focused surveys, several individuals of curved-spine beavertail were observed in the Study Area.

Curved-spine beavertail is a succulent shrub that flowers between April and June. This species can be found in grassland, juniper-grassland, open interior chaparral, and Joshua-tree woodland from 900 to 1,500 meters (3,750 to 4,700 feet) AMSL. Curved-spine beavertail is known to occur primarily within the Mojave Desert of southeastern California as well as southern Nevada and northern Arizona.

Eastern Joshua Tree (*Yucca jaegeriana*)

Eastern Joshua tree is designated as a Special-Status Species by the BLM. During focused surveys, the species was observed throughout the site in both California and Nevada, primarily above elevations of roughly 1,160 meters (3,800 feet) AMSL. The species is particularly abundant along the Highway 164 portion of the Study Area, adjacent to the Wee Thump Wilderness. Individuals were not mapped or inventoried.

The eastern Joshua tree is endemic to the United States and occurs primarily within the Mojave Desert including areas of western Arizona, southeastern California, southern Nevada, and extreme southwestern Utah. To the north, the species range falls within the Great Basin Desert and to the east in Sonoran Desert of Arizona. The species is somewhat of a generalist of flats, gentle slopes, mesas, and bajadas on a variety of substrates, but typically grows in igneous-derived soils that are silty, loamy, or sandy, within many different desert scrub and woodland plant communities.

Parish's Club-Cholla (*Grusonia parishii*)

Parish's club cholla is designated as a CRPR 2B.2 species but is not designated as a state or federal listed species, it is not considered sensitive within Nevada. Parish's club cholla was detected in multiple locations along the southernmost portion of the Study Area within California.

Parish's club cholla is a succulent shrub that flowers between May and June. This species typically grows in sandy, gravelly flats, and is generally associated with creosote bush and/or bur-sage scrub at elevations between 300 and 1,200 meters (1,000 to 3,750 feet) AMSL. Parish's club cholla is known to occur primarily within the Mojave Desert of southeastern California as well as southern Nevada and northern Arizona.

Purple-Nerve Cymopterus (*Cymopterus multinervatus*)

Purple-nerve cymopterus is designated as a CRPR 2B.2 species but is not designated as a state or federal listed species, it is not considered sensitive within Nevada. Purple-nerve cymopterus was detected in multiple locations along the southernmost portion of the Study Area, primarily within California.

Purple-nerve cymopterus is a perennial herb that flowers between March and April. This species typically grows in sandy or gravelly soils in Mojavean desert scrub and pinyon and juniper woodland at elevations between 630 and 1,800 meters (1,950 to 5,650 feet) AMSL. Purple-nerve cymopterus is known to occur within the Mojave Desert of southeastern California, Nevada and Arizona, and the Great Basin Desert region extending into Utah and New Mexico.

4.4 Special-Status Animals

The following special-status animals were detected at the Study area: American badger (*Taxidea taxus*), Bendire's thrasher (*Toxostoma benderei*), canyon bat (*Parastrellus hesperus*), common nighthawk (*Chordeiles minor*), desert bighorn (*Ovis canadensis nelsoni*), desert horned lizard (*Phrynosoma platyrhinos*), desert iguana (*Dipsosaurus dorsalis*), desert kangaroo rat (*Dipodomys deserti*), desert tortoise (*Gopherus agassizii*), kit fox (*Vulpes macrotis*), loggerhead shrike (*Lanus ludovicianus*), long-nosed leopard lizard (*Gambelia wislizenii*), phainopepla (*Phainopepla nitens*), and pinyon jay (*Gymnorhinus cyanocephalus*) [Exhibit 7 – Special-Status Animal Species Map].

Table 4-2 provides a list of special-status animals evaluated for the Study Area through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors, including species identified by the CNDDDB as occurring (either currently or historically) on or in the vicinity of the Study Area, and any other special-status animals that are known to occur within the vicinity of the Study Area, for which potentially suitable habitat occurs on the site.

Table 4-2. Special-Status Animals Evaluated for the Study Area

Species Name	Status	Global/State Ranking	Habitat Requirements	Occurrence
Mojave twilight bee <i>Perdita celadona</i>	Federal: None CA: None NV: AR BLM: SS	Global: None CA: None NV: S1	Endemic to the eastern Mojave Desert in Clark County, Nevada. Known from three sites in the Virgin River drainage.	Does not occur. Study Area is outside the known range of the species.
Mojave poppy bee <i>Perdita meconis</i>	Federal: None CA: None NV: AR BLM: SS	Global: G2 CA: None NV: S1	Requires undisturbed desert habitat, gypsum soils, and poppy food plant.	Not expected to occur due to lack of suitable habitat.

Species Name	Status	Global/State Ranking	Habitat Requirements	Occurrence
Banded gila monster <i>Heloderma suspectum cinctum</i>	Federal: None CA: None NV: PR BLM: SS	Global: G4T4 CA: S1 NV: S2	This species occurs in rocky areas in desert scrub and semi-desert grassland, often in riparian areas. They are usually found in lower mountain slopes, arroyos, rocky bajadas, canyon bottoms, and occasionally found in Arizona woodlands	Has limited potential to occur.
Common chuckwalla <i>Sauromalus ater</i>	Federal: None CA: None NV: WL BLM: SS	Global: G5 CA: None NV: S3	Inhabits rocky desert; lava flows, hillsides, and outcrops. Creosote bush occurs throughout most of the range.	Expected to occur.
Desert horned lizard <i>Phrynosoma platyrhinos</i>	Federal: None CA: None NV: WL BLM: SS	Global: G4 CA: None NV: S4	Desert shrublands, such as those dominated by sagebrush, shadscale, hopsage, creosotebush, or greasewood, on sandy flats, alluvial fans, washes, or brushy dunes or dune edges.	Present.
Desert iguana <i>Dipsosaurus dorsalis</i>	Federal: None CA: None NV: WL BLM: SS	Global: G5 CA: None NV: S3	The habitat most often consists of sandy arroyos or other open areas with loose soils, but sometimes the species occurs on nearby rocky hillsides.	Present.
Desert tortoise <i>Gopherus agassizii</i>	Federal: FT CA: ST NV: TR BLM: SS	Global: G3 CA: S2S3 NV: S2S3	Requires firm ground to dig burrows, or rocks to shelter among. Found in arid sandy or gravelly locations along riverbanks, washes, sandy dunes, alluvial fans, canyon bottoms, desert oases, rocky hillsides, creosote flats and hillsides.	Present.
Long-nosed leopard lizard <i>Gambelia wislizenii</i>	Federal: None CA: None NV: WL BLM: None	Global: G5 CA: None NV: S4	Desert and semidesert areas with scattered shrubs or other low plants (e.g., creosotebush, sagebrush), especially areas with abundant rodent burrows.	Present.
Bell's sage sparrow <i>Artemisiospiza belli belli</i>	Federal: BCC CA: WL NV: None BLM: None	Global: G5 CA: S3 NV: None	Chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains.	Does not occur due to lack of suitable habitat.
Bendire's thrasher <i>Toxostoma bendirei</i>	Federal: BCC CA: SSC NV: AR BLM: SS	Global: G4 CA: S2 NV: S1B	Desert, especially areas of tall vegetation, cholla cactus, creosote bush and yucca, and in juniper.	Present.
Black-chinned sparrow <i>Spizella atrogularis</i>	Federal: None CA: None NV: AR BLM: SS	Global: S5 CA: None NV: S2B	Chaparral, sagebrush, and arid scrub; on gentle hillsides to steep, rocky slopes, or in brushy canyons; sea level to nearly 2,700 meters.	Not expected to occur.

Species Name	Status	Global/State Ranking	Habitat Requirements	Occurrence
Burrowing owl <i>Athene cunicularia</i>	Federal: BCC CA: SSC NV: AR BLM: SS	Global: G4 CA: S2 NV: S3B	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Absent.
Common nighthawk <i>Chordeiles minor</i>	Federal: None CA: None NV: WL BLM: SS	Global: G5 CA: None NV: S3B	Deserts, mountains and plains in open and semi-open areas: open coniferous forests, savanna, grasslands, fields, vicinity of cities and towns.	Present.
Ferruginous hawk (wintering) <i>Buteo regalis</i>	Federal: BCC CA: WL NV: WL BLM: SS	Global: G4 CA: S3S4 NV: S4	Open, dry country, perching on trees, posts, and mounds. In California, wintering habitat consists of open terrain and grasslands of the plains and foothills.	Potential to occur (foraging only).
Golden eagle (nesting & wintering) <i>Aquila chrysaetos</i>	Federal: BCC CA: WL, FP NV: SB BLM: SS	Global: G4 CA: S3 NV: S4	In the southwest, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Potential to occur (foraging only).
Gray vireo <i>Vireo vicinior</i>	Federal: BCC CA: SSC NV: WL BLM: None	Global: G5 CA: S2 NV: S3B	Desert scrub, mixed juniper or pinyon pine and oak scrub associations, and chaparral, in hot, arid mountains and high plains scrubland.	Potential to occur.
Hepatic tanager <i>Piranga flava</i>	Federal: None CA: WL NV: None BLM: None	Global: G5 CA: S1 NV: None	Open coniferous forest, montane pine-oak forest, riparian woodland, lowland pine savanna; from Costa Rica southward also found in open humid forest, scrub and orchards	Not expected to occur.
Le Conte's thrasher <i>Toxostoma lecontei</i>	Federal: BCC CA: SSC NV: AR BLM: SS	Global: G4 CA: S3 NV: S2	Desert scrub, mesquite, tall riparian brush and, locally, chaparral.	Potential to occur.
Loggerhead shrike (nesting) <i>Lanius ludovicianus</i>	Federal: BCC CA: SSC NV: SB BLM: SS	Global: G4 CA: S4 NV: S3	Forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.	Present.
Phainopepla <i>Phainopepla nitens</i>	Federal: None CA: None NV: WL BLM: SS	Global: G5 CA: None NV: S3	Desert scrub, mesquite, juniper and oak woodland, tall brush, riparian woodland and orchards.	Present.

Species Name	Status	Global/State Ranking	Habitat Requirements	Occurrence
Pinyon jay <i>Gymnorhinus cyanocephalus</i>	Federal: None CA: None NV: AR BLM: SS	Global: G3 CA: NV: S3	Piñon-juniper woodland, less frequently pine. During the non-breeding season, also occurs in scrub oak and sagebrush. Nests in shrubs or trees (e.g., pine, oak, or juniper), at least 1.5 m above ground.	Present.
Prairie falcon <i>Falco mexicanus</i>	Federal: None CA: WL NV: None BLM: None	Global: G5 CA: S4 NV: S4	Primarily open situations, especially in mountainous areas, steppe, plains or prairies. Typically nests in pot hole or well-sheltered ledge on rocky cliff or steep earth embankment, 10 to more than 100 meters above base. May nest in man-made excavations on otherwise unsuitable cliffs.	Potential to occur (foraging only).
Sagebrush sparrow <i>Artemisiospiza nevadensis</i>	Federal: None CA: None NV: AR BLM: SS	Global: G5 CA: None NV: S3B	Typically found in shrubby, open flats and sagebrush plains, with nesting sites usually in or under low shrubs like sagebrush or saltbush	Potential to occur.
American badger <i>Taxidea taxus</i>	Federal: None CA: SSC NV: None BLM: None	Global: G5 CA: S3 NV: S4	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Present.
California myotis <i>Myotis californicus</i>	Federal: None CA: None NV: WL BLM: SS	Global: G3 CA: None NV: S3S4	Occur in various habitats, including sea coasts, desert scrub, oak-juniper woodlands, montane and humid coastal forests, mountain meadows, canyons, riparian woodlands, grasslands, rural residential areas, and towns.	Potential to occur (foraging only).
Canyon bat <i>Parastrellus hesperus</i>	Federal: None CA: None NV: PM BLM: SS	Global: CA: None NV: S3S4	Habitat includes desert mountain ranges, desert scrub flats, shrub-steppe, rocky canyons, and associated riparian zones, particularly in areas with cliffs and most often (but not always) close to water.	Present (foraging only).
Desert bighorn <i>Ovis canadensis nelsoni</i>	Federal: None CA: FP NV: None BLM: SS	Global: G4T4 CA: S3 NV: S4	Shrubland/chaparral, bare rock/talus/scree, woodland – coniferous forest, grassland/herbaceous, cliff, desert, and alpine habitats.	Present.
Desert kangaroo rat <i>Dipodomys deserti</i>	Federal: None CA: None NV: WL BLM: SS	Global: G5 CA: None NV: S2S3	Low deserts, sandy soil with sparse vegetation; alkali sink, shadscale scrub, and creosote bush scrub, Lower and Upper Sonoran life zones.	Present.

Species Name	Status	Global/State Ranking	Habitat Requirements	Occurrence
Desert pocket mouse <i>Chaetodipus penicillatus</i>	Federal: None CA: None NV: AR BLM: SS	Global: G5 CA: None NV: S1S2	Sparsely vegetated sandy desert floors. Seems to prefer rock-free bottomland soils along rivers and streams.	Has potential to occur.
Hoary bat <i>Lasiurus cinereus</i>	Federal: None CA: None NV: PM BLM: SS WBWG: M	Global: G3G4 CA: S4 NV: S2S3	Prefers trees at the edge of clearings, but have been found in trees in heavy forests, open wooded glades, and shade trees along urban streets and in city parks.	Potential to occur (foraging only).
Kit fox <i>Vulpes macrotis</i>	Federal: None CA: None NV: FM BLM: None	Global: G4 CA: None NV: S3	Primarily open desert, shrubby or shrub-grass habitat. In Mojave Desert, occurs in crosote bush.	Present.
Pallid bat <i>Antrozous pallidus</i>	Federal: None CA: SSC NV: PM BLM: None	Global: G4 CA: S3 NV: S3	Habitats include mountainous areas, intermontane basins, and lowland desert scrub.	Potential to occur (foraging only).
Pocketed free-tailed bat <i>Nyctinomops femorosaccus</i>	Federal: None CA: SSC NV: PM BLM: None WBWG: M	Global: G5 CA: S3 NV: S1	Rocky areas with high cliffs in pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian.	Potential to occur (foraging only).
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	Federal: None CA: SSC NV: PM BLM: SS WBWG: H	Global: G4 CA: S2 NV: S2	Coniferous forests and woodlands, deciduous riparian woodland, semi-desert and montane shrublands.	Not expected to occur.
Western mastiff bat <i>Eumops perotis californicus</i>	Federal: None CA: SSC NV: PM BLM: SS WBWG: H	Global: G4G5 CA: S3S4 NV: S1	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Potential to occur (foraging only).
Western yellow bat <i>Lasiurus xanthinus</i>	Federal: None CA: SSC NV: PM BLM: None WBWG: H	Global: G4G5 CA: S3 NV: S1	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Not expected to occur.

STATUS

Federal

FE – Federally Endangered

FT – Federally Threatened

FPT – Federally Proposed Threatened

FC – Federal Candidate

BGEPA– Bald and Golden Eagle Protection Act

State of California

SE – State Endangered

ST – State Threatened

SC– State Candidate

FP – California Fully-Protected Species

SSC – Species of Special Concern

State of Nevada

CE – Critically Endangered

AR – At Risk

WL – Watch List

PM – Protected Mammal

PR – Protected Reptile

SB – Sensitive Bird

TR – Threatened Reptile

FM – Fur-bearing Mammal

BLM

SS – Special-Status

Western Bat Working Group (WBWG)

H – High Priority

LM – Low-Medium Priority

M – Medium Priority

MH – Medium-High Priority

OCCURRENCE

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
- Confirmed present – The species was detected onsite incidentally or through focused surveys

4.4.1 Special-Status Wildlife Species Observed within the Study Area**Desert Horned Lizard (*Phrynosoma platyrhinos*)**

The desert horned lizard is designated by the NDNH as a Watch List species and by the BLM as a Special-Status Species. Desert horned lizard was observed at three locations within the Study Area, two of which were in California, near the southern terminus of the Study Area. Desert horned lizard sign (scat) was observed in Nevada, near the border along Highway 164.

Desert horned lizards range from southeastern Oregon and southwestern Iowa in the western United States to Baja California in northwestern Mexico. Desert horned lizards inhabit various types of desert shrublands, such as sagebrush, shadescale, hopsage, creosotebush, or greasewood scrub, on sandy flats, alluvial fans, washes, or brushy dunes or dune edges. It is most consistently found where areas of bare ground exist among openly spaced shrubs. The species' diet consists primarily of slow-moving terrestrial insects (e.g., ants, beetles) but also sometimes includes spiders and some plant material. Generally, however, the desert horned lizard is regarded as an ant specialist.

This species has suffered some declines due to habitat degradation through urbanization, livestock grazing, invasive grasses, and off-road vehicle use.

Desert Iguana (*Dipsosaurus dorsalis*)

The desert iguana is designated by the NDNH as a Watch List species and by the BLM as a Special-Status Species. Desert iguana was observed at one location within the Study Area; in Nevada, along Highway 164.

The desert iguana's range encompasses southern Nevada, extreme southwestern Utah along the Virgin River in the vicinity of Beaver Dam Wash, southern California east of the Sierra Nevada and Coast ranges southward through northeastern Baja California and all of southern Baja California (but not most of the Vizcaino Desert), and through western and central Arizona and western Sonora to northern Sinaloa, Mexico. The range in the United States coincides closely with that of creosote bush. Elevational range extends from below sea level in desert sinks to about 1,520 meters (5,000 feet) (Stebbins 2003). Habitat most often consists of sandy arroyos or other open areas with loose soils, but sometimes the species occurs on nearby rocky hillsides.

Threats to the species primarily include busy highways and roads with or without obstructions that desert iguanas cannot often cross successfully. These barriers to movement prevent dispersal and effectively act to isolate populations from one another and fragment otherwise suitable habitat.

Desert Tortoise (*Gopherus agassizii*)

The desert tortoise is federally designated as Threatened, California state listed as Threatened, Nevada state listed as a Threatened Reptile, and designated as a Special-Status Species by the BLM. A single desert tortoise carapace was observed within the Study Area just east of the Nevada border along Highway 164. Many suitable burrows were observed throughout Study Area (Exhibit 6 – Desert Tortoise Survey Map).

The desert tortoise ranges from Inyo County, California (north to Death Valley National Park and about 10 miles south of Lone Pine), southern Nevada (Clark, Nye, and Lincoln counties, north to Yucca Mt. and Coyote Springs), and extreme southwestern Utah (Washington County: Beaver Dam slope and north St. George) south throughout most of the Mojave Desert to the eastern Colorado Desert of Los Angeles, Kern, San Bernardino, Imperial, Riverside counties, California, east through the Mojave Desert of Mohave County, Arizona, and south through the upper Sonoran Desert of Arizona (almost as far east as the New Mexico border on U.S. 80), including Cochise, Graham, Maricopa, Pima, Pinal, and Yuma counties and again south through Sonora (including Isla Tiburon in the Gulf of California) to the thornscrubs and oak woodlands of northern Sinaloa, Mexico. Elevational range is mainly below 4000 feet; however, it extends from below sea level (Death Valley and sea level in Sonora) to 5,000-7,000+ feet in a few areas. In the Mojave Desert, occurrences typically are between 1000 and 4000 feet elevation. Tortoises are generally found in regions receiving an average annual rainfall in excess of four inches (100 mm) and below twelve inches (300 mm).

The desert tortoise is almost entirely confined to warm creosote bush (*Larrea tridentata*) vegetation characteristic of the Upper Sonoran life zones of the Mojave, Colorado, and Sonoran deserts. Specific habitat associations vary geographically, as do substrate preferences. In the

Mojave Desert, the tortoise occurs in creosote scrub, creosote bursage (*Ambrosia dumosa*), shadscale (*Atriplex* sp.) scrub, Joshua tree (*Yucca brevifolia/jaegeriana*), and, more rarely (in the northern periphery of their range), in mixed blackbush scrub between 3,500-5,000 feet elevation. Often native desert grasses, especially galleta (*Hilaria/Plueraphis*) and indian rice grass are associated with high tortoise densities, and the former species provides significant forage for adults. Exotic Mediterranean weed grasses (*Schismus* and *Bromus*) are abundant across the Mojave Desert. Most often tortoise habitats are associated with well drained sandy loam soils in plains, alluvial fans, and bajadas, though tortoises occasionally occur in dunes, edges of basaltic flow and other rock outcrops, and in well drained and vegetated alkali flats. In the Mojave Desert, sandy loam soils may be obscured by a surface of igneous pebbles or a veneer of desert pavement. Tortoise burrows are most often proximate to washes and arroyos in this Mojave Desert habitat.

Long-nosed Leopard Lizard (*Gambelia wislizenii*)

The long-nosed leopard lizard is designated by the NDNH as a Watch List Species. The long-nosed leopard lizard was observed at one location in Nevada, along Highway 164.

The long-nosed leopard lizard ranges from Oregon, southern Idaho, Utah and western Colorado south through eastern and southern California, Nevada, Arizona, New Mexico, and western Texas to northeastern Baja California and north-central mainland Mexico. Habitat includes desert and semidesert areas with scattered shrubs or other low plants (e.g., creosote bush, sagebrush), especially areas with abundant rodent burrows.

Major threats include habitat loss and degradation resulting from agricultural, commercial, and residential development and invasion of exotic herbaceous plants. Busy highways and roads with or without obstructions that long-nosed leopard lizards cannot often cross successfully also serve as threats to the species. These barriers to movement prevent dispersal and effectively act to isolate populations from one another and fragment otherwise suitable habitat.

Bendire's Thrasher (*Toxostoma bendirei*)

Bendire's thrasher is federally designated as a Bird of Conservation Concern, California state designated as a Species of Special Concern, designated by the NDNH as At-Risk, and designated as a Special-Status Species by the BLM. Bendire's thrasher was observed at two locations within the Study Area; one in Nevada along Highway 164 near the Wee Thump Wilderness Access Road, and another in California just east of Walking Box Ranch Road. The species is also known to occur within Nipton.

Bendire's thrasher breeds in Southeastern California, southern Nevada, southern Utah, southern Colorado, and western and central New Mexico south to central Sonora. Non-breeding Bendire's thrashers range from southern Arizona and extreme southwestern New Mexico south through Sonora to northern Sinaloa; casual in California deserts and Central Valley.

Bendire's thrasher uses a variety of desert habitats with fairly large shrubs or cacti and open ground, or open woodland with scattered shrubs and trees, between 0 and 550 meters elevation.

Species composition of vegetation varies across its range. It is not found in dense vegetation such as riparian woodland, although it may use the edges. It avoids uninterrupted brushy cover and continuous grassland. In the northern range and at higher elevations, it is found in sagebrush (*Artemisia* sp.) and scattered junipers (*Juniperus* sp.). At lower elevations, it occurs in desert grassland and shrubland with spiny shrubs or cacti, such as cholla (*Opuntia* sp.), Joshua tree (*Yucca brevifolia/jaegeriana*), Spanish bayonet (*Y. schidigera*), palo verde (*Cercideum* sp.), mesquite (*Prosopis* sp.), desert-thorn (*Lycium* sp.) or agave species.

Threats are largely unknown. Clearing of desert scrub habitats and harvesting of large desert cacti such as various yucca species is detrimental where the natural habitat structure is removed. Brood parasitism is probably rare.

Common Nighthawk (*Chordeiles minor*)

The common nighthawk is designated by the NDNH as a Watch List species, and designated as a Special-Status Species by the BLM. The species was flushed from numerous locations within the Study Area while walking transects.

The common nighthawk breeds from central Canada southward to Nova Scotia and through most of United States, and winters in the tropics. Habitats include mountains and plains in open and semi-open areas: open coniferous forests, savanna, grasslands, fields, vicinity of cities and towns. Nesting occurs on the ground on a bare site in an open area. In some areas, this species also nests on flat gravel roofs of buildings, perhaps related to prey availability at artificial lights. It prefers areas with sandy soil in the southern United States. The common nighthawk forages at night or during the day by catching insects high in the air or close to the ground. May forage on insects around artificial lights.

Threats include the loss of breeding habitat, indiscriminate use of pesticides, and increased predation on nests (by cats, dogs, and increased populations of native predators that benefit from anthropogenic food resources).

Loggerhead Shrike (*Lanus ludovicianus*)

The loggerhead shrike is federally designated as a Bird of Conservation Concern, California state designated as a Species of Special Concern, Nevada state designated as a Sensitive Bird, and designated as a Special-Status Species by the BLM. Loggerhead shrike was observed at numerous locations throughout the Study Area, in Nevada and California. Nesting and family groups were also observed.

The loggerhead shrike occurs from southern Canada through the Great Basin and California, to Baja California, Mexico and the Gulf coast. Specifically, in western North America, the species breeds from southeastern Alberta, western Montana, northwest Wyoming, southern Idaho, south-central Washington, eastern Oregon, and California south to southern Baja California. The loggerhead shrike is known to forage over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open

woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.

Despite its wide distribution, the loggerhead shrike is one of the few North American passerines whose populations have declined continent-wide in the recent decades. Most populations along the coastal plains of Southern California have been displaced by urban development, although the subspecies occupying the region. The loggerhead shrike may also suffer populations declines due to the presence of the fire ant.

Phainopepla (*Phainopepla nitens*)

The phainopepla is designated by the NDNH as a Watch List species and designated as a Special-Status Species by the BLM. Phainopepla was detected and observed at numerous locations within the Study Area in Nevada.

In the northern part of its range the Phainopepla migrates southward for winter. In California some birds that breed in the desert in March-April migrate in April-May to wetter coastal areas and breed again late May-July. Phainopepla are often resident in the Sonoran Desert during October-April; then migrate to semiarid habitats to north, east, and west of the Sonoran Desert in late spring through fall. Habitat includes desert scrub, mesquite, juniper and oak woodland, tall brush, riparian woodland and orchards.

Pinyon Jay (*Gymnorhinus cyanocephalus*)

Pinyon jay is designated by the NDNH as an At-Risk species, and is designated as a Special-Status Species by the BLM. Numerous pinyon jays were within the Study Area in California and Nevada. Nesting behavior was observed east of the Study Area in California.

The pinyon jay is endemic to western North America where it is a year-round resident. The range extends from the United States in Oregon, east to southern Montana, south to within 250 km of the U.S.-Mexico border in New Mexico and Arizona, west to eastern California, and only reaching into Mexico in Baja California Norte. The pinyon jay typically inhabits piñon-juniper woodland, less frequently pine woodland. During the non-breeding season, it also occurs in scrub oak and sagebrush. The pinyon jay nests in shrubs or trees (e.g., pine, oak, or juniper), at least 1.5 meters above ground.

Threats include habitat loss and habitat degradation due to climate change, and also due to the removal of piñon and juniper trees as a land management practice.

American Badger (*Taxidea taxus*)

American badger is California state designated as a Species of Special Concern. A road strike carcass was observed along Highway 164 in Nevada. Numerous suitable burrows were observed throughout the Study Area, and the species is presumed present in California.

The American badger ranges from southern Canada (British Columbia, Alberta, Saskatchewan, Manitoba, and southern Ontario), south and west to Texas, and Puebla and Baja California, Mexico. The American badger prefers open areas and may also frequent brushlands with little groundcover. When inactive, occupies underground burrows. Young are born in underground burrows.

In the west, infill of formerly open woodlands and encroachment of forests into grassland as a result of effective fire suppression has eliminated or degraded much badger habitat. Most mortality is caused by vehicles or deliberate killing by humans. Badgers may actually be attracted to roads, both because ground squirrels often burrow alongside them and because they are efficient travel routes.

Canyon Bat (*Parastrellus hesperus*)

The canyon bat is a Nevada state designated Protected Mammal and a BLM designated Special-Status Species. Canyon bats were observed foraging within the Study Area at dusk in California at the south end of Walking Box ranch road. Roosting habitat for the species is not present within the Study Area.

The canyon bat ranges from the western United States and western Mexico, from southeastern Washington, eastern Oregon, southwestern Idaho, Utah, western and southeastern Colorado, and southwestern Oklahoma (probably also the panhandle) southward through California, Nevada, Arizona, New Mexico, and western Texas to Baja California and Michoacan and Hidalgo, Mexico. The species is known to winter in Nevada, California, Arizona, and Texas, but the limits of winter range are not well known. Habitat includes desert mountain ranges, desert scrub flats, shrub-steppe, rocky canyons, and associated riparian zones, particularly in areas with cliffs and most often (but not always) close to water.

No major threats are known. Locally these bats may be negatively affected to some degree by various activities (e.g., mining, road construction, dam construction, agricultural development, livestock grazing) that destroy or alter roost sites or foraging areas, but roosts appear to be extremely numerous and usually not vulnerable, and the extent of suitable foraging habitat is vast.

Desert Bighorn (*Ovis canadensis nelsoni*)

The desert (Nelson's) bighorn is designated as Fully Protected by CDFW and designated as a Special-Status Species by the BLM. Desert bighorn scat and tracks were observed north of Highway 164 in Nevada. The species is known to occur near Castle Mountain Mine in California.

Nelson's bighorn sheep are found in mesic to xeric, alpine to desert grasslands or shrub-steppe in mountains, foothills, or river canyons. Escape terrain (cliffs, talus slopes, etc.) is a critical habitat feature. Distribution is correlated with low precipitation levels, especially in winter and spring. Elevation varies considerably, both geographically and seasonally, from as low as 450 meters to over 3,300 meters. Mineral licks are more important in the range of Rocky Mountain Bighorn

than in the range of "California" Bighorn, presumably because the soils in the range of the former are generally lower in mineral content.

Initial large declines were primarily the result of competition with domestic stock (e.g., cattle, sheep, burros), diseases and parasites introduced by domestic sheep, overhunting, and habitat loss.

Desert kangaroo rat (*Dipodomys deserti*)

Desert kangaroo rat is designated by the NDNH as a Watch List species and as a Special-Status Species by the BLM. A road strike carcass was observed within the Study Area along Highway 164 in Nevada. An individual was also observed at dusk just east of Walking Box Ranch Road in California. Numerous suitable burrows were also observed throughout the Study Area.

The desert kangaroo rat ranges from western and southern Nevada (and a small section of northeastern California) south through southeastern California, extreme southwestern Utah, and western and southern Arizona to northeastern Baja California and Sonora; it occupies dunes within its geographic and elevational range. The species typically occurs in low deserts, sandy soil with sparse vegetation, alkali sink, shadscale scrub, and creosote bush scrub, in the Lower and Upper Sonoran life zones. It is mostly restricted to deposits of deep wind-blown sand (sometimes including deposits formed as result of human activity) and is less abundant near the edges of dunes. It has been recorded from gravelly soil in one area in Arizona. The species nests in burrows dug in mounds, usually under vegetation.

No major threats are known. Roads may prove to be significant barriers to desert kangaroo rat movement.

Kit Fox (*Vulpes macrotis*)

The kit fox is Nevada state designated as a Fur-Bearing Mammal. Kit fox burrows and sign were observed at two locations within the Study Area, in Nevada.

The kit fox ranges from southwestern U.S. to Baja California and central mainland of Mexico. Its range is now much reduced but its historical range is incompletely known. In the southwestern U.S. the species occurs in the Great Basin, Sonoran, and Mojave deserts. Kit fox primarily occur in open desert, shrubby or shrub-grass habitat.

Threats to the species include habitat loss, roadways, and the encroachment of coyotes into fox territories as a result of expanding human development and presence.

4.4.2 Special-Status Wildlife Species Not Observed but with a Potential to Occur within the Study Area

As described above in Table 4-2, in addition to the special-status animals that were detected at the Study Area during biological surveys, the following species have potential to occur based on the presence of suitable habitat: two lizard species, including Banded gila monster (*Heloderma*

suspectum cinctum) and common chuckwalla (*Sauromalus ater*); six bird species, including ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), gray vireo (*Vireo vicinor*), LeConte's thrasher (*Toxostoma lecontei*), prairie falcon (*Falco mexicanus*), and sagebrush sparrow (*Artemisiospiza nevadensis*); and six mammal species, including California myotis (*Myotis californicus*), desert pocket mouse (*Chaetodipus penicillatus*), hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), pocketed free-tailed bat (*Nyctinomops femorosacca*), and western mastiff bat (*Eumops perotis*).

None of these species are federal or state listed. The banded Gila monster is designated as a Protected Reptile in the State of Nevada and has potential to occur throughout the Study Area. The golden eagle is designated as Fully Protected in the State of California and as a Sensitive Bird in the State of Nevada. Golden eagle has limited potential to forage within the Study Area; however, there is no suitable nesting habitat present for the species. LeConte's thrasher is designated as At-Risk in the State of Nevada, and has potential to nest within the Study Area. Sagebrush sparrow is designated as At-Risk in the State of Nevada and as a Sensitive Species by the BLM; it has potential to nest throughout the Study Area. Desert pocket mouse is designated as At-Risk in the State of Nevada and as a Sensitive Species by the BLM; it has potential to occur throughout the Study Area, particularly in washes. California myotis, hoary bat, pallid bat, pocketed free-tailed bat and western mastiff bat are all designated as Protected Mammals by the State of Nevada but are only expected to utilize the Study Area for foraging purposes, as no suitable roosting habitat is present.

4.4.3 Raptor Use

The Study Area provides suitable foraging and breeding habitat for a number of raptor species, including special-status raptors. Southern California holds a diversity of birds of prey (raptors), and many of these species are in decline. For most of the declining species, foraging requirements include extensive open, undisturbed, or lightly disturbed areas, especially grasslands and open shrub habitats.

Appendix B (faunal compendium) provides a list of the hawks and falcons detected over the course of the field studies. These species were red-tailed hawk, American kestrel, and merlin. Cooper's hawk, sharp-shinned hawk, ferruginous hawk, golden eagle, prairie falcon and peregrine falcon may also be present. Of these, only American kestrel has the potential to nest within the Study Area. The Study Area lacks potential nesting habitat (e.g., dense stands of mature trees) for the other species, but is expected to provide foraging habitat that supports prey species including insects, spiders, lizards, snakes, small mammals, and other birds.

4.5 Nesting Birds

The Study area contains trees, shrubs, and ground cover that provide suitable habitat for nesting native birds. Mortality of native birds (including eggs) is prohibited under the Migratory Bird Treaty Act (MBTA) and-California Fish and Game Code.¹

¹ The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations

4.6 Wildlife Linkages/ Corridors and Nursery Sites

Habitat linkages are areas which provide a connection between two or more other habitat areas which are often larger or superior in quality to the linkage. Such linkage sites can be quite small or constricted, but may can be vital to the long-term health of connected habitats. Linkage values are often addressed in terms of “gene flow” between populations, with movement taking potentially many generations.

Corridors are similar to linkages but provide specific opportunities for individual animals to disperse or migrate between areas, generally extensive but otherwise partially or wholly separated regions. Adequate cover and tolerably low levels of disturbance are common requirements for corridors. Habitat in corridors may be quite different than that in the connected areas, but if used by the wildlife species of interest, the corridor will still function as desired.

Wildlife nurseries are sites where wildlife concentrate for hatching and/or raising young, such as rookeries, spawning areas, and bat colonies. Nurseries can be important to both special-status species as well as commonly occurring species.

Portions of the Study Area traverse topographical features such as drainages and ridgelines that likely support some form of wildlife movement, and could potentially serve as linkages between vast tracts of suitable habitat for various species on either side of the existing roads that the Study Area parallels. The Study Area is not expected to support any wildlife nurseries.

4.7 Critical Habitat

Designated Critical Habitat for the Mojave population of the desert tortoise (*Gopherus agassizii*) occurs within the Study Area from the western terminus of the Study Area in Nipton, along Highway 164 to the California/Nevada border [Exhibit 6 – Desert Tortoise Survey Map].

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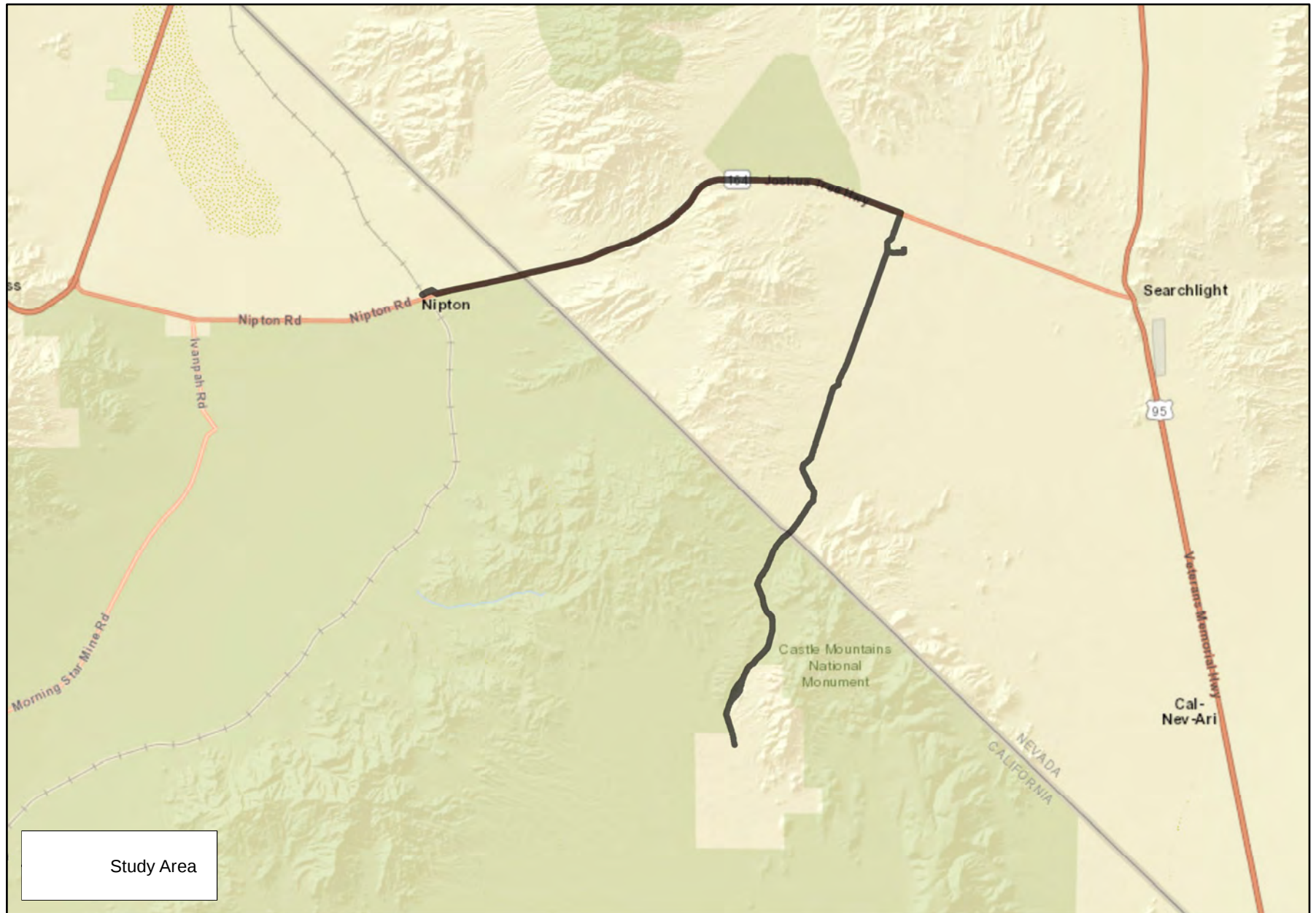
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Source: ESRI World Street Map



0
2
4
8
Miles



**IVANPAH UNDERGROUND WATERLINE
AND 69kV OVERHEAD POWERLINE
RIGHTS-OF-WAY PROJECT**

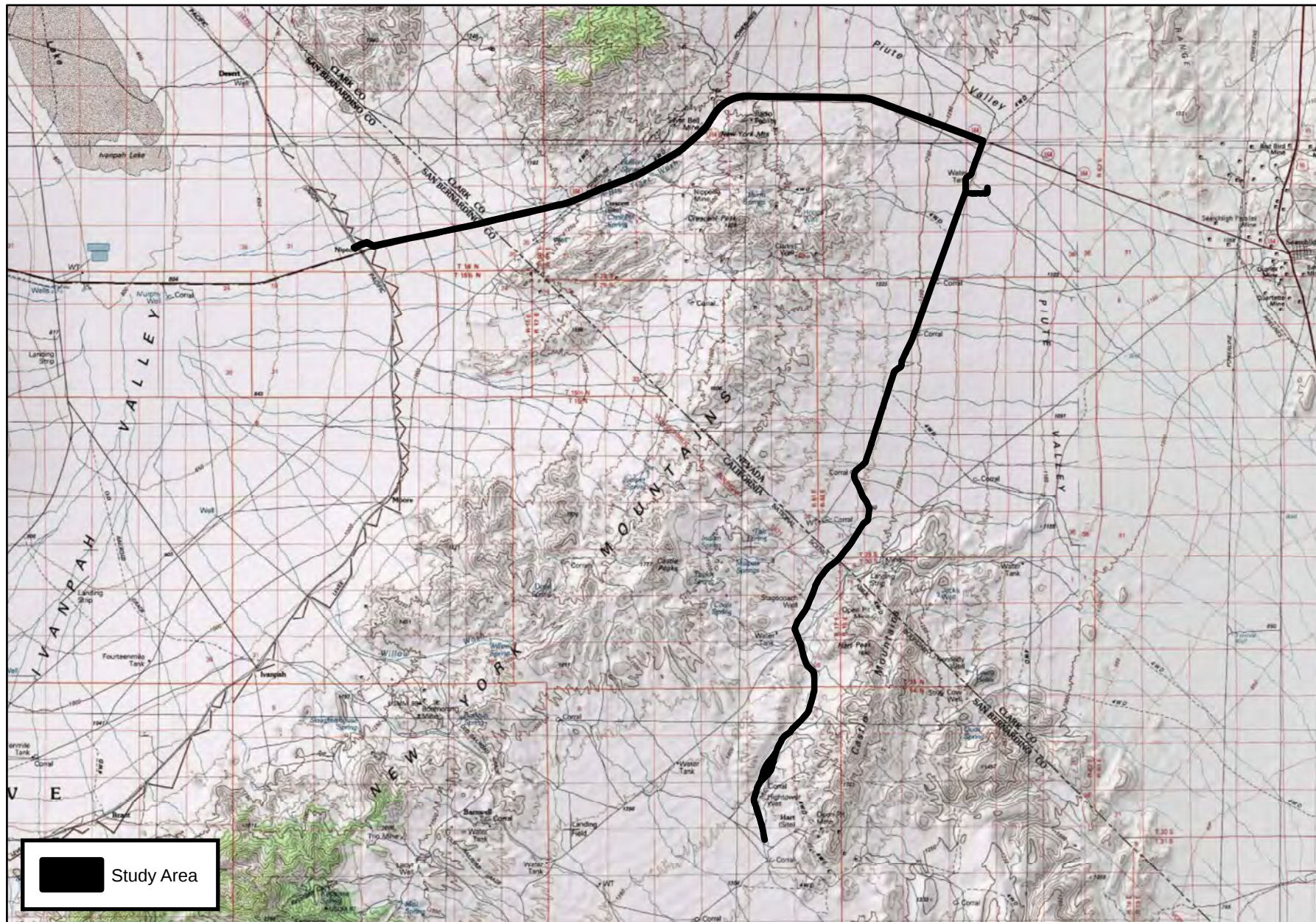
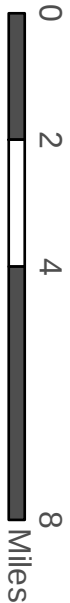
Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Crescent Peak, Hart Peak, Highland Spring, Hopps Well, McCullough Mountain, and Nipton, CA & NV quadrangles



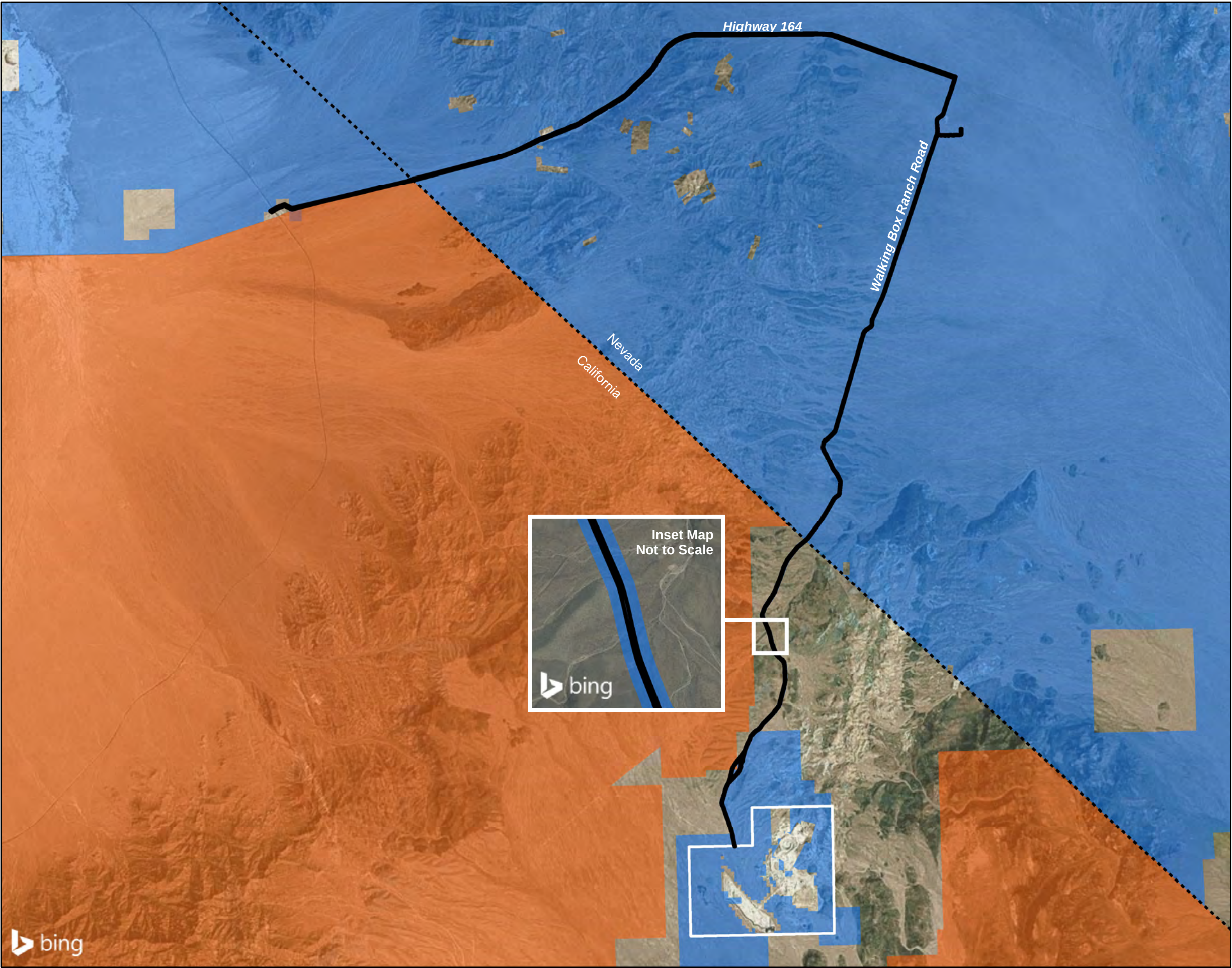
**IVANPAH UNDERGROUND WATERLINE
AND 69KV OVERHEAD POWERLINE
RIGHTS-OF-WAY PROJECT**

Vicinity Map

GLENN LUKOS ASSOCIATES



Exhibit 2



Study Area



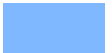
CA / NV
State Line Boundary



Castle Mountain Mine

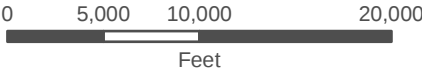


Mojave National Preserve



BLM Land

*The proposed route through California
and adjacent to the Walking Box Ranch Road
occurs across BLM-managed land.*



1 inch = 10,000 feet



Map Prepared by: B. Gale, GLA
Date Prepared: August 15, 2024

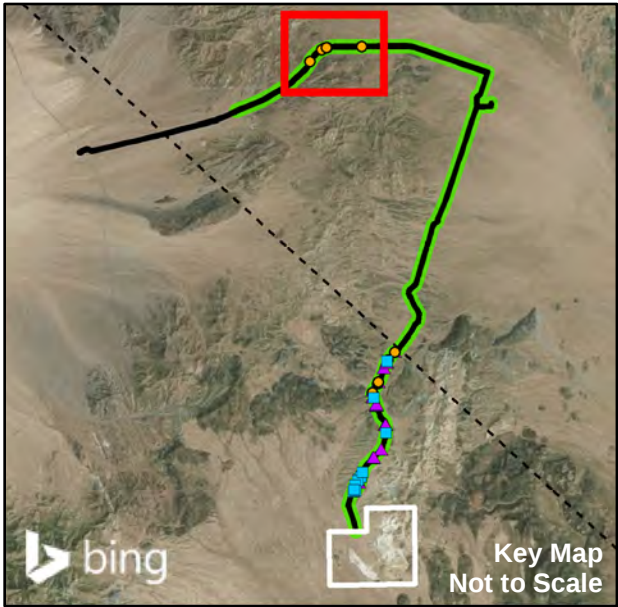
**IVANPAH UNDERGROUND WATERLINE
AND 69kV OVERHEAD POWERLINE
RIGHTS-OF-WAY PROJECT**

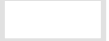
Aerial Map

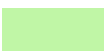
GLENN LUKOS ASSOCIATES

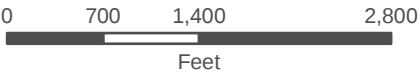


Exhibit 3



-  Study Area
-  CA / NV State Line Boundary
-  Castle Mountain Mine

- Special-Status Plants**
-  Eastern Joshua Tree Occurrences
 -  Curve-Spined Beavertail
 -  Parish's Club Cholla
 -  Purple-Nerve Cymopterus



1 inch = 1,400 feet



Map Prepared by: B. Gale, GLA
Date Prepared: August 16, 2024

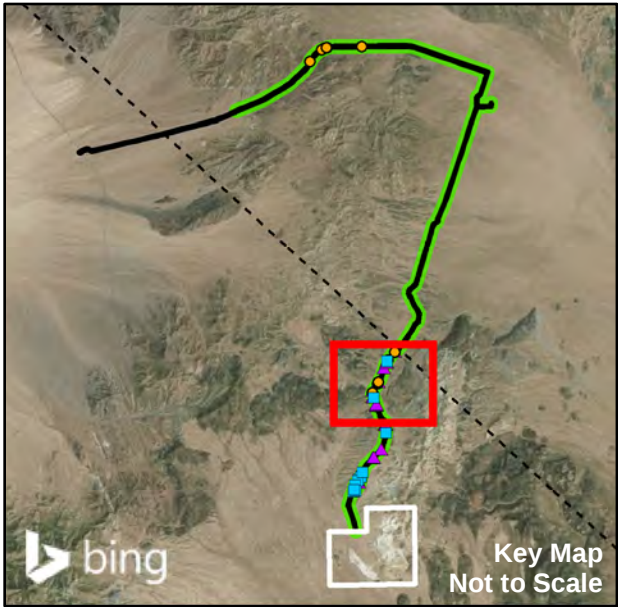
**IVANPAH UNDERGROUND WATERLINE
AND 69kV OVERHEAD POWERLINE
RIGHTS-OF-WAY PROJECT**

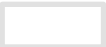
Special-Status Plants Map

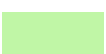
GLENN LUKOS ASSOCIATES

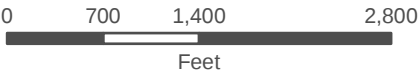


Exhibit 4 - Sheet 1



-  Study Area
-  CA / NV State Line Boundary
-  Castle Mountain Mine

- Special-Status Plants**
-  Eastern Joshua Tree Occurrences
 -  Curve-Spined Beavertail
 -  Parish's Club Cholla
 -  Purple-Nerve Cymopterus



1 inch = 1,400 feet



Map Prepared by: B. Gale, GLA
Date Prepared: August 16, 2024

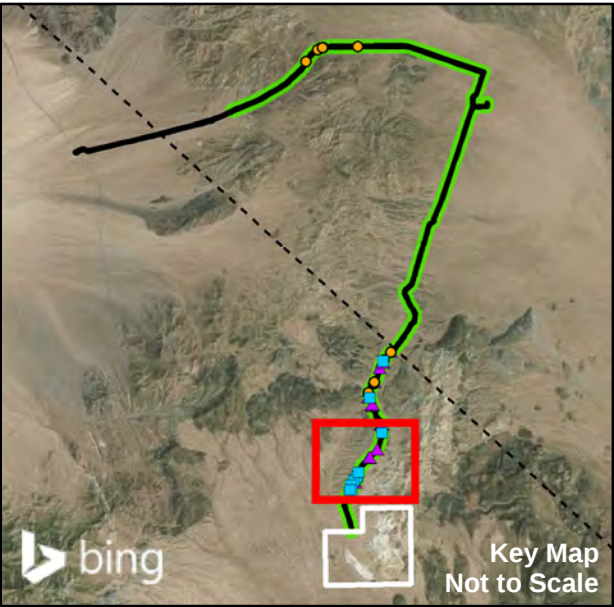
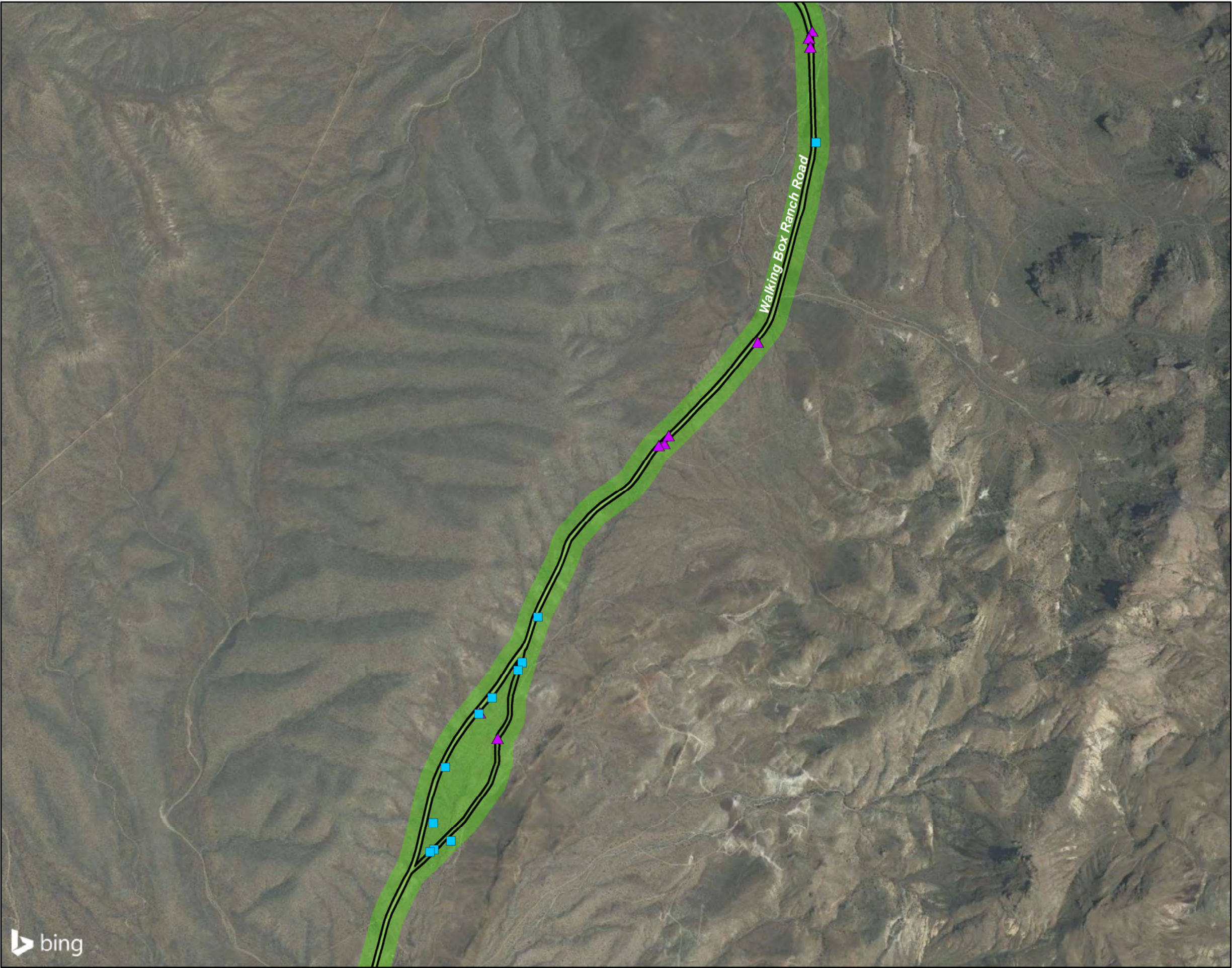
**IVANPAH UNDERGROUND WATERLINE
AND 69kV OVERHEAD POWERLINE
RIGHTS-OF-WAY PROJECT**

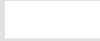
Special-Status Plants Map

GLENN LUKOS ASSOCIATES

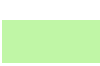


Exhibit 4 - Sheet 2



-  Study Area
-  CA / NV State Line Boundary
-  Castle Mountain Mine

Special-Status Plants

-  Eastern Joshua Tree Occurrences
-  Curve-Spined Beavertail
-  Parish's Club Cholla
-  Purple-Nerve Cymopterus

0 700 1,400 2,800
Feet

1 inch = 1,400 feet



Map Prepared by: B. Gale, GLA
Date Prepared: August 16, 2024

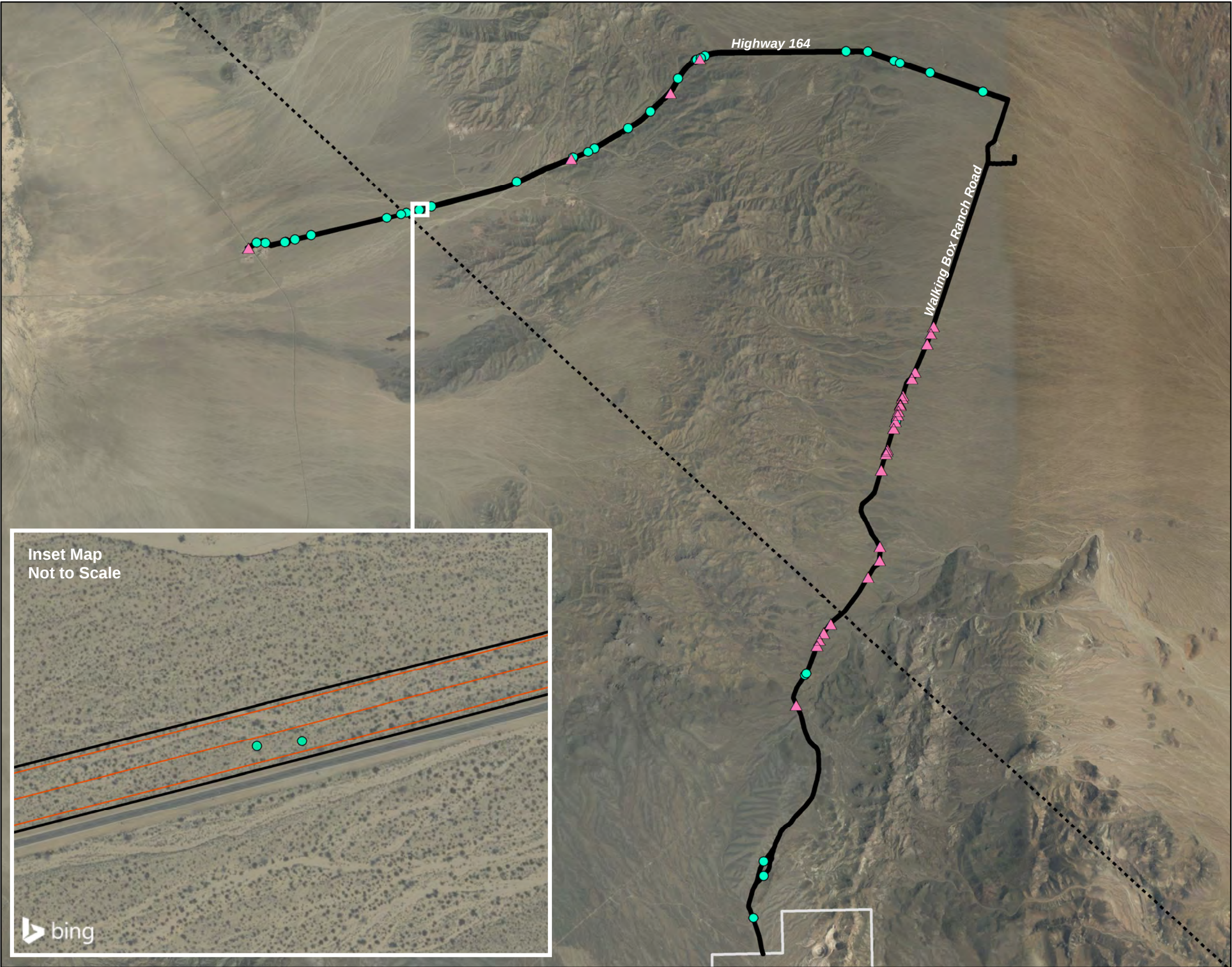
**IVANPAH UNDERGROUND WATERLINE
AND 69kV OVERHEAD POWERLINE
RIGHTS-OF-WAY PROJECT**

Special-Status Plants Map

GLENN LUKOS ASSOCIATES



Exhibit 4 - Sheet 3



-  Study Area
-  CA / NV State Line Boundary
-  Castle Mountain Mine
-  20-meter Transect
-  Burrow
-  Burrow Complex

0 4,500 9,000 18,000
Feet

1 inch = 9,000 feet



Map Prepared by: B. Gale, GLA
Date Prepared: August 15, 2024

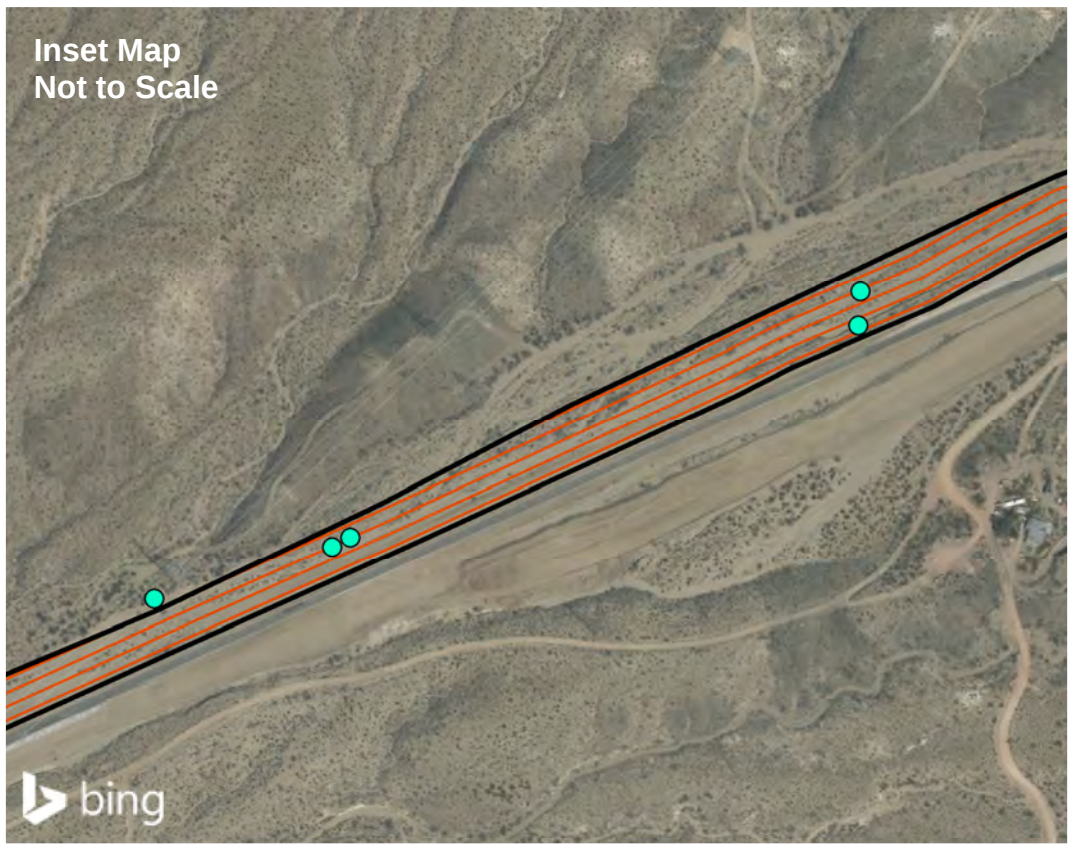
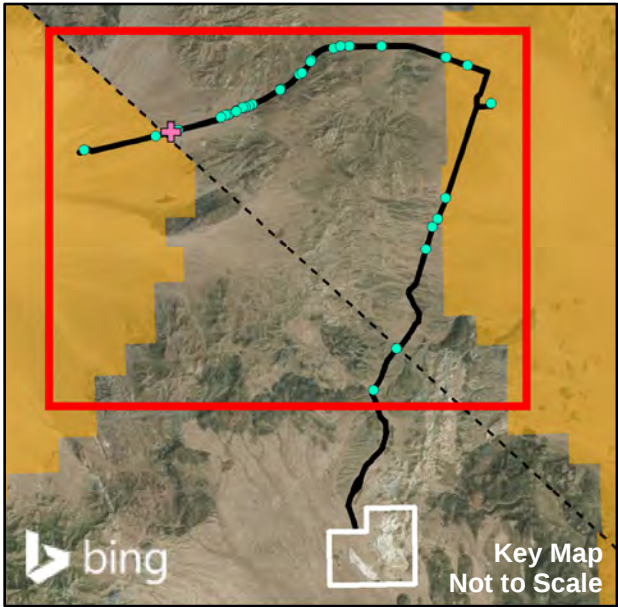
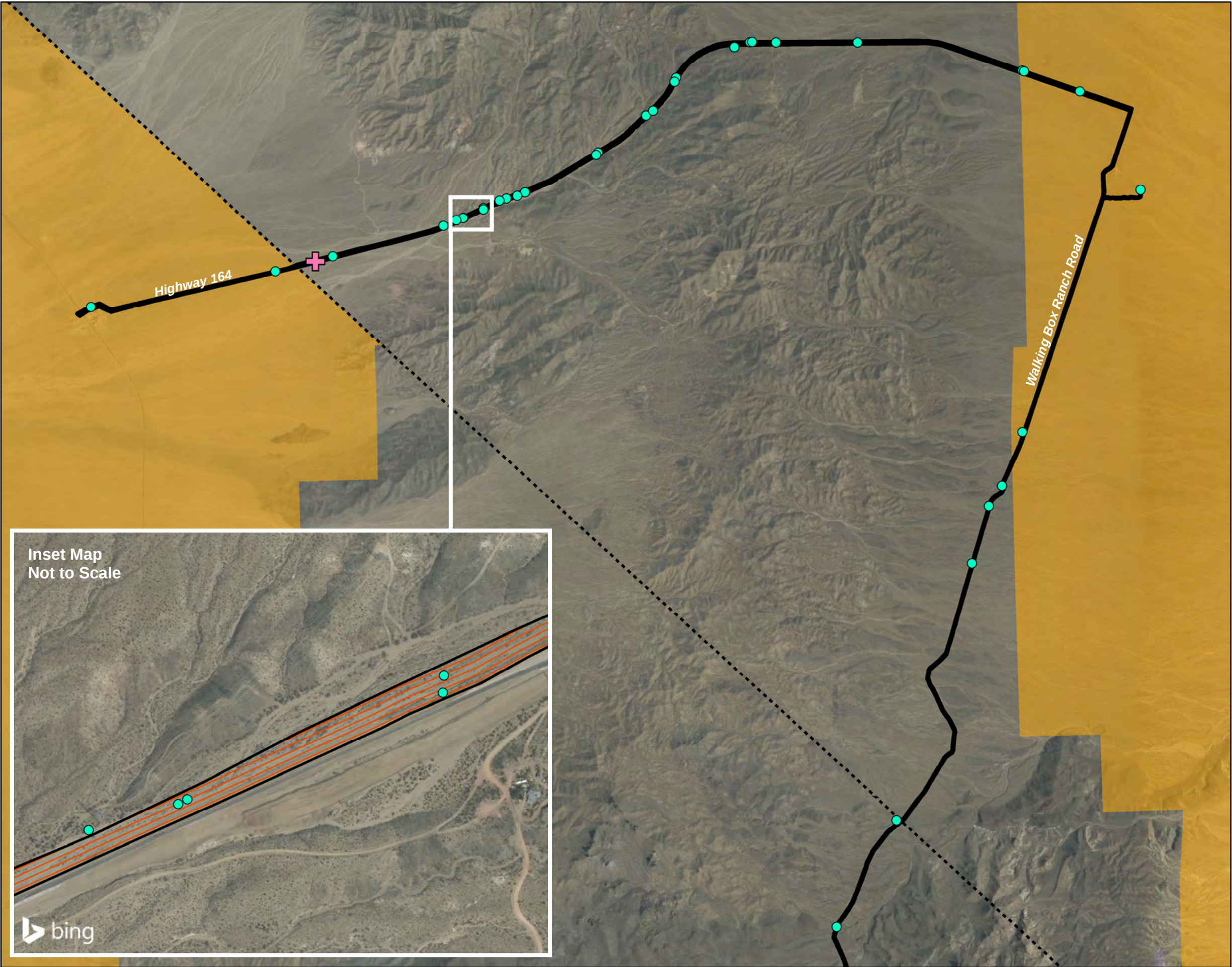
**IVANPAH UNDERGROUND WATERLINE
AND 69kV OVERHEAD POWERLINE
RIGHTS-OF-WAY PROJECT**

Burrowing Owl Survey Map

GLENN LUKOS ASSOCIATES



Exhibit 5



- Study Area
- CA / NV State Line Boundary
- Castle Mountain Mine
- Desert Tortoise Critical Habitat
- 10-meter Transect
- Burrow
- Carapace

0 3,250 6,500 13,000
Feet

1 inch = 6,500 feet



Map Prepared by: B. Gale, GLA
Date Prepared: August 15, 2024

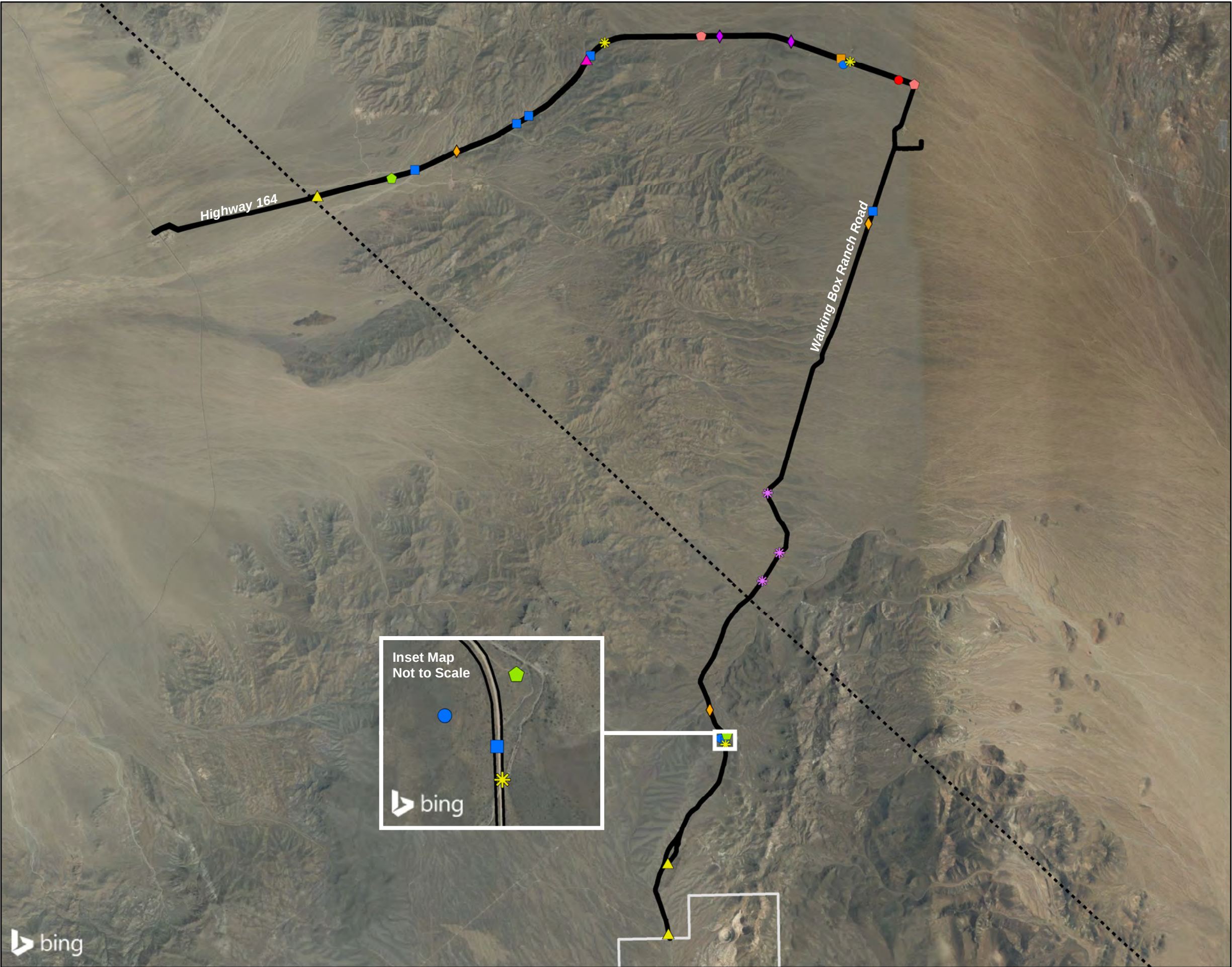
**IVANPAH UNDERGROUND WATERLINE
AND 69kV OVERHEAD POWERLINE
RIGHTS-OF-WAY PROJECT**

Desert Tortoise Survey Map

GLENN LUKOS ASSOCIATES



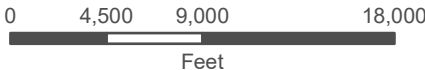
Exhibit 6



-  Study Area
-  CA / NV State Line Boundary
-  Castle Mountain Mine

Special-Status Animals

-  American Badger
-  Bendire's Thrasher
-  Common Nighthawk
-  Desert Bighorn Sign
-  Desert Horned Lizard
-  Desert Iguana
-  Desert Kangaroo Rat
-  Kit Fox Sign
-  Loggerhead Shrike
-  Long-Nosed Leopard Lizard
-  Phainopepla
-  Pinyon Jay



1 inch = 9,000 feet



Map Prepared by: B. Gale, GLA
Date Prepared: August 16, 2024

**IVANPAH UNDERGROUND WATERLINE
AND 69kV OVERHEAD POWERLINE
RIGHTS-OF-WAY PROJECT**

Special-Status Animals Map

GLENN LUKOS ASSOCIATES



Exhibit 7



Photograph 1: Representative photo of Study Area, taken along Highway 164, looking west at the unincorporated town of Nipton. Depicts maintained road shoulder and creosote bush scrub.



Photograph 2: Representative photo of Study Area, taken along Highway 164, looking east toward Walking Box Ranch Road. Depicts maintained road shoulder and abundant eastern Joshua trees within Study Area.



Photograph 3: Representative photo of Study Area, taken along Walking Box Ranch Road, looking north toward Highway 164. Depicts road conditions and adjacent eastern Joshua tree woodland.



Photograph 4: Representative photo of Study Area, taken along bifurcated portion near the Castle Mountain Mine. Depicts eastern Joshua tree woodland/ creosote bush scrub.





Photograph 5: Parish's club cholla (*Grusonia parishii*) from portion of Study Area along Walking Box Ranch Road (California).



Photograph 6: Curve-spined beavertail (*Opuntia xcurvispina*) from portion of the Study Area along Highway 164 (Nevada).



Photograph 7: Purple-nerve cymopterus (*Cymopterus multinervatus*) from portion of the Study Area along Walking Box Ranch Road (California).



Photograph 8: Numerous individuals of *Penstemon* sp. were tracked until bloom, then confirmed to be Palmer's penstemon (*Penstemon palmeri*), and not the special-status *Penstemon bicolor roseus*.





Photograph 9: Representative photo of a suitable burrowing owl burrow. Mapped and depicted on Exhibit 5.



Photograph 10: Representative photo of a potential kit fox burrow. Mapped and depicted on Exhibit 7.



Photograph 11: Representative photo of a potential desert tortoise burrow. Mapped and depicted on Exhibit 6.



Photograph 12: Desert tortoise carapace fragment that was observed at a woodrat midden just east of the CA/NV border along Highway 164. Location depicted on Exhibit 6.

APPENDIX A

FLORAL COMPENDIUM

The floral compendium lists all species identified during floristic level/focused plant surveys conducted for the Study Area. Taxonomy typically follows the Angiosperm Phylogeny Group (APG), which in some cases differs from The Jepson Manual (1993). Common plant names are taken from Hickman (1993), Munz (1974), and Roberts et al (2004) and Roberts (2008). An asterisk (*) denotes a non-native species.

SCIENTIFIC NAME

COMMON NAME

MONOCOTYLEDONS

MONOCOTS

AGAVACEAE

Yucca baccata
Yucca jaegeriana
Yucca schidigera

Agave Family

Spanish bayonet
eastern Joshua tree
Mohave yucca

LILIACEAE

Calochortus kennedyi

Lily Family

desert mariposa lily

POACEAE

Aristida purpurea
Bouteloua curtipendula
Dasyochloa pulchella
Hilaria rigida
Stipa hymenoides
Stipa speciosa

Grass Family

purple three-awned grass
side-oats grama
low woolly grass
big galleta
Indian rice grass
desert needlegrass

THEMIDACEAE

Dipterostemon capitatus
Muilla coronata

Brodieaea Family

blue dicks
crowned muilla

EUDICOTYLEDONS

EUDICOTS

ANACARDIACEAE

Rhus aromatica

Sumac Family

fragrant sumac

APIACEAE

Cymopterus multinervatus

Carrot Family

Arizona cymopterus

APOCYNACEAE

Asclepias erosa

Dogbane Family

desert milkweed

ASTERACEAE

Adenophyllum cooperi
Ambrosia dumosa
Ambrosia eriocentra
Ambrosia salsola
Bahiopsis parishii
Baileya multiradiata
Baileya pleniradiata
Brickellia californica
Chaenactis fremontii
Chaenactis stevioides
Chaetopappa ericoides
Cirsium neomexicanum
Encelia virginensis
Ericameria cooperi
Ericameria laricifolia
Ericameria linearifolia
Ericameria paniculata
Eriophyllum wallacei
Gutierrezia microcephala
Gutierrezia sarothrae
Layia glandulosa
Monoptilon belliioides
Packera multilobata
Stylocline micropoides
Tetradymia stenolepis

BIGNONIACEAE

Chilopsis linearis

BORAGINACEAE

Amsinckia menziesii var. *menziesii*
Amsinckia tessellata
Cryptantha pterocarya
Eremocarya micrantha var. *micrantha*
Johnstonella angustifolia
Pectocarya penicillata
Pectocarya recurvata
Plagiobothrys arizonicus

BRASSICACEAE

Boechera breweri
Boechera perennans
Descurainia pinnata
Lepidium fremontii
Lepidium lasiocarpum

Sunflower Family

Cooper's dogweed
burro weed
woolly bursage
cheese weed
Parish's viguiera
desert marigold
woolly marigold
California Brickellia
Fremont's pincushion
Esteve pincushion
heath-leaved chaetopappa
desert thistle
Virgin River Encelia
Cooper's goldenbush
turpentine brush
interior goldenbush
Mojave rabbitbrush
Wallace's woolly daisy
sticky snakeweed
matchweed
white layia
Mojave desert star
lobe-leaf groundsel
desert neststraw
narrow-scaled felt thorn

Bignonia Family

desert willow

Borage Family

rigid fiddleneck
devil's lettuce
winged-nut forget-me-not
desert red-root
narrow-leaved johnstonella
winged pectocarya
arch-nutted comb bur
Arizona popcorn-flower

Mustard Family

Brewer's rockcress
perennial rockcress
yellow tansy mustard
desert peppergrass
shaggyfruit peppergrass

Streptanthella longirostris

long-beaked twist flower

CACTACEAE

Coryphanta vivipara
Cylindropuntia acanthocarpa
Cylindropuntia echinocarpa
Echinocereus engelmannii
Ferocactus cylindraceus
Grusonia parishii
Opuntia basilaris var. *basilaris*
Opuntia chlorotica
Opuntia phaeacantha
Opuntia polyacantha
Opuntia xcurvisipina

Cactus Family

spinystar
buckhorn cholla
silver cholla
calico cactus
California barrel cactus
matted cholla
beavertail cactus
pancake prickly pear
brown-spined prickly pear
Plains prickly pear
curve-spine beavertail

CHENOPODIACEAE

Atriplex canescens
Krascheninnikovia lannata

Goosefoot Family

hoary saltbush
winter fat

CUCURBITACEAE

Cucurbita palmata

Gourd Family

coyote melon

EPHEDRACEAE

Ephedra nevadensis

Ephedra family

Nevada ephedra

EUPHORBIACEAE

Euphorbia polycarpa

Spurge Family

small seed sandmat

FABACEAE

Astragalus lentiginosus var. *fremontii*
Astragalus nuttallianus
Senegalia greggii

Legume Family

Fremont's milk-vetch
Nuttall's locoweed
catclaw

GERANIACEAE

* *Erodium cicutarium*

Geranium Family

red-stemmed filaree

HYDROPHYLLACEAE

Eucrypta micrantha
Phacelia crenulata
Phacelia fremontii

Waterleaf Family

desert eucrypta
notch-leaved phacelia
Fremont's phacelia

LAMIACEAE

Salvia columbariae
Salvia dorrii
Scutellaria mexicana

Mint Family

chia
Dorr's sage
Mexican bladder sage

LINACEAE*Linum lewisii***Flax Family**

Lewis's flax

LOASACEAE*Mentzelia albicaulis***Stick-Leaf Family**

white-stemmed blazing star

MALVACEAE*Sphaeralcea ambigua***Mallow Family**

desert mallow

NAMACEAE*Nama demissa* var. *demissa***Nama Family**

purplemat

NYCTAGINACEAE*Mirabilis multiflora***Four O'Clock Family**

giant four o'clock

OLEACEAE*Menodora spinescens***Olive Family**

spiny desert olive

ONAGRACEAE*Chylismia brevipes**Chylismia claviformis**Oenothera primiveris***Evening Primrose Family**

yellow cups

clavate-fruited primrose

yellow desert evening primrose

OROBANCHACEAE*Castilleja chromosa***Broom-Rape Family**

desert paintbrush

PHRYMACEAE*Erythranthe rubella***Monkeyflower Family**

red-stemmed himulus

POLEMONIACEAE*Gilia latiflora**Gilia stellata**Langloisia setosissima**Leptosiphon chrysanthus**Phlox stansburyi***Phlox Family**

broad-flowered gilia

star gilia

lilac sunbonnet

golden linanthus

cold desert phlox

POLYGONACEAE*Chorizanthe rigida**Eriogonum deflexum**Eriogonum fasciculatum**Eriogonum nidularium**Rumex hymenosepalus***Buckwheat Family**

Devil's spineflower

flat-topped buckwheat

California buckwheat

whisk broom

wild rhubarb

ROSACEAE*Coleogyne ramosissima**Fallugia paradoxa***Rose Family**

blackbrush

Apache plume

Prunus fasciculata
Purshia stansburyana

desert almond
Stanbury's antelope brush

SOLANACEAE

Datura wrightii
Lycium andersonii
Lycium cooperi

Nightshade Family

jimsonweed
Anderson's desert thorn
Cooper's boxthorn

ZYGOPHYLLACEAE

Larrea tridentata

Caltrop Family

creosote bush

APPENDIX B

FAUNAL COMPENDIUM

The faunal compendium lists species that were either observed within or adjacent to the Study Area, or that have some potential to occur within or adjacent to the Study Area (denoted by a '+'). Taxonomy and common names are taken from the California Wildlife Habitat Relationships System (CDFW 2016); AOU (2009) and CDFW (2016) for birds; Stebbins (1985), Collins (1990), Jones et al. (1992), and CDFW (2016) for reptiles and amphibians; and CDFW (2016) for mammals. An asterisk (*) denotes a non-native species.

AMPHIBIA

BUFONIDAE

- + *Anaxyrus punctatus*

REPTILIA

BOIDAE

- + *Charina trivirgata*

COLUBRIDAE

- + *Arizona elegans*
- Pituophis catenifer*
- + *Masticophis flagellum*
- + *Masticophis lateralis*
- Salvadora hexalepis mojavensis*

CROTOPHYTIDAE

- Gambelia wislizenii*
- + *Crotaphytus bicinctores*

EUBLEPHARIDAE

- + *Coleonyx variegatus*

HELODERMATIDAE

- + *Heloderma suspectum cinctum*

IGUANIDAE

- Dipsosaurus dorsalis dorsalis*
- + *Sauromalus ater*

AMPHIBIANS

True Toads

- red-spotted toad

REPTILES

Boas

- rosy boa

Colubrid Snakes

- western glossy snake
- gopher snake
- coachwhip
- California whipsnake (striped racer)
- Mojave patch-nosed snake

Collared and Leopard Lizards

- long-nosed leopard lizard
- Mojave black-collared lizard

Eyelid Geckos

- western banded gecko

Venomous Lizards

- Gila monster

Iguanids

- desert iguana
- common chuckwalla

LEPTOTYPHLOPIDAE

- + *Leptotyphlops humilis*

PHRYNOSOMATIDAE

- Phrynosoma platyrhinos*
- Sceloporus magister*
- Uta stansburiana*
- Callisaurus draconoides*

TEIIDAE

- Aspidoscelis tigris tigris*

TESTUDINIDAE

- + *Gopherus agassizii*

VIPERIDAE

- + *Crotalus cerastes cerastes*
- + *Crotalus scutulatus*
- + *Crotalus stephensi*

XANTUSIIDAE

- + *Xantusia vigilis*

AVES**ODONTOPHORIDAE**

- Callipepla gambelii*

CATHARTIDAE

- Cathartes aura*

ACCIPITRIDAE

- + *Accipiter cooperii*
- + *Accipiter striatus*
- + *Aquila chrysaetos*
- Buteo jamaicensis*
- + *Buteo regalis*

FALCONIDAE

- Falco columbarius*
- + *Falco mexicanus*
- + *Falco peregrinus*
- Falco sparverius*

Slender Blind Snakes

- western blind snake

Phrynosomatid Lizards

- desert horned lizard
- desert spiny lizard
- common side-blotched lizard
- zebra-tailed lizard

Whiptails and Relatives

- Great Basin whiptail

True Land Tortoises

- desert tortoise

Vipers

- Mohave Desert sidewinder
- Mojave rattlesnake
- Panamint rattlesnake

Night Lizards

- desert night lizard

BIRDS**New World Quail**

- Gambel's quail

New World Vultures

- turkey vulture

Hawks and Old World Vultures

- Cooper's hawk
- sharp-shinned hawk
- golden eagle
- red-tailed hawk
- ferruginous hawk

Caracaras and Falcons

- merlin
- prairie falcon
- peregrine falcon
- American kestrel

CHARADRIIDAE

Charadrius vociferus

COLUMBIDAE

- * *Columba livia*
- Patagioenas fasciata*
- Zenaida macroura*

CUCULIDAE

Geococcyx californianus

TYTONIDAE

Tyto alba

STRIGIDAE

- + *Asio otus*
- Bubo virginianus*

CAPRIMULGIDAE

Chordeiles acutipennis
Phalaenoptilus nuttallii

APODIDAE

Aeronautes saxatilis

TROCHILIDAE

- + *Archilochus alexandri*
- Calypte anna*
- Calypte costae*
- + *Selasphorus platycercus*
- + *Selasphorus rufus*
- + *Stellula calliope*

PICIDAE

Colaptes auratus
Colaptes chrysoides
Picoides scalaris

TYRANNIDAE

Myiarchus cinerascens
Sayornis nigricans
Sayornis saya
Tyrannus verticalis
Tyrannus vociferans

Plovers and Relatives

killdeer

Pigeons and Doves

rock pigeon
band-tailed pigeon
mourning dove

Cuckoos and Roadrunners

greater roadrunner

Barn Owls

barn owl

Typical Owls

long-eared owl
great horned owl

Goatsuckers

lesser nighthawk
common poorwill

Swifts

white-throated swift

Hummingbirds

black-chinned hummingbird
Anna's hummingbird
Costa's hummingbird
broad-tailed hummingbird
rufous hummingbird
calliope hummingbird

Woodpeckers and Allies

northern flicker
gilded flicker
ladder-backed woodpecker

Tyrant Flycatchers

ash-throated flycatcher
black phoebe
Say's phoebe
western kingbird
Cassin's kingbird

LANIIDAE

Lanius ludovicianus

VIREONIDAE

+ *Vireo vicinior*

CORVIDAE

Corvus brachyrhynchos

Corvus corax

Gymnorhinus cyanocephalus

ALAUDIDAE

Eremophila alpestris

PARIDAE

Baeolophus ridgewayi

REMIZIDAE

Auriparus flaviceps

TROGLODYTIDAE

Campylorhynchus brunneicapillus

Catherpes mexicanus

Salpinctes obsoletus

SYLVIIDAE

+ *Polioptila caerulea*

Polioptila melanura

MIMIDAE

Mimus polyglottos

Toxostoma bendirei

+ *Toxostoma crissale*

+ *Toxostoma lecontei*

STURNIDAE

* *Sturnus vulgaris*

PTILOGONATIDAE

Phainopepla nitens

PARULIDAE

Dendroica coronata

+ *Dendroica nigrescens*

Wilsonia pusilla

Shrikes

loggerhead shrike

Vireos

gray vireo

Crows and Jays

American crow

common raven

pinon jay

Larks

horned lark

Chickadees and Titmice

juniper titmouse

Verdin

verdin

Wrens

cactus wren

canyon wren

rock wren

Old World Warblers and Gnatcatchers

blue-gray gnatcatcher

black-tailed gnatcatcher

Mockingbirds and Thrashers

northern mockingbird

Bendire's thrasher

Crissal thrasher

Le Conte's thrasher

Starlings

European starling

Silky-flycatchers

phainopepla

Wood Warblers and Relatives

yellow-rumped warbler

black-throated gray warbler

Wilson's warbler

EMBERIZIDAE

- + *Amphispiza belli*
- Amphispiza bilineata*
- + *Artemisiospiza nevadensis*
- + *Chondestes grammacus*
- + *Junco hyemalis*
- Melospiza melodia*
- + *Pipilo chlorurus*
- + *Poocetes gramineus*
- Zonotrichia leucophrys*

CARDINALIDAE

Piranga ludoviciana

ICTERIDAE

Icterus parisorum
Quiscalus mexicanus
Sturnella neglecta

FRINGILLIDAE

- Carpodacus mexicanus*
- + *Carpodacus purpureus*
- Spinus psaltria*
- + *Spinus tristis*

PASSERIDAE

- * *Passer domesticus*

MAMMALIA

SORICIDAE

- + *Notiosorex crawfordi*

PHYLLOSTOMIDAE

- + *Macrotus californicus*

VERSPERTILIONIDAE

- + *Antrozous pallidus*
- + *Eptesicus fuscus*
- + *Lasionycteris noctivagans*
- + *Myotis californicus*
- + *Myotis lucifugus*
- + *Myotis volans*
- + *Myotis yumanensis*
- Pipistrellus hesperus*

Emberizids

sage sparrow
black-throated sparrow
sagebrush sparrow
lark sparrow
dark-eyed junco
song sparrow
green-tailed towhee
vesper sparrow
white-crowned sparrow

Cardinals, Grosbeaks and Allies

western tanager

Blackbirds

Scott's oriole
great-tailed grackle
western meadowlark

Finches and Allies

house finch
purple finch
lesser goldfinch
American goldfinch

Old World Sparrows

house sparrow

MAMMALS

Shrews

desert shrew

Leaf-nosed Bats

California leaf-nosed bat

Evening Bats

pallid bat
big brown bat
silver-haired bat
California myotis
little brown myotis
long-legged myotis
Yuma myotis
western pipistrelle

MOLOSSIDAE

- + *Eumops perotis californicus*
- + *Nyctinomops femorosaccus*
- + *Nyctinomops macrotis*
- + *Tadarida brasiliensis*

LEPORIDAE

- Lepus californicus*
- Sylvilagus audubonii*

GEOMYIDAE

- Thomomys bottae*

HETEROMYIDAE

- + *Chaetopidpus spinatus*
- + *Chetodipus penicillatus*
- Dipodomys deserti*
- + *Dipodomys merriami*
- + *Perognathus parvus*

MURIDAE

- + *Mus musculus*
- Neotoma lepida*
- + *Onychomys torridus*
- + *Peromyscus eremicus*
- + *Peromyscus maniculatus*

SCIURIDAE

- Ammospermophilus leucurus*
- Spermophilus beecheyi*

CANIDAE

- Canis latrans*
- Vulpes macrotis*

PROCYONIDAE

- + *Procyon lotor*

MEPHITIDAE

- + *Spilogale gracilis*

MUSTELIDAE

- Taxidea taxus*

Free-tailed Bats

- western California mastiff bat
- pocketed free-tailed bat
- big-free-tailed bat
- Brazilian free-tailed bat

Rabbits and Hares

- black-tailed jackrabbit
- desert (Audubon's) cottontail

Pocket Gophers

- Botta's pocket gopher

Pocket Mice and Kangaroo Rats

- spiny pocket mouse
- desert pocket mouse
- desert kangaroo rat
- Merriam's kangaroo rat
- great basin pocket mouse

Mice, Rats and Voles

- house mouse
- desert woodrat
- southern grasshopper mouse
- cactus mouse
- deer mouse

Squirrels, Chipmunks, and Marmots

- white-tailed antelope squirrel
- California ground squirrel

Foxes, Wolves and Allies

- coyote
- kit fox

Raccoons and Allies

- raccoon

Skunks

- western spotted skunk

Weasels

- American badger

FELIDAE

- + *Lynx rufus*
- + *Puma concolor*

Cats

- bobcat
- mountain lion

CERVIDAE

Odocoileus hemionus

Deer, Elk and Allies

mule deer

BOVIDAE

Ovis canadensis

Sheep, Goats and Allies

bighorn sheep

Taxonomy and nomenclature are based on the following.

Amphibians and reptiles: Crother, B.I. et al.(2000. Scientific and standard English names of amphibians and reptiles of North America north of Mexico, with comments regarding confidence in our understanding. *Herpetological Circular* 29; and 2003 update.) for species taxonomy and nomenclature; Stebbins, R.C. (2003. A Field Guide to Western Reptiles and Amphibians, third edition, Houghton Mifflin, Boston.) for sequence and higher order taxonomy.

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Mammals: Grenfell, W.E., Parisi, M.D. and McGriff, D. (2003. Complete list of amphibians, reptiles, birds and mammals in California. California Department of Fish and Game. http://www.dfg.ca.gov/whdab/pdfs/species_list.pdf).