APPENDIX D

Biological Resources Technical Report

DRAFT

Biological Resources Technical Report
For the Campo Wind Project with Boulder Brush Facilities
San Diego County, California

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Biological Resources Technical Report
Campo Wind Project with Boulder Brush Facilities, San Diego County, California

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
amsl	above mean sea level
BCC	Birds of Conservation Concern
BMO	Biological Mitigation Ordinance
BMP	best management practice
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CNPS	California Native Plant Society
County	County of San Diego
CRPR	California Rare Plant Rank
FESA	Federal Endangered Species Act
GIS	Geographic Information System
GPS	Global Positioning System
IA	index of activity
M-	Mitigation Measure
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Program
NCCP	Natural Community Conservation Plan
O&M	operation and maintenance
Project	Torrey Wind Project
RPO	Resource Protection Ordinance
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Service
WL	Watch List
WRRS	Worker Response Reporting System

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SUMMARY

This Biological Resources Technical Report was prepared for the Campo Wind Project with Boulder Brush Facilities (Project). The Project consists of both the Campo Wind Facilities that would be located within the Campo Band of Diegueno Mission Indians (Tribe) Reservation (Reservation) and the Boulder Brush Facilities that would be located on adjacent land leased from a private landowner within the Boulder Brush Boundary. Collectively, the entire land area within both the Reservation Boundary and Boulder Brush Boundary comprise the Project Area. The Campo Wind Facilities would be located within a corridor of approximately 2,200 acres of land (Campo Corridor) within the approximately 16,000-acre Reservation Boundary. The Boulder Brush Facilities would be located within a corridor of approximately 320 acres of land (Boulder Brush Corridor) within the approximately 2,000-acre Boulder Brush Boundary. Collectively, the Campo Corridor and the Boulder Brush Corridor compose the approximately 2,520-acre Project Site. Project disturbances associated with construction of the Campo Wind Facilities within the Campo Corridor are expected to be approximately 800 acres, whereas Project disturbances associated with the construction of the Boulder Brush Facilities within the Boulder Brush Corridor are expected to be approximately 130 acres.

Boulder Brush Facilities

Project components within the Boulder Brush Corridor are referred to as the Boulder Brush Facilities. These facilities include 3.5 miles of the overhead gen-tie line, high-voltage substation, switchyard, connection to the SDG&E Sunrise Powerlink, paved access road to the high-voltage substation and switchyard, and unpaved access roads, water tanks dedicated for firefighting purposes, and required fuel modification zones. Off-site improvements would include widening and paving a segment of Ribbonwood Road from Opalocka Road to the site's primary entrance. The Boulder Brush Boundary is located in the East County Multiple Species Conservation Program (MSCP) planning area.

The following surveys were completed in 2018 and/or 2019 for the Boulder Brush Facilities: vegetation mapping, a formal jurisdictional delineation, rare plant surveys (also conducted in 2017), focused least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and Quino checkerspot butterfly (*Euphydryas editha quino*) surveys, and surveys to document avian, eagle, and Peninsular bighorn sheep (*Ovis canadensis nelsoni*) use within all, or suitable portions of, the Boulder Brush Corridor. Additionally, Dudek conducted the following surveys within portions of the Boulder Brush Boundary in 2011: Quino checkerspot butterfly protocol surveys, avian and eagle counts, raptor nest surveys, and an acoustical bat survey (surveys started in 2011 and were completed in 2012). While the 2011/2012 surveys were for a different project, these surveys include valuable data utilized to determine the

potential for special-status species to occur within the Boulder Brush Corridor. In June 2019, the Boulder Brush Facilities were redesigned to avoid cultural resources. This resulting in some slivers and small areas of land located outside of the original survey areas totaling 27.1 acres; however, the 2018 and 2019 surveys covered nearly all of the Boulder Brush Corridor. Depending on the resource or species, some surveys included these areas outside of the Boulder Brush Corridor. An additional visit was done to map jurisdictional resources in the added areas in 2019. This report documents the results of Dudek's field work for 2011, 2012, 2017, 2018, and 2019 and an analysis of the impacts related to the Boulder Brush Facilities.

Eleven native vegetation communities were mapped by Dudek biologists within the Boulder Brush Corridor: big sagebrush scrub, coast live oak woodland (including open coast live oak woodland), emergent wetland, granitic chamise chaparral, granitic northern mixed chaparral, montane buckwheat scrub, red shank chaparral, semi-desert chaparral, southern arroyo willow riparian forest, and wildflower field. Two non-native vegetation communities, disturbed habitat and eucalyptus woodland, were mapped within the Boulder Brush Corridor, along with two land cover types: urban/developed and unvegetated channel.

The focused plant and wildlife surveys resulted in the detection of the following special-status species: Tecate tarplant (*Deinandra floribunda*), Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*), sticky geraea (*Geraea viscida*), desert beauty *(Linanthus bellus*), southern jewelflower (*Streptanthus campestris*), Colorado desert larkspur (*Delphinium parishii* ssp. *subglobosum*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), golden eagle (*Aquila chrysaetos*), loggerhead shrike (*Lanius ludovicianus*), California horned lark (*Eremophila alpestris actia*), northern harrier (*Circus hudsonius*), red-shouldered hawk (*Buteo lineatus*), western bluebird (*Sialia mexicana*), yellow warbler (*Setophaga petechia*), turkey vulture (*Cathartes aura*), barn owl (*Tyto alba*), merlin (*Falco columbarius*), Bell's sage sparrow (*Artemisiospiza belli belli*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), mule deer (*Odocoileus hemionus*), San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), Blainville's horned lizard (*Phrynosoma blainvillii*), and Quino checkerspot butterfly.

In addition, an acoustical bat survey was conducted in 2011 for a previous project proposed by a different applicant (Jewell Valley Wind Project). While the acoustical bat equipment was located outside of the Boulder Brush Corridor (along the eastern boundary of the Boulder Brush Boundary), the following special-status bats were detected flying immediately adjacent to the Boulder Brush Corridor: pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis californicus*), western small-footed myotis (*Myotis ciliolabrum*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), and big free-tailed bat (*Nyctinomops macrotis*). Focused surveys for Quino checkerspot butterfly were conducted in 2018

and again in 2019. The 2019 surveys resulted in the detection of five individuals during 1 week of surveys within the Boulder Brush Corridor.

The Boulder Brush Facilities, which are under the County's jurisdiction, would result in total permanent impacts to 43.9 acres and temporary impacts to 87.3 acres, of which 38.3 acres of permanent impacts and 84.8 acres of temporary impacts are considered sensitive vegetation communities. This includes permanent impacts to 0.13 acres of non-wetland waters of the United States/state and 0.15 acres of California Department of Fish and Wildlife (CDFW) riparian habitat and County Resource Protection Ordinance (RPO) wetlands. There are also temporary impacts to 0.30 acres of non-wetland waters of the United States/state and 0.40 acres of CDFW riparian habitat and County RPO wetlands. The proposed Project would also permanently impact 2.0 acres and temporarily impact 5.3 acres of oak root protection zones. The Project would result in potentially significant short-term and long-term direct and/or indirect impacts to special-status plants (Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*), southern jewelflower (*Streptanthus campestris*), tecate tarplant (*Deinandra floribunda*), desert beauty (*Linanthus bellus*), sticky geraea (*Geraea viscida*), and Colorado desert larkspur (*Delphinium parishii* ssp. *subglobosum*)); special-status wildlife species (San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), San Diego banded gecko (*Coleonyx variegatus abbotti*), Blainville's horned lizard (*Phrynosoma blainvillii*), Coronado skink (*Plestiodon skiltonianus interparietalis*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), Cooper's hawk (*Accipiter cooperii*), Bell's sage sparrow (*Artemisiospiza belli belli*), loggerhead shrike (*Lanius ludovicianus),* yellow warbler (*Setophaga petechia*), western red bat (*Lasiurus blossevillii*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and San Diego desert woodrat (*Neotoma lepida intermedia*)); and wildlife habitat, as well as short-term direct impacts to wildlife movement and migratory birds. While the areas of temporary impacts will be replanted with native vegetation to provide erosion control, slope stabilization, or other necessary function, they will not be monitored or managed under a long-term plan; therefore, both permanent and temporary impacts will require mitigation, per County guidelines. Mitigation would include off-site preservation of 155.1 acres of similar habitat types within a mitigation bank or through protection of land with a biological open space easement; special-status plant species mitigation through protection of land with known populations (mitigation for individual plants at specified ratios); pre-construction monitoring, flagging and fencing, and other best management practices; nesting bird surveys; avian and bat monitoring; fire protection; access control; and any necessary federal and state agency permits. All potentially significant impacts associated with the Boulder Brush Facilities would be reduced to less than significant with implementation of the mitigation measures detailed in the report.

Campo Wind Facilities

This report also describes impacts to biological resources due to implementation of the Campo Wind Facilities on the Reservation, in order to assist the County in complying with its CEQA obligations to review the "whole of the action." The Campo Wind Facilities would be located within a corridor of approximately 2,200 acres of land (Campo Corridor) within the Reservation. Approval of the Campo Wind Facilities on the Reservation falls under the jurisdiction of the Bureau of Indian Affairs (BIA), which is subject to the National Environmental Policy Act (NEPA).

Vegetation mapping, formal jurisdictional delineation, and focused surveys were conducted in 2017 and/or 2018, including Quino checkerspot butterfly surveys on the Reservation. Additional surveys to document avian, eagle, and raptor surveys were completed between 2018 and 2019. This report summarizes the results of Dudek's field work on the Reservation, along with previous studies within the Campo Corridor, and an analysis of potential impacts related to the Campo Wind Facilities.

Twenty vegetation communities and land cover types were mapped by Dudek within the Campo Corridor. Native vegetation communities within the Campo Corridor include big sagebrush scrub, coast live oak woodland (including open and dense forms), emergent wetland, granitic chamise chaparral, granitic northern mixed chaparral, montane buckwheat scrub, mulefat scrub, non-native grassland, non-native grassland broadleaf-dominated, red shank chaparral, scrub oak chaparral, southern coast live oak riparian forest, southern willow scrub, upper Sonoran subshrub scrub, and valley Sacaton grassland. Developed and disturbed habitat, as well as one land cover–unvegetated stream channel, occur within the Campo Corridor.

Dudek biologists detected the following federally protected species within the Campo Corridor during surveys: bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*). While not detected during the 2018 focused surveys, Quino checkerspot butterfly was observed within the Campo Corridor during 2010 focused surveys by AECOM.

The Campo Wind Facilities would result in impacts to approximately 800 acres (789.3 acres) within the Campo Corridor on the Reservation. This includes impacts to 1.13 acres of non-wetland waters of the United States and 0.67 acres of wetlands on site. The Campo Wind Facilities would result in potentially significant direct impacts to special-status wildlife species habitat. Mitigation would include pre-construction monitoring and other best management practices, fire protection, and any necessary federal agency permits. Most significant impacts would be reduced to less than significant with implementation of mitigation measures in accordance with federal requirements. Certain impacts to resources on the Reservation considered sensitive only under state or local law, but not federal law, would remain significant and unmitigated.

Biological Resources Technical Report
Campo Wind Project with Boulder Brush Facilities, San Diego County, California

1 INTRODUCTION

1.1 Purpose of the Report

This report was prepared for the "Campo Wind Project with Boulder Brush Facilities," or "Project" for short. The Project consists of both the Campo Wind Facilities, which would be located on land leased from the Tribe within the Reservation Boundary, and the Boulder Brush Facilities, which would be located on adjacent land leased from a private landowner within the Boulder Brush Boundary. Collectively, all the lands within both the Reservation Boundary and the Boulder Brush Boundary compose the Project Area. The term "On-Reservation" refers to anything within the Reservation Boundary, while the term "Off-Reservation" refers to anything outside of the Reservation Boundary.

The Campo Wind Facilities, which would consist of 60 wind turbines and associated infrastructure, would be located within a corridor of approximately 2,200 acres of land (Campo Corridor) within the approximately 16,000 acres of Reservation land inside the Reservation Boundary. The Boulder Brush Facilities consist of the 3.5-mile Off-Reservation gen-ite line and related facilities to connect energy generated by the Project to the existing San Diego Gas & Electric Company (SDG&E) Sunrise Powerlink. The Boulder Brush Facilities would be located within a corridor of approximately 320 acres of land (Boulder Brush Corridor) located primarily within the approximately 2,000 acres of Private Lease land inside the Boulder Brush Boundary adjacent to the northeast portion of the Reservation; the Boulder Brush Corridor also includes the off-site road improvements. These Private Lease lands are under the land use and permitting jurisdiction of the County. Collectively, the Campo Corridor and the Boulder Brush Corridor compose the approximately 2,520-acre Project Site. The Project disturbance area associated with the construction of the Campo Wind Facilities within the Campo Corridor is expected to be approximately 800 acres, while the Project disturbance area associated with the construction of the Boulder Brush Facilities within the Boulder Brush Corridor is expected to be approximately 130 acres.

The purpose of this full Biological Resources Technical Report is to (1) describe the existing conditions of biological resources as present or potentially present within the Boulder Brush Corridor and Campo Corridor, including vegetation communities, jurisdictional aquatic resources, special-status plants, special-status wildlife, and wildlife movement; (2) discuss potential impacts to biological resources that would result from development of the Project and describe those impacts in terms of biological significance in view of applicable federal, state, and local laws and policies; and (3) recommend mitigation measures to avoid, minimize, and/or mitigate significant impacts.

The Boulder Brush Facilities will comply with federal, state, and local rules and regulations, including the California Environmental Quality Act (CEQA); the County of San Diego's (County) Guidelines for Determining Significance and Report Format and Contents Requirements for Biological Resources (County of San Diego 2010a); the County's Report Format and Contents Requirements for Biological Resources (County of San Diego 2010b); the County's Resource Protection Ordinance (County of San Diego 2012); and various planning documents, including the future East County Multiple Species Conservation Program (MSCP) Plan, and the East County MSCP Planning Agreement between the County, California Department of Fish and Wildlife, and United States Fish and Wildlife Service (County of San Diego 2014).

This report also describes the Campo Wind Facilities proposed on the Reservation. Approval of the Campo Wind Facilities on the Reservation falls under the jurisdiction of the Bureau of Indian Affairs (BIA) and is subject to the National Environmental Policy Act (NEPA). The decision to approve the Boulder Brush Facilities is within the purview of the County of San Diego. When deciding whether to approve a Major Use Permit (MUP) for the Boulder Brush Facilities, the County will use the information included in the EIR to consider potential impacts on the physical environment associated with the Project.

1.2 Project Location and Description

The Boulder Brush Facilities would be located within an approximately 320-acre Boulder Brush Corridor in southeastern San Diego County, California (Figure 1-1, Project Location). This area is on private land in the McCain Valley area, north of the community of Boulevard, and is accessed via Interstate 8 (I-8) and Ribbonwood Road. The Boulder Brush Corridor was identified based on applying an approximately 100-foot buffer to the Boulder Brush Facilities. These areas are located within the overall Boulder Brush Boundary, composed of Assessor's Parcel Numbers (APNs) 528-220-02, 528-220-03, 529-050-01, 529-060-01, 529-090-02, 529-090-03, 529-100-02, 529-100-03, 529-120-01, 529-120-03, 529-130-01, 611-010-01, 611-010-02, 611-010-03, 611-020-01, 611-050-04, 611-050-05, and 529-100-01.

The area surrounding the Boulder Brush Boundary includes lands administered by Bureau of Indian Affairs, Bureau of Land Management (BLM), and private lands. The 500 kV Sunrise Powerlink traverses the northeast portion of the Boulder Brush Boundary. Wind turbines associated with Tule Wind Project are located on land to the northwest, north and east of the Boulder Brush Boundary (Figure 1-2, Proposed Project and Existing Projects). Other nearby wind projects include the Kumeyaay Wind Energy Project, which is located southwest of the Boulder Brush Boundary.

The Boulder Brush Facilities include the following components: 3.5 mile off-Reservation gen-tie line, a high voltage substation, 500 kV switchyard and connection to the existing SDG&E Sunrise Powerlink, associated access roads, and defensible space (fuel modification zones). These transmission and interconnection facilities would be built to support the Campo Wind Facilities located on the Reservation.

The Campo Wind Facilities would be located on the Reservation. The Reservation is located in the southern Laguna Mountains and surrounded by the unincorporated communities of Campo, Boulevard, and Live Oak Springs (Figure 1-1). The Reservation covers approximately 16,000 acres and includes lands both north and south of I-8 along the Tecate Divide, and extends from the Manzanita Indian Reservation south to approximately 0.25-mile from the Mexico/U.S. international border. The approximately 2,200-acre Campo Corridor is comprised of lands to be leased from the Campo Band of Diegueño Mission Indians (Tribe) (Figure 1-2). The Campo Corridor is surrounded by low-density rural commercial and residential developments throughout the Reservation and nearby communities; Church Road and I-8 bisect the Campo Corridor.

Further description of Project components is provided in Chapter 1, Project Description, Location, and Environmental Setting, of the Environmental Impact Report (EIR).

Prior to decommissioning of Boulder Brush Facilities, a decommissioning plan would be prepared and implemented. The decommissioning plan shall include revegetation of the previously disturbed areas. Soil would be revegetated with native plant species found within adjacent habitats. Locally available seed would be used, and seed from species that are unavailable for collection would not be incorporated into the final seed palette.

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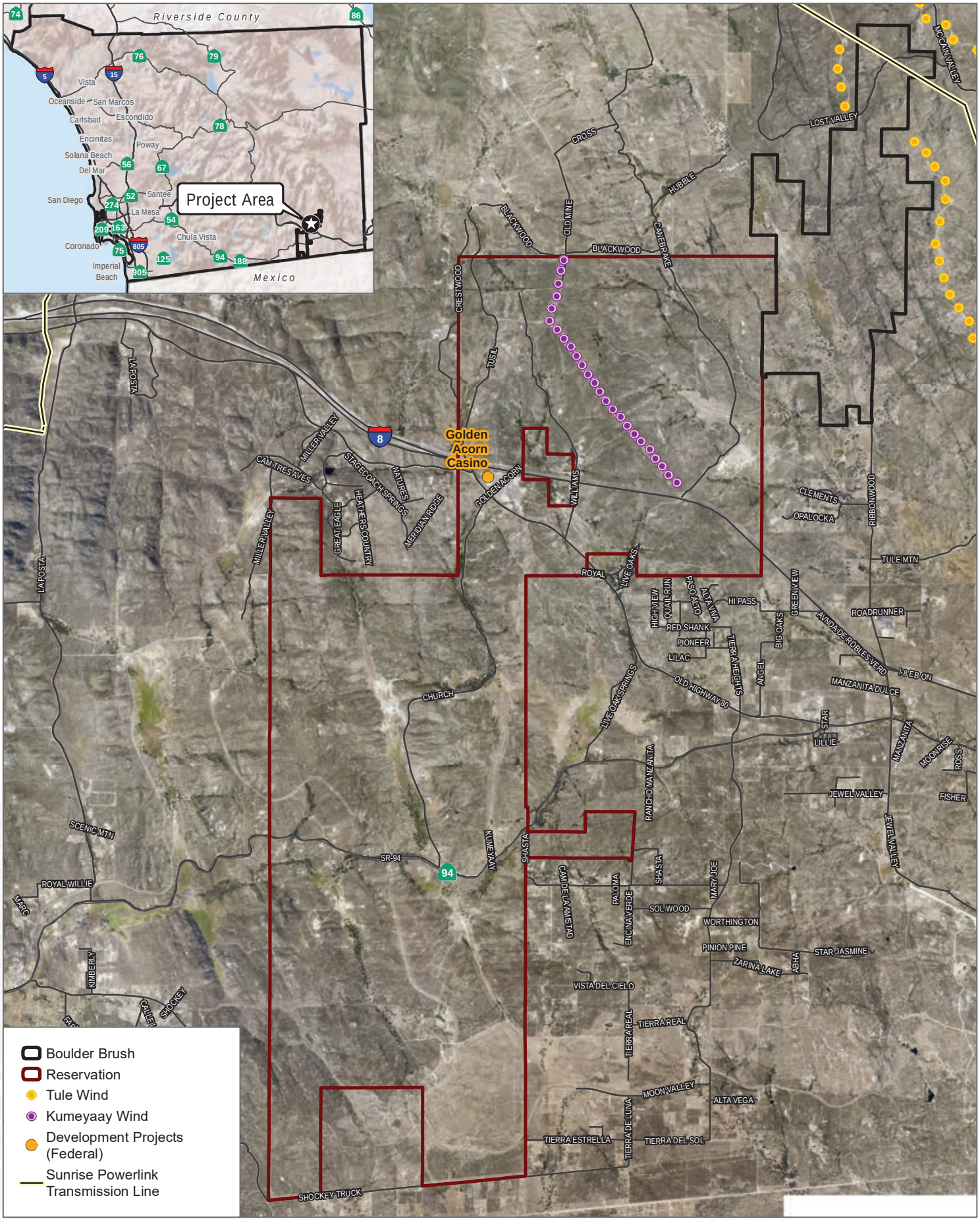

SOURCE: SANGIS 2017

FIGURE 1-1

Project Location

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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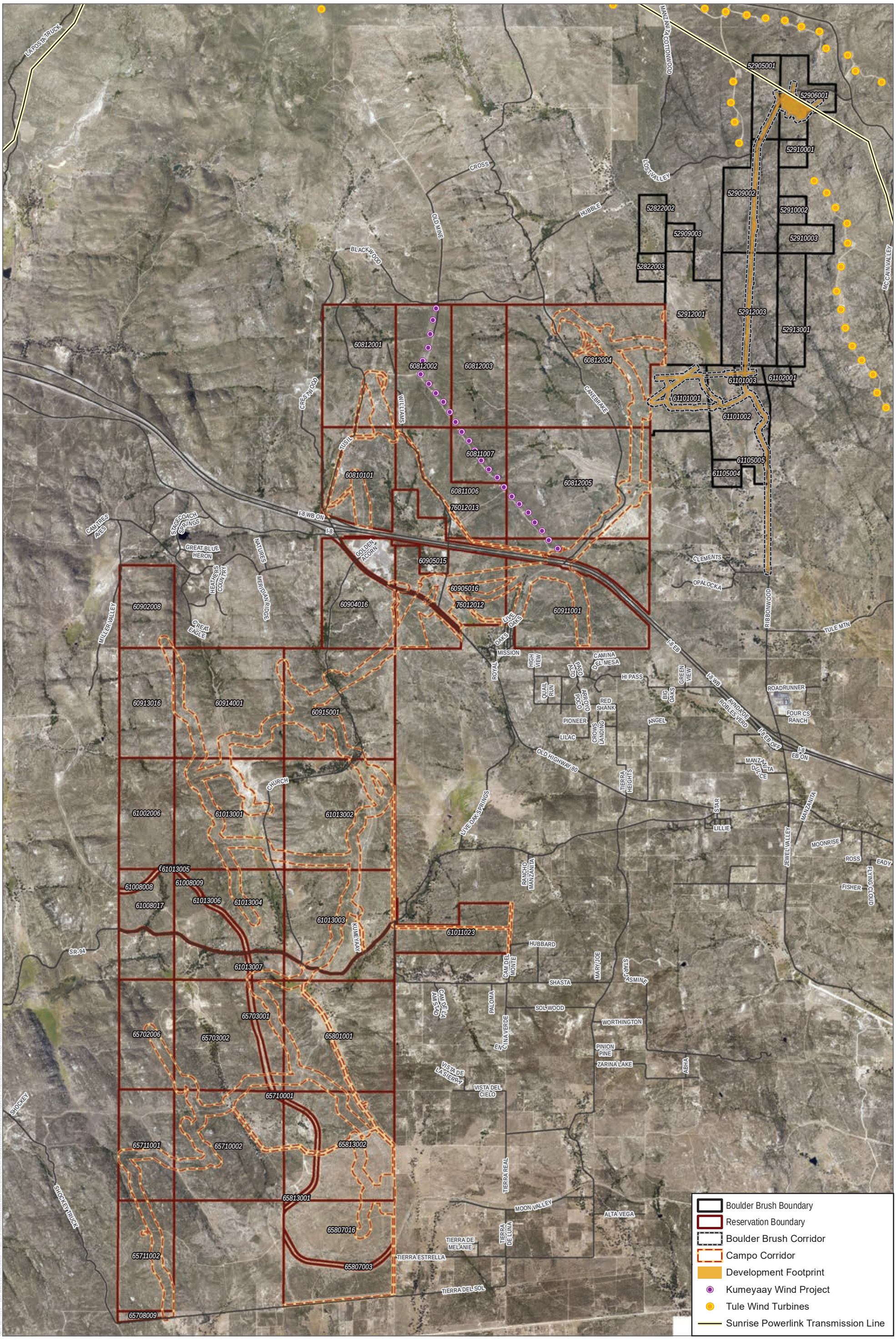

SOURCE: SANGIS 2017

DUDEK

0 1,550 3,100 Feet

FIGURE 1-2

Proposed Project and Existing Projects

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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2 APPLICABLE REGULATIONS

2.1 Federal

Federal regulations are applicable to the Boulder Brush Facilities on private land under County jurisdiction and the Campo Wind Facilities on the Reservation.

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) (16 USC 1531 et seq.) is implemented by the U.S. Fish and Wildlife Service (USFWS) for protection of various species of freshwater fish, terrestrial wildlife, and plants deemed to be in danger of or threatened with extinction. As part of this regulatory act, FESA provides for designation of critical habitat, defined in FESA Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and that "may require special management considerations or protection." Critical habitat may also include areas outside the current geographical area occupied by the species that are nonetheless "essential for the conservation of the species." The Project site does not overlap within any critical habitat (Figure 2-1, USFWS Critical Habitat).

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). In December 2017, Department of Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the MBTA to only prohibit intentional take. Unintentional or accidental take is not prohibited. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 Federal Register 3853–3856). The executive order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

2.1.3 Clean Water Act

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and/or fill material into "waters of the United States." The term "wetlands" (a subset of waters of the United States) is defined in 33 Code of Federal Regulations 328.3(c)(4) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a

prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark," which is defined in 33 Code of Federal Regulations 328.3(c)(6).

2.1.4 Bald and Golden Eagle Protection Act

Bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are federally protected under the Bald and Golden Eagle Protection Act, passed in 1940 to protect bald eagle and amended in 1962 to include golden eagle (16 USC 668a–d). The Bald and Golden Eagle Protection Act (16 USC 668–668d) prohibits the take, possession, sale, purchase, barter, offering to sell or purchase, export or import, or transport of bald eagles and golden eagles and their parts, eggs, or nests without a permit issued by USFWS. The definition of "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. The act prohibits any form of possession or taking of both eagle species, and the statute imposes criminal and civil sanctions as well as an enhanced penalty provision for subsequent offenses. Further, the act provides for the forfeiture of anything used to acquire eagles in violation of the statute. The statute exempts from its prohibitions on possession the use of eagles or eagle parts for exhibition, scientific, and Native American religious uses.

However, there is allowance within the act that, after investigation, the Secretary of the Interior may determine that direct and purposeful taking is compatible with the preservation of bald eagle or golden eagle. If so, then the Secretary may permit the taking, possession, and transportation of specimens for the scientific or exhibition purposes of public museums, scientific societies, and zoological parks, or for the religious purposes of Native American tribes. The Secretary of the Interior may also determine that it is necessary to permit the taking of eagles for the protection of wildlife or of agricultural or other interests in any particular locality. This permitting may be for the seasonal protection of domesticated flocks and herds, and may also permit the taking, possession, and transportation of golden eagles for the purposes of falconry if the eagles may cause depredations on livestock or wildlife. Finally, the Secretary of the Interior may permit the taking of golden eagle nests that interfere with resource development or recovery operations, or in an emergency.

In November 2009, USFWS published the Final Eagle Permit Rule (74 Federal Register 46836–46879) providing a mechanism to permit and allow for incidental (i.e., non-purposeful) take of bald and golden eagles pursuant to the Bald and Golden Eagle Protection Act (16 USC 668 et seq.). Disturb means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or

sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." These regulations may apply to projects such as wind turbines and transmission lines, and were followed by issuance of guidance documents for inventory and monitoring protocols and for avian protection plans (Pagel et al. 2010). On December 14, 2014 the USFWS released a final rule revising the regulations for permits for incidental take of eagles and take of eagle nests. The Service analyzed various alternative management options and rule revisions, including the final rule revisions, in a programmatic environmental impact statement (PEIS). Among other revisions, the final rule addresses criteria for permit issuance, compensatory mitigation requirements, permit duration, and data standards for submitting permit applications. More recently, The Bald Eagle And Golden Eagle Electrocution Prevention In-lieu Fee Program (Eagle ILF Program) was authorized by the USFWS to sell compensatory mitigation credits for bald and golden eagles to utilities. The Eagle ILF Program is the only mitigation banking option currently available specific to eagles and authorized by USFWS to offset incidental take. In February 2011, USFWS released Draft Eagle Conservation Plan Guidance aimed at clarifying expectations for acquiring take permits acquisition by wind power projects consistent with the 2009 rule (USFWS 2011).

2.1.5 U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines

The USFWS and the Wind Turbine Guidelines Advisory Committee developed voluntary Guidelines as part of a system for evaluating and addressing the potential negative impacts of wind energy projects on species of concern. Although the Guidelines expired December 31, 2014, they continue to be voluntarily followed by many in the industry. The Guidelines provide a structured, scientific process for addressing wildlife conservation concerns at all stages of land-based wind energy development. They also promote effective communication among wind energy developers and federal, state, and local conservation agencies and tribes. When used in concert with appropriate regulatory tools, the Guidelines form the best practical approach for conserving species of concern. The Guidelines assist developers in identifying listed, proposed, or candidate endangered and threatened species.

2.1.6 Campo Band of Mission Indians Land Use Plan

The Campo Band of Mission Indians has adopted a land use plan (Campo Band of Mission Indians 2010) to guide future development on the Reservation in accordance with the Band's goals. Under the Campo Lease, the following Tribal regulations and plans are not applicable to

the Campo Wind Facilities, but are described below for informational purposes. The Land Use Plan identifies the following biological resources on the Reservation:

- The New Reservation contains significant stands of oak woodlands. Land use activities shall preserve such woodlands to the maximum extent feasible.
- Riparian habitat, consisting of scattered willows, baccharis, the Tecate tarplant, and ruderals such as eastern cocklebur, dog mayweed, salt heliotrope, and hoary nettle, exists to some degree along Campo Creek and Diabold Creek and is to be preserved to the maximum extent feasible.
- Rare, threatened, and endangered plants and threatened, endangered, and sensitive wildlife will be afforded the necessary protection and preservation as required.

The land use plan also designates wilderness protection areas along the western side of the Reservation and the northern area of the Reservation, which are areas to remain in their natural state to the maximum extent feasible. The land use plan also notes a goal to improve infrastructure, including the electric power grid service. The overall intent of the land use plan is to provide balanced development and conservation. The land use Plan also identifies that the Campo Environmental Protection Agency is to be involved in development projects when the proposed use may potentially affect the environment of the Reservation.

2.2 State

State regulations are applicable to the Boulder Brush Facilities on private land under the County's jurisdiction. State regulations are not applicable to the Campo Wind Facilities on the Reservation.

2.2.1 California Endangered Species Act

California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA) (California Fish and Game Code (CFGC) Section 2050 et seq.), which prohibits the "take" of plant and animal species designated by the California Fish and Game Commission as endangered or threatened in California. Under CESA Section 86, take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CFGC Sections 3511, 4700, and 5515 designate certain birds, mammals, and fish as "fully protected" species. These species may not be taken or possessed without a permit from the Fish and Game Commission, and such take may only occur pursuant to scientific research or in connection with an authorized Natural Communities Conservation Plan (NCCP). No "incidental take" of fully protected species is allowed.

CESA Sections 2080 through 2085 address 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 in this chapter, the Native Plant Protection Act (CFGC Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001)."

CFGC Section 2081(b) and (c) authorizes take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. In such cases, CDFW issues the applicant an incidental take permit, which functions much like an incidental take statement in the federal context. CDGC Sections 2081(b) and (c) also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, Section 2080.1 of CESA allows CDFW to adopt a federal incidental take statement or a 10(a) permit as its own, based on its findings that the federal permit adequately protects the species and is consistent with state law. CDFW may not issue a Section 2081(b) incidental take permit for take of "fully protected" species. The California Fish and Game Code lists the fully protected species in Section 3511 (birds), Section 4700 (mammals), Section 5050 (reptiles and amphibians), and Section 5515 (fish).

2.2.2 California Fish and Game Code

Streambed Alteration Agreement

Pursuant to CFGC Section 1602, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. A Streambed Alteration Agreement (CFGC Section 1602 et seq.) is required for impacts to jurisdictional aquatic resources, including streambeds and associated riparian habitat.

Birds and Mammals

According to CFGC Sections 3511 and 4700, which regulate birds and mammals, a fully protected species may not be taken or possessed. CDFW may not authorize the take of such species except for necessary scientific research, for the protection of livestock, and when the take occurs for fully protected species within an approved NCCP.

California Fish and Game Code

The California Fish and Game Code provides protection for wildlife species. It states that no mammals, birds, reptiles, amphibians, or fish species listed as fully protected can be "taken or possessed at any time." In addition, CDFW affords protection over the destruction of nests or eggs of native bird species (CFGC Section 3503), and it states that no birds in the orders of Falconiformes or Strigiformes (birds of prey) can be taken, possessed, or destroyed (CFGC Section 3503.5). CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock (CFGC Section 3511). Separate from federal and state designations of species, CDFW designates certain vertebrate species as Species of Special Concern based on declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (CFGC Section 1900–1913) directed CDFW to carry out the legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare," and to protect endangered and rare plants from take. When CESA was passed in 1984, it expanded on the original Native Plant Protection Act, enhanced legal protection for plants, and created the categories of "threatened" and "endangered" species to parallel FESA. CESA categorized all rare animals as threatened species under CESA, but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The Native Plant Protection Act remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and project proponents.

2.2.3 Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act protects water quality and the beneficial uses of water. It applies to surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the Regional Water Quality Control Boards (RWQCBs) develop regional basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of statewide plans and basin plans. Waters regulated under the Porter–Cologne Water Quality Control Act include isolated waters that are no longer regulated by USACE. Developments with impacts to jurisdictional waters must demonstrate compliance with the goals of the act by developing Stormwater Pollution

Prevention Plans (SWPPPs), standard urban stormwater mitigation plans, and other measures to obtain regulatory permits from the RWQCB.

2.2.4 California Environmental Quality Act

CEQA requires identification of a project's potentially significant impacts on biological resources and feasible mitigation measures and alternatives that could avoid or reduce significant impacts. CEQA Guideline 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors". A rare animal or plant is defined in CEQA Guideline 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guideline 15380(c). CEQA also requires identification of a project's potentially significant impacts on riparian habitats (such as wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

2.3 Regional and Local

County regulations are applicable to the Boulder Brush Facilities on private land under the County's jurisdiction. County regulations are not applicable to the Campo Wind Facilities on the Reservation.

2.3.1 Future East County Multiple Species Conservation Program Plan

The County has prepared a preliminary planning map for the future East County Multiple Species Conservation Program (MSCP) Plan. The intent of preparing the East County Plan is to create a large, connected preserve system that addresses the regional habitat needs for multiple species. The future East County MSCP Plan would cover approximately 1.6 million acres within the eastern unincorporated portion of the San Diego County. The Cleveland National Forest is located along the western boundary of the East County MSCP Plan area. The East County MSCP Plan area is bounded by Riverside County to the north, Imperial County on the east, and Mexico to the south. Tribal lands will be excluded from the East County MSCP Plan. Preparation of a future East County MSCP Plan is a cooperative effort among the County of San Diego, USFWS, and CDFW. The future East County MSCP Plan currently has no schedule for completion. Authority for this

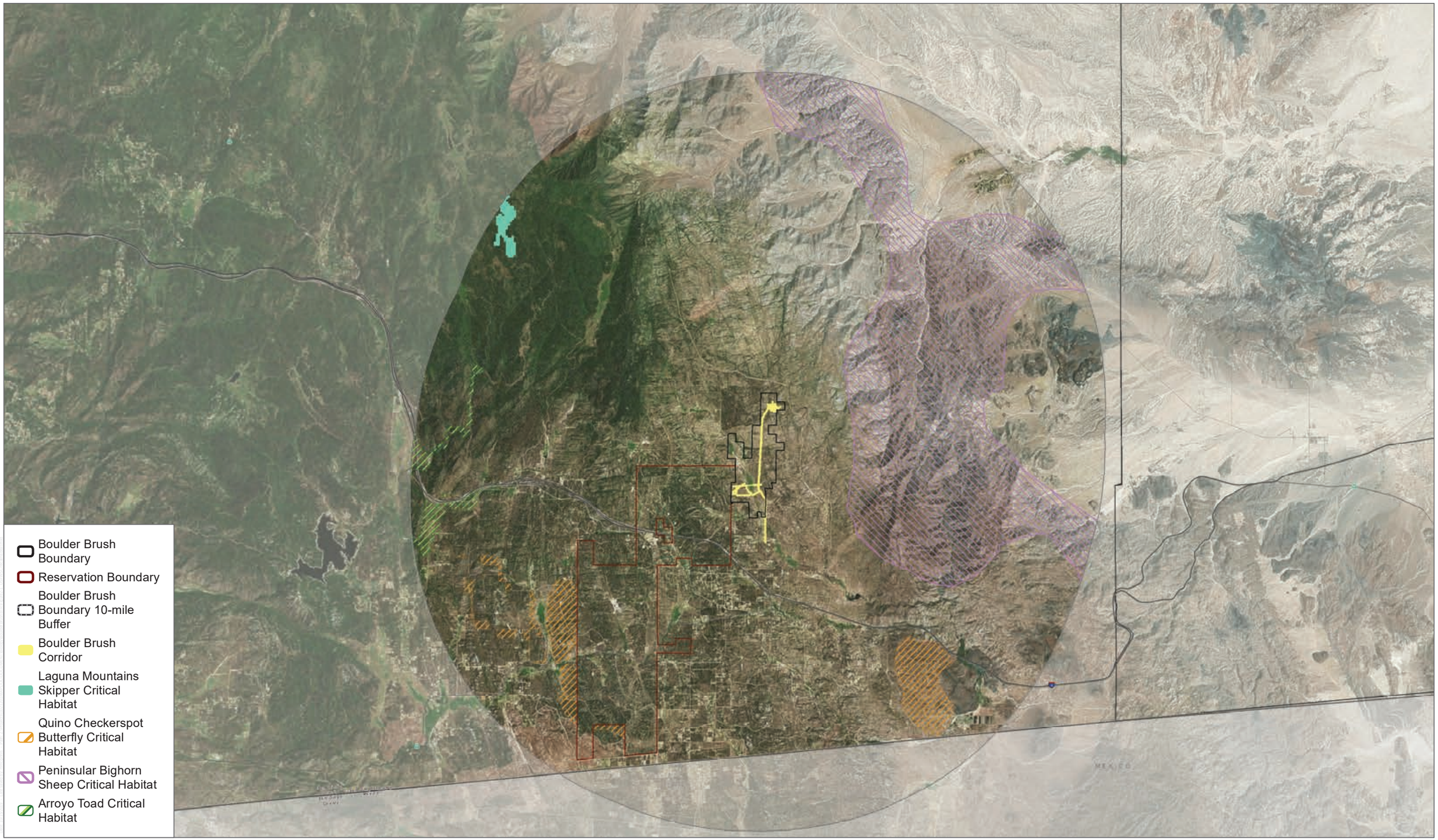
process comes from the California Natural Community Conservation Planning Act and Section 10(a) of FESA that addresses habitat conservation plans.

The Boulder Brush Boundary is located within the East County MSCP Plan area (Figure 2-2, Regional Planning). Projects in this area are subject to the Planning Agreement for the East County MSCP (County of San Diego 2014), which is intended to determine if project approval would have an effect on the preparation and approval of the future East County MSCP. A Preliminary Planning Map has been completed for the East County MSCP. According to this map, the Boulder Brush Boundary falls partially within a preliminarily delineated Focused Conservation Area of the draft East County MSCP Planning area, which suggests that the area has regional conservation value (Figure 2-2).

The Planning Agreement outlines Preliminary Conservation Objectives for the East County MSCP (County of San Diego 2014) and focal species. In addition to the preliminary conservation objectives, the Planning Agreement for the future East County MSCP Plan identifies an interim project review process, including a set of preserve design principles that interim projects are evaluated against during the period when the East County MSCP Plan is in preparation. The Planning Agreement is in effect until January 2020.

2.3.2 County Resource Protection Ordinance

The Resource Protection Ordinance (RPO), administered by the County, regulates biological and other natural resources within the County. These resources include wetlands, wetland buffers, floodways, floodplain fringe, steep slope lands, sensitive habitat lands, and significant prehistoric or historic sites. The RPO stipulates that no impacts may occur to wetlands except for scientific research; removal of diseased or invasive exotic plant species; wetland creation and habitat restoration; revegetation and management projects; and crossings of wetlands for roads, driveways, or trails/pathways when certain conditions are met. The same exemptions apply to impacts to wetland buffer areas and improvements necessary to protect adjacent wetlands. Sensitive habitat lands are unique vegetation communities, and support sensitive species, lands essential to the healthy functioning of a balanced natural ecosystem, and wildlife corridors. Impacts to sensitive habitat lands may be allowed "when all feasible measures necessary to protect and preserve the sensitive habitat lands are required as a condition of permit approval and where mitigation provides an equal or greater benefit to the affected species" (County of San Diego 2012).



SOURCE: USFWS 2018; BING Maps 2018

DUDEK

FIGURE 2-1

USFWS Critical Habitat

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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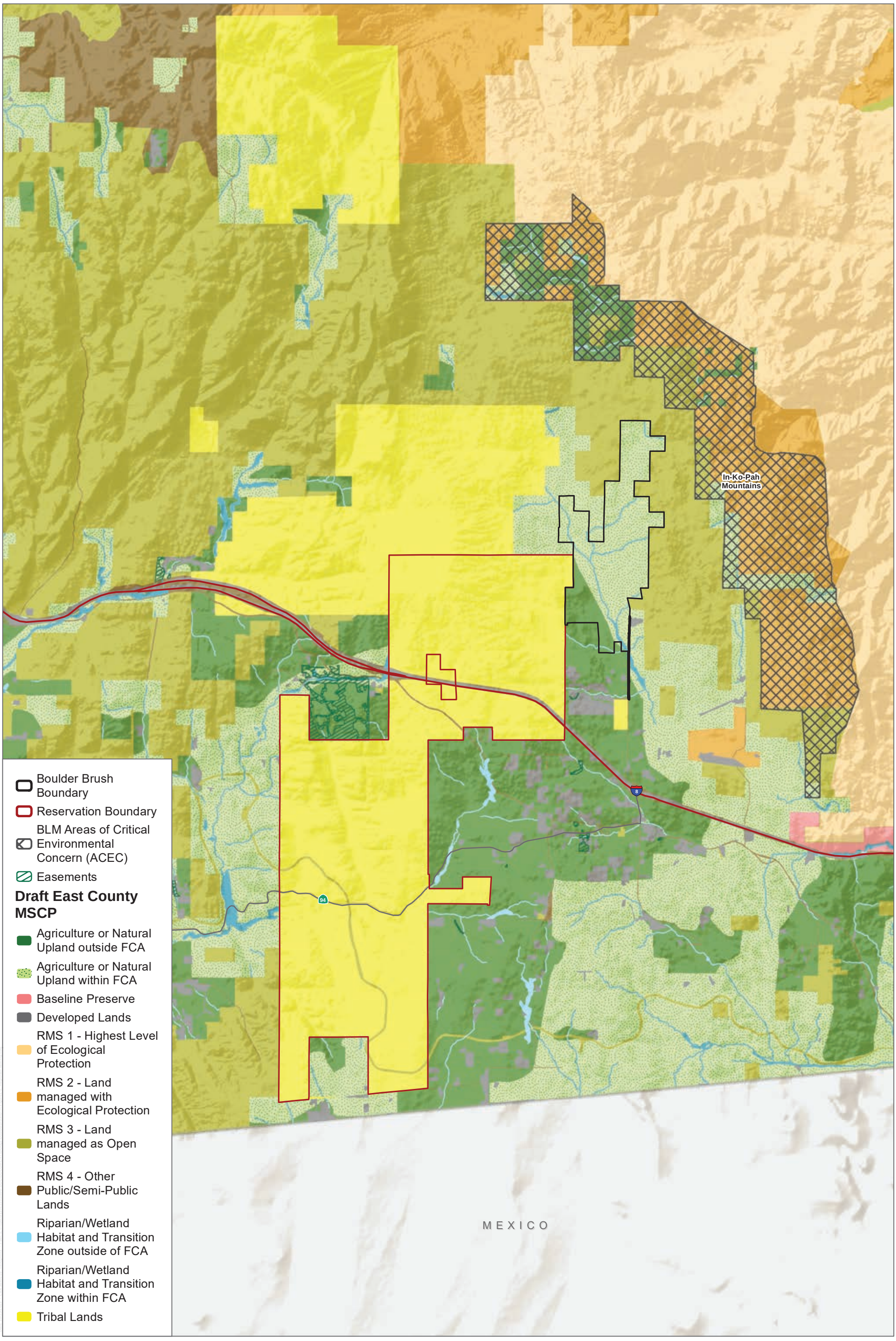

SOURCE: BLM 2018; ESRI 2018; SANGIS 2019

DUDEK

0 3,875 7,750 Feet

FIGURE 2-2

Regional Planning

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3 SURVEY METHODOLOGIES

3.1 Literature Review

Special-status plant and wildlife species present or potentially present within the Boulder Brush Corridor were identified through an extensive literature search using the following sources: USFWS Critical Habitat and Occurrence Data (USFWS 2018a), CDFW's California Natural Diversity Database (CDFW 2018a), California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Vascular Plants (CNPS 2018), and the San Diego Plant Atlas (SDNHM 2018). The literature review also included review of species considered sensitive by the County of San Diego (County of San Diego 2010a). The Soil Survey, San Diego Area, California Part 1 (Bowman 1973) also was reviewed to identify potentially occurring special-status plants based on known soil associations. Native plant community classifications used in this report follow Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) as modified by the County and noted in Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). Data collected in support of the previously analyzed Jewell Valley Wind Project, which overlaps with the current Boulder Brush Corridor, was also reviewed and used for purposes of determining presence of special-status plant and wildlife species.

For the Campo Wind Facilities, the previous work conducted by AECOM in 2010 that overlaps with the current Campo Corridor was reviewed and incorporated into this report where appropriate. The *Campo Wind Project Biological Technical Report* (Appendix H to the Campo Environmental Impact Statement (EIS)) details the methods for the surveys covering the Campo Corridor.

3.2 Field Reconnaissance

3.2.1 Boulder Brush Corridor

Dudek conducted the following surveys for the Boulder Brush Facilities in 2017, 2018, and/or 2019:

- Spring season rare plant surveys (two seasons) (Figure 3-1)
- Late season rare plant surveys with a focus on tecate tarplant (*Deinandra floribunda*) (two seasons) (Figure 3-1)
- Hermes copper (*Lycaena hermes*) habitat assessments (specific search for host plant spiny red berry (*Rhamnus crocea*)) (Figure 3-1)
- Laguna Mountain skipper (*Pyrgus ruralis lagunae*) habitat assessments (specific search for host plant Cleveland's horkelia (*Horkelia clevelandii*)) (Figure 3-1)

- Quino checkerspot (*Euphydryas editha quino*) habitat assessments and focused surveys Figures 3-2 and 3-3)
- Vegetation mapping (Figure 3-1)
- Golden eagle (*Aquila chrysaetos canadensis*) habitat assessment (Figure 3-1)
- Bird utilization counts and small bird counts (Figure 3-1)
- Raptor surveys (Figure 3-1)
- Least Bell's vireo (*Vireo bellii pusillus*) southwestern willow flycatcher (*Empidonax traillii extimus*) habitat assessment and focused surveys (Figure 3-5)
- Peninsular bighorn sheep (*Ovis canadensis nelsoni*) focused surveys (Figure 3-1)
- Jurisdictional delineation within the Boulder Brush Corridor (Figure 3-1)

Dudek conducted the following surveys within the Boulder Brush Boundary between 2011 and 2012 for the previous Jewell Valley Wind Project, which was proposed by a different applicant (Figure 3-5). Although the development footprint and survey areas varied from the currently proposed Project, they provide valuable data regarding the potential for special-status wildlife to occur within the Boulder Brush Corridor.

- Quino checkerspot (*Euphydryas editha quino*) habitat assessments and focused surveys (2011 only) (Figure 3-5)
- Acoustical bat surveys (Figure 3-5)
- Raptor surveys (Figure 3-5)

Table 3-1, Schedule of Surveys, lists the dates, conditions, and survey focus for each survey performed. This table, as well as the list of surveys above, include surveys conducted for a separate proposed wind energy project (Torrey Wind) that is also proposed within the Boulder Brush Boundary. Surveys for the Torrey Wind Project are thus relevant for the Boulder Brush Facilities. All field surveys within the Boulder Brush Boundary were completed according to County Requirements and included directed searches and habitat assessments for the County list of potential special-status faunal and floral species. The surveys were conducted by personnel qualified to perform biological surveys (i.e., Quino checkerspot butterfly protocol surveys were conducted by biologist with a Section 10(a)(1)(A) survey permit for that species). Special-status biological resources were mapped and analyzed together.

Within the Boulder Brush Corridor, focused surveys or wildlife habitat assessments were performed for the following wildlife species: southwestern willow flycatcher, Quino checkerspot butterfly, Peninsular bighorn sheep, Cooper's hawk, sharp-shinned hawk (*Accipiter striatus*), rufous-crowned sparrow, grasshopper sparrow, Bell's sage sparrow (*Artemisiospiza belli belli*), Peninsular metalmark, golden eagle, red-shouldered hawk, turkey vulture, large-blotched salamander, Lewis' woodpecker, purple martin, alkali skipper, and gray vireo. The County's scoping letter for the proposed Project also identified plant species that require focused surveys (County of San Diego 2017).

Since the Boulder Brush Corridor is located outside of the species' known current geographic range for arroyo toad, Stephens' kangaroo rat, California red-legged frog (USFWS 2019a, 2019b, 2019c; Tremor et al. 2007), focused surveys for were not conducted for these species. In addition, the Boulder Brush Corridor does not support the suitable habitat for the following species; therefore, focused surveys were not conducted: Laguna Mountain skipper (host plants were not detected), tricolored blackbird (site lacks freshwater wetland or any cattle/stock ponds). A habitat assessment was completed to determine the potential for grasshopper sparrow and gray vireo to occur within the Boulder Brush Corridor.

Table 3-1
Schedule of Surveys – Boulder Brush Corridor

Date	Hours	Personnel	Focus	Conditions
Vegetation Mapping and Jurisdictional Delineation				
2018-06-06	8:20 AM–6:12 PM	EJB	VEG	75–76°F; 0% cloud cover; 0–4 mph wind
2018-06-07	9:15 AM–4:51 PM	EJB, MF	VEG	75–84°F; 0% cloud cover; 0–5 mph wind
2018-06-08	10:16 AM–4:30 PM	LM	VEG	70–80°F; 0% cloud cover; 1–3 mph wind
2018-06-11	6:19 AM–7:07 PM	EJB	VEG	66–77°F; 0–60% cloud cover; 0–2 mph wind
2018-06-12	7:04 AM–3:28 PM	EJB	VEG	64–82°F; 0% cloud cover; 0–1 mph wind
2018-06-20	8:56 AM–4:57 PM	CJA, PCS	JD	82–90°F; 0% cloud cover; 0–2 mph wind
2018-07-03	7:40 AM–2:18 PM	CJA, JM, LM, PCS	JD	80–87°F; 0% cloud cover; 0–1 mph wind
2018-07-05	8:00 AM–2:13 PM	CJA, MF	JD	87–97°F; 0% cloud cover; 0–1 mph wind
2018-09-06	6:28 AM–5:07 PM	EJB	VEG, JD	57–80°F; 0%-100% cloud cover; 0–8 mph wind
2019-06-27	3:30 PM-4:30 PM	OK	JD (additional areas)	80°F, 10% cloud cover, 5–10mph
Rare Plant Survey				
2017-05-11	10:14 AM–12:00 PM	EJB	RP	Air Temp: 73–76°F; Ground Temp: 77°F; 0% cloud cover; 0–1 mph wind; Clear
2017-05-17	9:11 AM–5:27 PM	EJB, JW, ME	RP	59–66°F; 80–100% cloud cover; 0–3 mph wind
2017-05-18	8:19 AM–4:12 AM	EJB, JM, JW, ME, SCG	RP	59–76°F; 0% cloud cover; 0–3 mph wind

Table 3-1
Schedule of Surveys – Boulder Brush Corridor

Date	Hours	Personnel	Focus	Conditions
2017-05-19	8:18 AM–2:18 PM	EJB, ME, SCG	RP	60–78°F; 0–90% cloud cover; 0–3 mph wind
2017-07-17	7:50 AM–2:35 PM	EJB, KCD	RP	77–96°F; 0–30% cloud cover; 1–10 mph wind
2017-07-18	6:50 AM–1:00 PM	EJB, MO	RP	71–91°F; 0–10% cloud cover; 0–3 mph wind
2017-07-21	6:43 AM–12:30 PM	EJB, KCD	RP	62–95°F; 0% cloud cover; 1–5 mph wind
2017-07-26	6:11 AM–11:42 AM	EJB	RP	55–89°F; 0–20% cloud cover; 0–3 mph wind
2017-07-27	6:20 AM–11:30 AM	EJB, KCD	RP	68–91°F; 0–10% cloud cover; 0–2 mph wind
2018-05-08	7:00 AM–5:04 PM	EJB	RP	62–78°F; 0–20% cloud cover; 0–1 mph wind
2018-05-10	6:44 AM–6:18 PM	EJB	RP	60–87°F; 0–100% cloud cover; 0–1 mph wind
2018-05-11	7:21 AM–4:14 PM	EJB	RP	65–70°F; 0–40% cloud cover; 0–1 mph wind
2018-05-12	7:41 AM–5:28 PM	EJB	RP	61–67°F; 0–70% cloud cover; 0–1 mph wind
2018-05-13	8:38 AM–5:49 PM	EJB	RP	67–70°F; 10% cloud cover; 0–2 mph wind
2018-05-15	7:32 AM–5:34 PM	EJB	RP	60–71°F; 0–40% cloud cover; 0–1 mph wind
2018-05-16	8:44 AM–4:20 PM	EJB, LM	RP	67–74°F; 20–30% cloud cover; 0–1 mph wind
2018-05-17	8:23 AM–4:17 PM	EJB, LM	RP	64–69°F; 50–70% cloud cover; 0–3 mph wind
2018-05-18	7:43 AM–2:02 PM	EJB, MF	RP	68–75°F; 10–20% cloud cover; 0–2 mph wind
2018-05-24	8:03 AM–5:10 PM	EJB, MF	RP	65–75°F; 0% cloud cover; 0–2 mph wind
2018-05-25	8:14 AM–1:58 PM	EJB, LM	RP	71–78°F
2018-06-01	7:49 AM–5:19 PM	EJB, LM	RP	69–74°F; 0–60% cloud cover; 0–1 mph wind
2018-08-01	7:09 AM–3:07 PM	EJB	RP	68–95°F; 0–10% cloud cover; 0–2 mph wind
2018-08-02	9:06 AM–3:58 PM	EJB	RP	75–105°F; 0–20% cloud cover; 0–4 mph wind
2018-08-03	7:49 AM–3:56 PM	EJB	RP	75–108°F; 0–10% cloud cover; 0–4 mph wind
Quino Checkerspot Butterfly Habitat Assessment and Focused Surveys				
2011-03-11 to 2011-04-10	Varied	Dudek and subconsultants	QCB for Jewell Valley Wind Project	Varied[a]
2018-02-16 to 2018-04-06	Varied	Dudek and subconsultants	QCB	Varied[b]
2019-03-15 to 2019-05-13	Varied	Dudek and subconsultants	QCB	Varied[c]
All-Day Eagle Counts and 30-Minute Avian Point Counts				
2017-09-08	9:49 AM–4:48 PM	MF, SC	30-Minute Point Counts	75–95°F; 50–100% cloud cover; 0–5 mph wind
2017-09-14	7:23 AM–4:57 PM	KS	30-Minute Point Counts	53–74°F; 0% cloud cover; 0–30 mph wind

Table 3-1
Schedule of Surveys – Boulder Brush Corridor

Date	Hours	Personnel	Focus	Conditions
2017-09-22	11:03 AM–5:44 PM	SC	30-Minute Point Counts	55–75°F; 0–10% cloud cover; 1–12 mph wind
2017-09-25	7:27 AM–2:13 PM	KS	30-Minute Point Counts	55–75°F; 0–50% cloud cover; 0–15 mph wind
2017-10-02	8:29 AM–3:15 PM	KS	30-Minute Point Counts	57–75°F; 0% cloud cover; 0–15 mph wind
2017-10-09	9:33 AM–6:01 PM	SC	30-Minute Point Counts	61–69°F; 0% cloud cover; 0–22 mph wind
2017-10-16	9:30 AM–5:04 PM	SC	30-Minute Point Counts	79–87°F; 0% cloud cover; 0–12 mph wind
2017-10-27	7:59 AM–2:07 PM	MF	30-Minute Point Counts	67–86°F; 0–10% cloud cover; 0–7 mph wind
2017-10-30	7:35 AM–2:16 PM	KS, OK	30-Minute Point Counts	46–66°F; 0–10% cloud cover; 0–20 mph wind
2017-11-06	6:40 AM–1:28 PM	KS, OK	30-Minute Point Counts	54–69°F; 10–90% cloud cover; 1–10 mph wind
2017-11-13	7:27 AM–1:09 PM	KS	30-Minute Point Counts	60–78°F; 60–100% cloud cover; 0–7 mph wind
2017-11-20	7:08 AM–3:03 PM	SC, OK	30-Minute Point Counts	43–80°F; 20–40% cloud cover; 0–12 mph wind
2017-11-27	7:07 AM–1:40 PM	SC, OK	30-Minute Point Counts	57–61°F; 70–100% cloud cover; 2–20 mph wind
2017-12-07	7:16 AM–1:41 PM	MF	30-Minute Point Counts	45–59°F; 0% cloud cover; 2–30 mph wind
2017-12-21	7:17 AM–2:32 PM	OK	30-Minute Point Counts	38–48°F; 0% cloud cover; 0–6 mph wind
2017-12-29	7:28 AM–2:35 PM	OK	30-Minute Point Counts	52–78°F; 0% cloud cover; 0–3 mph wind

Table 3-1
Schedule of Surveys – Boulder Brush Corridor

Date	Hours	Personnel	Focus	Conditions
2018-01-02	8:00 AM–4:00 PM	SC	30-Minute Point Counts	61–69°F; 10% cloud cover; 0–15 mph wind
2018-05-15	10:10 AM–5:52 PM	FM	All-Day Eagle Counts	71–77°F; 0–10% cloud cover; 0–25 mph wind
2018-05-16	9:05 AM–5:03 PM	FM	All-Day Eagle Counts	71–83°F; 0% cloud cover; 4–26 mph wind
2018-05-17	8:23 AM–4:18 PM	FM	All-Day Eagle Counts	60–75°F; 0% cloud cover; 4–25 mph wind
2018-05-21	8:20 AM–4:14 PM	FM	All-Day Eagle Counts	56–75°F; 0–20% cloud cover; 3–21 mph wind
2018-05-22	8:13 AM–4:14 PM	FM	All-Day Eagle Counts	62–85°F; 0–10% cloud cover; 0–15 mph wind
2018-05-23	8:18 AM–4:04 PM	FM	All-Day Eagle Counts	73–78°F; 0–10% cloud cover; 1–14 mph wind
2018-05-24	9:50AM–6:37 PM	FH	All-Day Eagle Counts	62–88°F; 0%–20% cloud cover; 1–19 mph wind
2018-05-31	6:32 AM–12:43 PM	KS	30-Minute Point Counts	54–76°F; 0–40% cloud cover; 0–30 mph wind
2018-06-01	7:55 AM–3:50 PM	AC	All-Day Eagle Counts	68–80°F; 0% cloud cover; 4–16 mph wind
2018-06-04	8:14 AM–4:21 PM	FM	All-Day Eagle Counts	84–97°F; 10–20% cloud cover; 1–12 mph wind
2018-06-07	6:20 AM–12:32 PM	KS	30-Minute Point Counts	53–84°F; 0% cloud cover; 0–22 mph wind
2018-06-07	8:50 AM–5:18 PM	FM	All-Day Eagle Counts	74–78°F; 0% cloud cover; 3–19 mph wind
2018-06-08	8:00 AM–4:00 PM	SC	All-Day Eagle Counts	74–91°F; 0% cloud cover; 5–15 mph wind

Table 3-1
Schedule of Surveys – Boulder Brush Corridor

Date	Hours	Personnel	Focus	Conditions
2018-06-11	8:45 AM–4:06 PM	FM	All-Day Eagle Counts	74–86°F; 0–10% cloud cover; 1–14 mph wind
2018-06-12	9:45 AM–5:45 PM	FM	30-Minute Point Counts	83–94°F; 10–30% cloud cover; 1–15 mph wind
2018-06-13	8:24 AM–4:00 PM	FM	All-Day Eagle Counts	81–91°F; 10–20% cloud cover; 2–18 mph wind
2018-06-18	8:40 AM–4:31 PM	FM	All-Day Eagle Counts	63–88°F; 0% cloud cover; 2–13 mph wind
2018-06-19	9:30 AM–5:17 PM	FM	30-Minute Point Counts	80–89°F; 0% cloud cover; 0–11 mph wind
2018-06-20	8:40 AM–4:46 PM	FM	All-Day Eagle Counts	76–95°F; 10% cloud cover; 4–17 mph wind
2018-06-21	8:30 AM–4:31 PM	FM	All-Day Eagle Counts	75–94°F; 10% cloud cover; 2–15 mph wind
2018-06-25	8:45 AM–4:10 PM	FM	All-Day Eagle Counts	79–93°F; 0% cloud cover; 2–15 mph wind
2018-06-26	9:25 AM–4:40 PM	FM	30-Minute Point Counts	84–95°F; 0% cloud cover; 2–17 mph wind
2018-06-27	8:30 AM–4:35 PM	FM	All-Day Eagle Counts	73–90°F; 0% cloud cover; 6–23 mph wind
2018-06-28	8:13 AM–4:29 PM	FM	All-Day Eagle Counts	76–87°F; 0% cloud cover; 2–27 mph wind
2018-07-02	7:20 AM–1:10 PM	SC	30-Minute Point Counts	68–94°F; 0–20% cloud cover; 2–19 mph wind
2018-07-12	6:55 AM–12:45 PM	KS	30-Minute Point Counts	70–87°F; 0–30% cloud cover; 0–10 mph wind
2018-07-16	9:53 AM–3:46 PM	RM, OK	30-Minute Point Counts	88.5–95°F; 10–90% cloud cover; 0–8 mph wind

Table 3-1
Schedule of Surveys – Boulder Brush Corridor

Date	Hours	Personnel	Focus	Conditions
2018-07-26	9:30 AM–3:50 PM	FM	30-Minute Point Counts	93–96°F; 0–40% cloud cover; 1–14 mph wind
2018-08-03	11:28 AM–5:47 PM	FM	30-Minute Point Counts	88–98°F; 10% cloud cover; 8–12 mph wind
2018-08-09	11:15 AM–5:20 PM	FM	30-Minute Point Counts	84–88°F; 50–90% cloud cover; 3–9 mph wind
2018-09-05	12:00 PM–7:00 PM	FM	30-Minute Point Counts	74–84°F; 10% cloud cover; 2–3 mph wind
2018-09-11	11:00 AM–6:12 PM	FM	30-Minute Point Counts	74–84°F; 0% cloud cover; 2–14 mph wind
2018-09-18	8:00 AM–2:04 PM	KS	30-Minute Point Counts	77–90°F; 0% cloud cover; 1–8 mph wind
2018-09-27	8:06 AM–2:45 PM	SC	30-Minute Point Counts	65–92°F; 0% cloud cover; 0–9 mph wind
2018-10-02	8:00 AM–4:00 PM	PL	All-Day Eagle Counts	64–73°F; 50–90% cloud cover; 1–16 mph wind
2018-10-04	8:02 AM–4:00 PM	PL	All-Day Eagle Counts	58–70°F; 70–90% cloud cover; 2–18 mph wind
2018-10-05	8:00 AM–4:00 PM	PL	All-Day Eagle Counts	55–70°F; 40–90% cloud cover; 1–15 mph wind
2018-10-10	8:09 AM–4:00 PM	FM	All-Day Eagle Counts	57–67°F; 10% cloud cover; 4–22 mph wind
2018-10-11	8:08 AM–3:56 PM	FM	All-Day Eagle Counts	54–60°F; 10% cloud cover; 9–15 mph wind
2018-10-11	8:08 AM–3:45 PM	SC	30-Minute Point Counts	55–71°F; 20–50% cloud cover; 6–17 mph wind
2018-10-17	7:58 AM–3:57 PM	PL	All-Day Eagle Counts	56–59°F; 0% cloud cover; 2–17 mph wind

Table 3-1
Schedule of Surveys – Boulder Brush Corridor

Date	Hours	Personnel	Focus	Conditions
2018-10-18	8:00 AM–4:00 PM	KS	All-Day Eagle Counts	56–63°F; 0% cloud cover; 8–25 mph wind
2018-10-25	8:38 AM–2:40 PM	MF	30-Minute Point Counts	68–79°F; 0–30% cloud cover; 0–4 mph wind
2018-10-26	7:50 AM–3:50 PM	PL	All-Day Eagle Counts	58–75°F; 0–10% cloud cover; 1–12 mph wind
2018-10-31	8:00 AM–4:00 PM	KS	All-Day Eagle Counts	52–66°F; 0–10% cloud cover; 7–18 mph wind
2018-11-02	7:56 AM–2:44 PM	SC	30-Minute Point Counts	67.5–70.1°F; 0% cloud cover; 1–8.1 mph wind
2018-11-06	8:15 AM–4:15 PM	PL	All-Day Eagle Counts	63–73°F; 0–10% cloud cover; 1–8 mph wind
2018-11-07	8:10 AM–3:05 PM	SC	30-Minute Point Counts	70.6–76.3°F; 0% cloud cover; 1–10.3 mph wind
2018-11-12	9:08 AM–3:25 PM	OK	30-Minute Point Counts	50–55°F; 0% cloud cover; 10–23 mph wind
2018-11-16	7:40 AM–3:42 PM	PL	All-Day Eagle Counts	54–65°F; 0–10% cloud cover; 3–10 mph wind
2018-11-20	7:02 AM–12:16 PM	KS	30-Minute Point Counts	48–62°F; 0–30% cloud cover; 0–4 mph wind
2018-11-27	7:41 AM–3:43 PM	PL	All-Day Eagle Counts	50–64°F; 0–10% cloud cover; 0–7 mph wind
2018-11-28	8:00 AM–4:00 PM	SV	All-Day Eagle Counts	55–57°F; 0–10% cloud cover; 0–17 mph wind
2018-11-28	9:10 AM–3:23 PM	OK	30-Minute Point Counts	58–61°F; 0–10% cloud cover; 10–16 mph wind
2018-12-08	8:33 AM–2:46 PM	OK	30-Minute Point Counts	51–55°F; 0% cloud cover; 2–13 mph wind

Table 3-1
Schedule of Surveys – Boulder Brush Corridor

Date	Hours	Personnel	Focus	Conditions
2018-12-14	8:56 AM–3:29 PM	OK	30-Minute Point Counts	53–55°F; 0–30% cloud cover; 1–2 mph wind
2018-12-26	8:46 AM–3:27 PM	SC	30-Minute Point Counts	49–58°F; 0–30% cloud cover; 0–13 mph wind
2019-01-02	8:32 AM–3:25 PM	OK	30-Minute Point Counts	37–44°F; 0% cloud cover; 3–25 mph wind
2019-01-10	8:53 AM–3:15 PM	SC	30-Minute Point Counts	60–66°F; 0% cloud cover; 0–8 mph wind
2019-01-16	7:48 AM–1:36 PM	KS	30-Minute Point Counts	44–62°F; 20–100% cloud cover; 1–12 mph wind
2019-01-24	8:09 AM–4:06 PM	SC	30-Minute Point Counts	52–58°F; 0–90% cloud cover; 2–21 mph wind
2019-01-30	7:56 AM–1:53 PM	KS	30-Minute Point Counts	50–67°F; 50–70% cloud cover; 0–8 mph wind
2019-02-07	7:40 AM–1:24 PM	KS	30-Minute Point Counts	32–42°F; 0% cloud cover; 0–10 mph wind
2019-02-13	8:21 AM–2:35 PM	OK	30-Minute Point Counts	50–57°F; 70–100% cloud cover; 4–20 mph wind
2019-02-28	7:38 AM–1:39 PM	KS	30-Minute Point Counts	50–59°F; 10–50% cloud cover; 2–19 mph wind
2019-03-08	9:25 AM–3:41 PM	SC	30-Minute Point Counts	39–47°F; 20–80% cloud cover; 4–44 mph wind
2019-03-13	8:52 AM–3:25 PM	SC	30-Minute Point Counts	41–55°F; 10–80% cloud cover; 1–22 mph wind
2019-03-20	7:58 AM–2:24 PM	KS	30-Minute Point Counts	44–59°F; 40–100% cloud cover; 2–26 mph wind
2019-03-26	7:57 AM–2:54 PM	SC	30-Minute Point Counts	57–73°F; 70–100% cloud cover; 0–19 mph wind

Table 3-1
Schedule of Surveys – Boulder Brush Corridor

Date	Hours	Personnel	Focus	Conditions
2019-04-01	8:31 AM–3:30 PM	SC	30-Minute Point Counts	63–74°F; 10–70% cloud cover; 0–11 mph wind
2019-04-09	8:00 AM–3:10 PM	DP	30-Minute Point Counts	59–65°F; 0–10% cloud cover; 1–30 mph wind
2019-04-25	8:56 AM–3:23 PM	OK	30-Minute Point Counts	73–84°F; 0–10% cloud cover; 1–10 mph wind
2019-04-30	8:37 AM–3:18 PM	OK	30-Minute Point Counts	49–53°F; 70–100% cloud cover; 3–28 mph wind
2019-05-17	8:15 AM–2:23 PM	DP	30-Minute Point Counts	44–46°F; 0–10% cloud cover; 5–26 mph wind
2019-05-24	8:45 AM–3:42 PM	OK	30-Minute Point Counts	54–67°F; 0–40% cloud cover; 2–13 mph wind
2019-06-06	7:47 AM–1:39 PM	KS	30-Minute Point Counts	78–92°F; 0–20% cloud cover; 0–12 mph wind
2019-06-10	9:36 AM–4:32 PM	SC	30-Minute Point Counts	86–96°F; 10–40% cloud cover; 1–13 mph wind
2019-06-20	8:15 AM–1:36 PM	DM	30-Minute Point Counts	66–75°F; 0% cloud cover; 1–17 mph wind
2019-06-27	9:00 AM–3:20 PM	OK	30-Minute Point Counts	75–82°F; 0% cloud cover; 2–11 mph wind
2019-07-03	8:10 AM–2:16 PM	DM	30-Minute Point Counts	64–83°F; 0–10% cloud cover; 3–16 mph wind
2019-07-09	7:20 AM–1:49 PM	KS	30-Minute Point Counts	67–93°F; 0% cloud cover; 0–8 mph wind
2019-07-18	8:12 AM–3:09 PM	OK	30-Minute Point Counts	79–89°F; 0–20% cloud cover; 3–20 mph wind
2019-07-26	8:40 AM–3:23 PM	OK	30-Minute Point Counts	81–92°F; 0–60% cloud cover; 1–7 mph wind

Table 3-1
Schedule of Surveys – Boulder Brush Corridor

Date	Hours	Personnel	Focus	Conditions
2019-08-01	8:02 AM–1:45 PM	DM	30-Minute Point Counts	71–96°F; 0–20% cloud cover; 0–9 mph wind
2019-08-06	9:58 AM–2:47 PM	PL	30-Minute Point Counts	88–95°F; 50–90% cloud cover; 0–12 mph wind
2019-08-15	8:05 AM–1:40 PM	DM	30-Minute Point Counts	73–98°F; 0% cloud cover; 0–9 mph wind
2019-08-23	7:05 AM–12:29 PM	KS	30-Minute Point Counts	68–94°F; 0% cloud cover; 0–12 mph wind
2019-08-27	8:28 AM–3:28 PM	OK	30-Minute Point Counts	82–95°F; 0% cloud cover; 1–11 mph wind
Riparian Bird Surveys				
2018-05-19 through 2018-07-28	Varied	Varied	Least Bell's Vireo and Southwestern Willow Flycatcher	Varied[d].
Peninsular Bighorn Sheep Survey				
2018-07-23	7:45 AM–11:45 AM	KS, SC	Peninsular Bighorn Sheep	70–95°F; 0–10% cloud cover; 2–7 mph wind
2018-07-26	6:00 AM–12:00 PM	KS, SC	Peninsular Bighorn Sheep	64–95°F; 0% cloud cover; 0–5 mph wind
Bat Surveys				
2011-09-27 through 2012-06-19	Varied	Varied	Acoustic bat surveys for Jewell Valley Wind Project	Varied

mph = miles per hour
Personnel: KCD = Kathleen Dayton; SCG = Scott Gressard; CJF = Callie Amoaku; PCS = Patricia Schuyler; EJB = Erin Bergman; JM = Jake Marcon; SC = Shana Carey; JW = Janice Wondolleck, MO = Monique O'Conner; KS = Kevin Shaw; ME = Megan Enright; LM = Lindsy Mobley; MF = Mackenzie Forgey; RM = Randall McInvale; OK = Olivia Koziel; FM = Fern Hoffman; AC = Alex Chaney; SV = Shane Valiere; DP = Dilip Mahto.
Survey Designations/Focus: RP = rare plant survey; VEG = vegetation mapping; JD = jurisdictional delineation; QCB = Quino checkerspot butterfly

[a] The schedule for the 2011 focused Quino checkerspot butterfly surveys is included in Attachment A, 2011 Focused Quino Checkerspot Butterfly Survey for the Jewell Valley Wind Project, San Diego County, California.

[b] The schedule for the 2018 focused Quino checkerspot butterfly surveys is included in Attachment B-1, 2018 Focused Quino Checkerspot Butterfly Survey Report for the Torrey Wind Project, Boulevard, San Diego County, California.

[c] The schedule for the 2019 focused Quino checkerspot butterfly surveys is included in Attachment B-2, 2019 Focused Quino Checkerspot Butterfly Survey for both the Torrey Wind Project and Boulder Brush Facilities, Boulevard, San Diego County, California.

[d] The schedule for the 2018 focused least Bell's vireo and southwestern willow flycatcher surveys is included in Attachment C, 2018 Least Bell's Vireo and Southwestern Willow Flycatcher Focused Survey Report for the Torrey Wind Project, Boulevard, San Diego County, California (in progress)

Vegetation Mapping

Vegetation communities and land uses on and typically within 100 feet of the proposed development footprint were mapped in the field directly onto a 200-foot-scale (1 inch = 200 feet), aerial photograph–based field map. The footprint (and subsequently the Boulder Brush Corridor) was revised slightly in June 2019; the vegetation communities not included in the previous Boulder Brush Corridor were desktop mapped using aerial maps to identify communities using vegetation signatures and adjacent project-specific mapping. The areas that were desktop mapped are shown on Figure 3-1. The Boulder Brush Corridor includes a 100-foot buffer from the development footprint as required by the County of San Diego guidelines. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS and a GIS coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present on site was determined.

Consistent with the latest County of San Diego Report Format and Content Requirements: Biological Resources (County of San Diego 2010b), vegetation community classifications used in this report follow Holland (1986) and Oberbauer et al. (2008), where feasible, with modifications to accommodate the lack of conformity of the observed communities to those of Holland (1986) or Oberbauer et al. (2008).

Plants and Wildlife

Plant species encountered during the field surveys were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (CRPR; formerly CNPS List) follow the California Native Plant Society's On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2018). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2018), and common names follow the U.S. Department of Agriculture's Natural Resources Conservation Service PLANTS Database (USDA 2018a).

In addition to species actually detected, expected wildlife use of the Boulder Brush Corridor was determined based on known habitat preferences of local species and knowledge of their relative distributions in the area (see Section 3.1, Literature Review). Latin and common names of animals follow Crother (2012) for reptiles and amphibians, the American Ornithologists' Union for birds

(AOS 2017), the North American Butterfly Association for butterflies (NABA 2016), and Wilson and Reeder (2005) for mammals.

Jurisdictional Wetlands Delineation

The jurisdictional wetland delineation was conducted in accordance with the methods prescribed in the 1987 Wetland Delineation Manual (USACE 1987), the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a), and A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b). During the jurisdictional delineation surveys, the Boulder Brush Corridor was walked and evaluated for evidence of an ordinary high water mark, surface water, saturation, wetland vegetation, and nexus to a traditional navigable water of the United States. The extent of any identified jurisdictional areas was determined by mapping the areas with similar vegetation and topography to the sampled locations.

Pursuant to the federal Clean Water Act, USACE and RWQCB jurisdictional areas include those supporting all three wetlands criteria described in the USACE manual: hydric soils, hydrology, and hydrophytic vegetation. Areas regulated by the RWQCB are generally coincident with the USACE, but can also include isolated features that have evidence of surface water inundation, pursuant to the state Porter Cologne Act. These areas generally support at least one of the three USACE wetlands indicators, but are considered isolated through the lack of surface water hydrology/connectivity downstream.

A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine CDFW-regulated riparian areas. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979).

Features that convey or hold water are regulated by multiple agencies. Federal, state, and local agencies have different definitions and terminology for these types of features. Water-dependent resources regulated by USACE, RWQCB, CDFW, and the County are collectively referred to as jurisdictional aquatic resources herein. Terminology used in this document to distinguish each jurisdictional aquatic resource according to the agency that regulates the resource is as follows:

- **USACE and RWQCB:** "Wetland" and "non-wetland waters." Wetland waters of the United States and non-wetland waters of the United States are subject to regulation by USACE and RWQCB, pursuant to the Clean Water Act. Within the Boulder Brush Corridor, USACE waters of the United States and wetlands, and RWQCB waters of the

United States and wetlands overlap, and therefore are combined under one term: "non-wetland waters" or "wetlands."

- **CDFW:** "Riparian areas" and "streambeds." Lakes, rivers, and streambeds, including any associated riparian habitat, are subject to regulation by CDFW pursuant to the California Fish and Game Code. Within the Boulder Brush Corridor, CDFW streambeds are synonymous with USACE and RWQCB non-wetland waters. CDFW riparian areas are not synonymous with USACE and RWQCB wetlands because these areas lacked all three parameters.

The County's RPO (County of San Diego 2012) identifies environmental resources, including wetlands, present within the County, and provides measures to preserve these resources. The RPO defines wetlands as lands that have one or more of the following attributes: (1) lands that periodically support a predominance of hydrophytes (plants whose habitat is water or very wet places); (2) lands in which the substratum is predominantly undrained hydric soil; or (3) lands where an ephemeral or perennial stream is present and whose substratum is predominantly non-soil, and where such lands contribute substantially to the biological functions or values of wetlands in the drainage system.

During the jurisdictional delineation surveys, the Boulder Brush Corridor was walked and evaluated for evidence of an ordinary high water mark, surface water, saturation, wetland or hydrophytic vegetation, and nexus to a traditional navigable water of the United States. The extent of any identified jurisdictional areas was determined by mapping the areas with similar vegetation and topography to the sampled locations.

3.2.2 Campo Corridor

Surveys on Reservation were conducted by AECOM in 2010 and by Dudek in 2017 and 2018. These surveys included: vegetation mapping, jurisdictional delineation, focused Quino checkerspot butterfly surveys, focused arroyo toad surveys, focused riparian bird surveys, golden eagle aerial and ground nest surveys, eagle point counts, and bat surveys. These surveys are described in detail in the *Campo Wind Project Biological Technical Report* (Appendix H to the Campo EIS).

3.3 Focused Surveys for Special-Status Biological Resources

Special-status, or sensitive, biological resources are those defined by the County or other regulatory agency as (1) species that have been given special recognition by federal, state, or local conservation agencies and organizations due to limited, declining, or threatened population sizes; (2) species and habitat types recognized by local and regional resource agencies as sensitive; (3)

habitat areas or plant communities that are unique, are of relatively limited distribution, or are of particular value to wildlife; or (4) wildlife corridors and habitat linkages.

Focused surveys and/or habitat assessments for the following sensitive biological resources were conducted within the Boulder Brush Corridor: focused surveys for rare plants; habitat assessments for Hermes copper butterfly and Laguna Mountain skipper; a habitat assessment, larval host plant survey, and protocol surveys for Quino checkerspot butterfly; golden eagle surveys, bird utilization counts, small bird counts, raptor nest surveys, riparian bird surveys, and Peninsular bighorn sheep surveys. Incidental detections of wildlife species, either through sight, calls, tracks, scat, or other signs, were also recorded. Dates and site conditions for the field efforts are organized in Table 3-1. Figure 3-1, General Boulder Brush Survey Areas, shows the overall locations of the surveys. Focused surveys and survey areas are described in more detail below and are shown on separate Figures 3-2 through 3-7 as described in Section 3.2.

In addition, the data gathered from the avian and bat field surveys conducted in 2011 and 2012 for a previous project (Jewell Valley Wind Project) proposed by a different applicant (bird utilization counts, eagle and small bird counts as well as acoustical bat surveys) are being used to assist in the development of a Project-specific Avian and Bat Monitoring Plan. This plan, including methods and results, would be a separate document from this report, and is therefore not included as an attachment to this report; however, the species observed during these surveys are included in the compendium and any special-status species observed are included in the biological analysis for the Project.

As mentioned above, the focused surveys for the Campo Wind Facilities are described in detail in the *Campo Wind Project Biological Technical Report* (Appendix H to the Campo EIS).

3.3.1 Boulder Brush Corridor

3.3.1.1 Focused Surveys for Special-Status Plants

Dudek biologists conducted focused surveys for special-status plants in 2017 and again in 2018. The 2017 surveys were conducted for a different configuration of the proposed Project, and therefore didn't cover the entire 2018 Boulder Brush Corridor. Therefore, the 2018 surveys were conducted over the current Boulder Brush Corridor and the 2017 surveys were utilized to supplement data where appropriate (i.e., known locations based on 2017 surveys were revisited in 2018 to ensure the full extent of the population was mapped). There were 27.1 acres added to the Boulder Brush Corridor in June 2019 that were not surveyed. These areas consist of 12 extended polygons ranging from less than 0.01 acres to 4.6 acres. However, these areas support the same type of vegetation communities and species' habitat as previously analyzed. Focused

surveys for special-status plants were conducted at the appropriate phenological stage of the plant (blooming and fruiting) to detect and identify the target species. Field survey methods conformed to CNPS Botanical Survey Guidelines (CNPS 2001); Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities (CDFG 2000); and General Rare Plant Survey Guidelines (Cypher 2002). The survey was conducted by walking meandering transects to detect special-status species. Special-status plant observations were mapped in the field using the ESRI Collector mobile application to record the location and population number of special-status plant occurrences.

3.3.1.2 Quino Checkerspot Butterfly Surveys

2011 Protocol Surveys

The 2011 focused Quino checkerspot butterfly (*Euphydryas editha quino*) surveys were performed for a different proposed project (Jewell Valley Wind Project) and different project applicant (Figure 3-2, 2011 Quino Checkerspot Butterfly, Raptor Survey, and Acoustical Bat Survey Areas – Boulder Brush). The survey areas were developed based on discussions with the previous project applicant that identified potential areas on site that would likely be most suitable for development. Portions of these focused surveys overlap with the Boulder Brush Corridor.

Focused Quino checkerspot butterfly surveys were conducted over five visits within a 5-week period between March 9 and April 15, 2011. Surveys were conducted by Quino checkerspot butterfly–permitted biologists Anita M. Hayworth, PhD (TE-781084), Brock A. Ortega (TE-813545-5), David Waller (TE-025394-2), Jeffrey D. Priest (TE-840619-2), Kamarul J. Muri (TE-051250-0), Paul M. Lemons (TE-051248-2), Tricia Wotipka (TE840619-2), Vipul R. Joshi (TE-019949-0), and Viviane Marquez (TE-800930-9) in accordance with the most current USFWS protocol for that period (USFWS 2002a, 2002b).

The site was divided into five survey polygons, each representing a single-day survey effort (i.e., in accordance with USFWS protocol) (Figure 3-2). These survey areas were numbered and assigned to Dudek's permitted biologists. The biologists were provided with 200-scale (1 inch = 200 feet) aerial photographs of each survey polygon. These photographs were used for mapping host plant populations. Binoculars were used to aid in detecting and identifying butterfly and other wildlife species. GPS units also were available for recording locations of host plant populations.

The survey methods consisted of slowly walking roughly parallel transects throughout all potential habitat within the survey area (i.e., all areas that are not excluded per the survey protocol, generally including sage scrub, open chaparral, grasslands, open or sparsely vegetated areas, hilltops,

ridgelines, rocky outcrops, trails, and dirt roads). Survey routes were arranged to thoroughly cover the survey area at a rate of no more than 10–15 acres per hour.

Surveys were conducted only during acceptable weather conditions (i.e., surveys were not conducted during fog, drizzle, or rain; sustained winds greater than 15 miles per hour measured 4–6 feet above ground level; temperature in the shade at ground level less than 60°F on a clear, sunny day; or temperature in the shade at ground level less than 70°F on an overcast or cloudy day). Survey times, personnel, and conditions during the Quino checkerspot butterfly survey are provided in the 45-day report in Attachment A, 2011 Focused Quino Checkerspot Butterfly Survey for the Jewell Valley Wind Project, San Diego County, California. Note that the report discusses surveys conducted within the Torrey Wind Project site, as well as areas south of I-8, which are not a part of this project, but which were a part of the larger Jewel Valley Wind Project.

2018 and 2019 Protocol Surveys

In 2018 and 2019, Dudek conducted Quino checkerspot butterfly surveys within the Boulder Brush Boundary. These surveys also covered the study area for the proposed Torrey Wind Project, which is a separate project; however is proposed within the area identified as the Boulder Brush Boundary. The switchyard, high-voltage substation and paved access road to the switchyard/substation are the same for both the Boulder Brush Facilities and the proposed Torrey Wind Project. However, the proposed Torrey Wind Project proposes wind turbines within the Boulder Brush Boundary, while the Boulder Brush Facilities do not include turbines.

The 2018 and 2019 protocol Quino checkerspot butterfly surveys consisted of a 100-foot buffer applied to the access road impacts, a 100-foot buffer to the gen-tie line and pole structures, a 100-foot buffer to the switchyard and high-voltage substation, and a 500-foot buffer applied to the proposed Torrey Wind Project turbine locations to create the Quino Survey Area (Figure 3-2, 2018 Quino Checkerspot Butterfly Survey Areas – Boulder Brush, and Figure 3-3, 2019 Quino Checkerspot Butterfly Survey Areas – Boulder Brush). During the surveys, the Boulder Brush Facilities were revised from its original design to avoid sensitive cultural and biological resources resulting in a slightly modified survey area in April 2018. Figure 3-2 shows the original and revised survey areas and Figure 3-3 shows the 2019 survey areas.

In 2018, prior to conducting protocol surveys, Dudek biologists conducted a habitat assessment as well as host plant mapping within the Boulder Brush Corridor and additional proposed Torrey Wind Project areas, both located within the overall Boulder Brush Boundary, to determine which areas could be excluded as Quino checkerspot butterfly habitat. A habitat assessment was also completed for any survey areas within the Boulder Brush Corridor that were modified to avoid

sensitive resources. Areas not recommended for Quino checkerspot butterfly surveys include the following (USFWS 2014):

- Orchards, developed areas, or small in-fill parcels (plots smaller than an acre completely surrounded by urban development) largely dominated by non-native vegetation.
- Active/in-use agricultural fields without natural or remnant inclusions of native vegetation or that are completely without any fallowed or unplowed areas.

Closed-canopy woody vegetation including forests, riparian areas, shrub-lands, and chaparral. "Closed-canopy woody vegetation" describes shrubs or trees growing closely together in which the upper portions of the vegetation converge (are touching) to the point that the open space between two or more plants is not significantly different than the open space within a single plant. Closed canopy shrub-land and chaparral are defined as vegetation so thick that it is inaccessible to humans except by destruction of woody vegetation (branches). Focused Quino surveys in 2018 were conducted over 10 visits from March 13, 2018, through May 12, 2018, in accordance with the 2014 USFWS Quino Checkerspot Butterfly Survey Guidelines. The survey area consisted of suitable habitat for Quino checkerspot (Figure 3-3). Surveys were conducted by Quino-permitted biologists Anita Hayworth (TE-781084-9.1), Brock Ortega (TE-813545-6), Callie Amoaku (TE-36118B-1), David Erik LaCoste (TE-027736-6), Diana Saucedo (TE-221287-1), Erin Bergman (TE-813545-5), Jeff Priest (TE-840619-6), Margie Mulligan (TE-88969B-0), Patricia Schuyler (TE-27502B-1), Paul M. Lemons (TE-051248-5), and Tricia Wotipka (working under TE-840619-6).

In 2019, focused Quino surveys were conducted over 9 visits from March 15, 2019, through May 13, 2019, per the 2014 USFWS Quino Checkerspot Butterfly Survey Guidelines. The survey area consisted of suitable habitat for Quino checkerspot butterfly (Figure 3-4). Surveys were conducted by Quino-permitted biologists Antonette Gutierrez (TE-50992-B), Brock Ortega (TE-813545-6), Callie Amoaku (TE-36118B-1), David Erik LaCoste (TE-027736-6), Diana Saucedo (TE-221287-1), Erin Bergman (TE-53771B-2), Garrett Huffman (TE-20186A-2.1), Jeff Priest (TE-840619-6), Lindsay Willrick (TE-61175B-0), Margie Mulligan (TE-88969B-0), Patricia Schuyler (TE-27502B-1), and Victor Novik (TE-069534).

The biologists were provided with 200-scale (1 inch = 200 feet) aerial maps of the survey area. Binoculars were used to aid in detecting and identifying butterfly and other wildlife species. While host plant surveys were performed in concert with the habitat assessment, surveyors also looked for host plants during the focused surveys to document any changes from the initial host plant mapping effort. No Quino larval host plants were observed within the 2018 Quino survey area during the habitat assessment or focused surveys; however, surveyors did observe some dead

Cordylanthus rigidus remaining from the previous year's rainfall; however, since only live host plants are mapping during this effort, these locations were not recorded. Surveyors also looked for host plants during the focused surveys and none were observed. One species of host plant was observed within portions of the survey areas during the 2011 Quino host plant mapping effort, but was located in the portion of the Jewel Valley Project south of I-8 and not within the area to be developed with the Boulder Brush Facilities (Dudek 2011). The 2019 host plant mapping is described in more detail below.

The results of the surveys are discussed further in Section 6.2, Analysis of Project Effects, and they are also provided in Attachment B-1, 2018 Focused Quino Checkerspot Butterfly Survey for the Torrey Wind Project, San Diego County, California, and Attachment B-2, 2019 Focused Quino Checkerspot Butterfly Survey for both the Torrey Wind Project and Boulder Brush Facilities, Boulevard, San Diego County, California.

2019 Habitat Assessment and Host Plant Mapping

For the 2019 surveys, Dudek biologists conducted two passes of Quino host plant mapping surveys between March 6 and April 23, 2019 within the Boulder Brush Corridor (Figure 3-3). Botanical surveys were conducted by biologists Patricia Schuyler, Shana Carey, Olivia Koziel, and Margie Mulligan. All surveys were conducted on foot. Approximately 10 person-days were spent conducting host plant mapping within the Boulder Brush Corridor. Host plant mapping surveys searched for the six recognized host plants and one potential host plant for Quino checkerspot butterfly: dwarf plantain (*Plantago erecta*), woolly plantain (*P. patagonica*), Coulter's snapdragon (*Antirrhinum coulterianum*), purple Chinese houses (*Collinsia heterophylla*), rigid bird's beak (*Cordylanthus rigidus*) and exserted Indian paintbrush (*Castilleja exserta*) (USFWS 2014; Pratt and Pierce 2009). Purple Chinese houses do not have an eastern San Diego county distribution and would not occur on site. Chinese houses (*Collinsia concolor*) is a potential larval host plant (Pratt and Pierce 2009). Nectar plants were recorded each week of surveys.

Dudek biologists recorded locations of Quino host plants using a mobile application. Data collected included the surveyor(s), date, species of host plant, and density of the host plant at the point at which the host plant was found. All host plant occurrences were mapped as points. Density was collected using the following classes:

- Very Low: 1–19 plants
- Low: 20–100 plants
- Medium: 100–500 plants
- High: 500–10,000+ plants

Points were collected within patches of host plant at least as close as every 3 meters (10 feet). At the conclusion of surveys, Dudek geographic information systems (GIS) analysts created a GIS coverage for host plants. After review by a biologist, a geodatabase was created to ensure these data are topologically correct and met final quality control and assurance procedures.

3.3.1.3 Migratory Bird Treaty Act and Bald and Golden Eagle Act Surveys

In 2011 and 2012, Dudek conducted raptor nest surveys for the previously proposed Jewell Wind Project for another applicant. In 2011 and 2012, suitable habitat within private land was traversed by vehicle and on foot with the aid of binoculars (7x50 power) according to the technique outlined in Fuller and Mosher 1987. This survey covered all areas of suitable raptor nesting habitat within the Boulder Brush Corridor. Nest locations of raptors and large birds were mapped using GPS and 550-scale (1 inch = 550 feet) aerial photographs overlain with the Boulder Brush Corridor boundaries. Nests observed were evaluated and classified based on activity status (i.e., active nests with birds present, bird sign present, a cavity with bird sign present, or inactive); condition (i.e., good condition, or old/degraded and assumed inactive); and potentially associated raptor species based on an estimate of size and nest materials used. If present, active nests were characterized by presence of incubating adult, eggs, or young in the nest, or territory defense by adults. Particular attention also was given to searching for special-status species.

Between 2010-2012, focused avian studies (Bird Utilization Count surveys and small bird count surveys) were also performed on the proposed Jewell Wind Project area. The methods are described below.

In 2018, nest locations were noted during other wildlife surveys conducted within the Boulder Brush Corridor, including the bird use count surveys (Figure 3-1). In addition, nest locations from the surveys completed in the Jewell Valley Project (Figure 3-5) were revisited to verify continued presence. Data collection for 2018 was completed using ESRI Collector mobile application. Nest locations were downloaded by Dudek GIS technician, using ArcGIS software.

Additional avian studies (30-minute point count surveys and All-day eagle surveys) were performed between 2017 through 2019 in order to analyze possible effects to avian species, including small birds, large birds, and eagles (Figure 3-1). These methods were approved by the USFWS and would be used to inform a Bird and Bat Conservation Strategy if needed.

Bird Utilization Count Surveys

Bird Utilization Counts (BUC) are an established methodology used to determine bird use in a given area. BUCs were conducted in 2010, 2011, and 2012 for the previously proposed Jewell Valley Wind

project, which was a separate project and applicant. The focus of the BUC's for the Jewell Valley Wind project were raptors. BUC's for the Jewel Valley Wind project were initially performed by Stantec from June to September 2010 and by Dudek starting in October 2010 through May 2012. Surveys were conducted weekly from October 5, 2010 through June 21, 2011 and biweekly surveys were conducted from July 5, 2011 to May 28, 2012. A total of 60 survey days was completed for four sites and 23 days for one site. Figure 3-5 shows the areas surveyed for these BUCs.

The survey method consisted of recording all birds observed within an 800 meter buffer at each predetermined location for 30 minutes. Survey locations were typically located on top of boulders to facilitate visibility of the 800 meter buffer around the site. The surveys started 15 minutes after sunrise and all sites were surveyed in one day. The order of sites was changed each week to avoid bias in timing of survey. The surveys were performed under a variety of conditions including rain, high temperatures, high and low wind, and snow to ensure capture of all species utilizing the area.

Two biologists were present for each survey. One biologist was the observer and the other biologist recorded data on the following items for each site: Site number, survey date, and starting and ending weather conditions (including temperature, wind speed, wind direction, precipitation, cloud cover and visibility. If the bird(s) was perched then the perch type (i.e., shrub, tree, ground etc.), perch height, distance and direction were recorded. If the bird(s) were flying then the distance, direction of flight, height and flight behavior (i.e., flapping, soaring etc.) were recorded. For raptors and corvids, the duration of flight within an 800 meter buffer was also recorded.

Small Bird Count Surveys

Small Bird Counts are very similar to the BUCs described above, except that they are conducted at a higher density to capture more small bird use of the site and are 10-minute point counts. The purpose of the count surveys are to determine species composition and relative density of breeding passerines in proposed turbine areas and to establish baseline data which may later be compared to post-construction data to determine breeding bird displacement impacts. Surveys are designed to incorporate before-after/control-impact ("BACI") study methodologies. As such, all counts are performed at geo-referenced and permanently marked observation points along and within the proposed turbine locations.

Small Bird Counts were conducted by Dudek in 2011 for the previously proposed Jewell Valley Wind project, which was a separate project and applicant from the Boulder Brush Facilities. Figure 3-5 shows the areas surveyed in 2011. Dudek established permanent and geo-referenced count locations a minimum of approximately 820 feet (250 meters) apart, with an attempt to maintain a grid of the distance that overlays the anticipated wind turbine area. The grid was set up to minimize the number

of stations needed to the maximum extent feasible and included 20 point locations. The survey area at each point location consisted of a circular 100-meter area and the stations were stratified across all vegetation types within the affected wind turbine area. Surveys were conducted three times at approximately 2-week intervals during the breeding season (i.e., between March 1 and August 31, 2011). During each sampling event, each point was visited for ten minutes during the peak hours at which birds sing, (i.e., no earlier than 30 minutes before sunrise and no later than 4 hours after sunrise). At the start of each point count survey, start time and weather conditions (temperature, wind speed and direction, cloud cover, and precipitation) were be recorded. Observers recorded all birds detected by sight or sound during the survey period within the 100-meter radius count circle. Recorded data included time, species, number/species, estimated distance from the observer, activity, habitat, flight direction, and estimated flight height. The points were surveyed in differing orders during each pass so that each point was not surveyed at the same time of morning during each pass.

30-Minute Point Count Surveys

This study was intended to function as both Bird Utilization Counts (larger birds) and Small Bird Counts. Permanent and geo-referenced count locations were established a minimum of 2,625 feet (800 meters) apart, with an attempt to maintain coverage over the anticipated wind turbine and infrastructure area. A total of 7 locations covered the Boulder Brush Corridor (Figure 3-1).

Surveys were conducted September 2017 through September 2019. The first 10 minutes of the survey focused on recording the activities of small birds (less than 10 inches) within 328 feet (100 meters), the remaining 20 minutes focused on the activities of medium and large birds within 2,625 feet (800 meters). Surveys were conducted throughout the day, beginning from ½ hour after sunrise to 1 hour before sunset to account for species with varying activity periods. Additionally, the starting survey location was rotated on a weekly basis.

Data collected included:

- Site location number
- Observer name
- Survey period start and end times
- Weather (temperature, wind speed/direction, precipitation, percent cloud cover, visibility) at the start and end of each survey period
- Time and duration of observation (duration is rounded up to 1-minute increments; e.g., an eagle flying for about 15 seconds is 1 eagle minute, and another observed for about 1 minute10 seconds is 2 eagle minutes)

- Bird identification tag (letter code; e.g., A = first bird, B= second bird)
- Detection type (visual, aural)
- Species (American Ornithologists' Union four-letter code, including an unknown category)
- Number of individuals, sex, age class
- Location first observed (horizontal distance/bearing from observer)
- Activity/behavior (e.g., perching, soaring, flapping, circling, hunting, other)
- Flight height above ground (at location of bird) when first observed, when closest to the observer, at maximum height, and at minimum height
- Flight direction
- Flight paths for all raptors (delineated on a map)
- Notes (e.g., contour flying, following ridgeline, flying through a pass, flying over top of hills, location information on incidental bird sightings)

The data was collected to support additional analyses, such as a Bird and Bat Conservation Strategy.

All-day Eagle Surveys

These surveys were conducted to provide additional data regarding eagle use of the Campo Corridor and Boulder Brush Corridors. These point count surveys were conducted during the spring and fall periods to capture peak movement periods. Observation points were established on ridgelines or hilltops to provide the best visual coverage of the site. USFWS Appendix C recommends at least 30% of the area within a 0.62-mile (1-kilometer) radius of potential wind turbine locations be covered or sampled by point counts (USFWS 2012b). Therefore, a total of 5 point count stations were established on the Campo and Boulder Brush Corridors. Surveys were performed between May 2018 and June 2019. Surveys were conducted between 0800 and 1600 hours. These occurred three (3) days per week for 8 weeks during each Spring/Fall period.

The following data were recorded for each golden eagle and/or raptor observation:

- Species
- Number of individuals, sex, age class
- Time and duration of observation
- Detection type (visual or auditory)

- Location first observed (distance/direction from observer)
- Maximum and minimum flight height above the ground
- Maximum and minimum flight heights relative to the observer's position (e.g., a bird flying over a ravine at the same level as the observer is assigned a flight height of 0)
- Topographic flight path characterization (e.g., following ridgeline, through a pass, over top of hills)
- Flight path and direction (recorded on aerial photos)

3.3.1.4 Riparian Bird Surveys

Riparian bird surveys were conducted by Dudek within the Boulder Brush Corridor and additional areas within the proposed Torrey Wind project, which is a separate project proposed within the Boulder Brush Boundary. Suitable habitat areas within and surrounding the Boulder Brush Corridor and additional areas within the proposed Torrey Wind project were surveyed eight times for vireo and five times for flycatcher (Figure 3-7, 2018 Riparian Bird Survey Area). Focused surveys for these species were initiated on May 19, 2018, and continued through July 28, 2018. The survey report is provided in Attachment C, 2018 Least Bell's Vireo and Southwestern Willow Flycatcher Focused Survey Report for the Torrey Wind project, Boulevard, San Diego County, California. Surveys for least Bell's vireo and flycatcher were not conducted concurrently. Due to differences in detectability, surveys were conducted sequentially, with surveys for the flycatcher first (i.e., first thing in the morning) and surveys for the vireo conducted immediately after flycatcher surveys. All surveys consisted of slowly walking a methodical, meandering transect within and adjacent to all riparian habitat on site. The perimeter also was surveyed. This route was arranged to cover all suitable habitat on site. A vegetation map (1:2,400 scale; 1 inch = 200 feet) of the Boulder Brush Corridor was available to record any detected vireo or flycatcher. Binoculars were used to aid in detecting and identifying wildlife species.

The five surveys conducted for flycatcher followed the currently accepted protocol (A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher [Sogge et al. 2010]), which states that a minimum of five survey visits is needed to evaluate a project's effects on flycatchers. The protocol recommends one survey between May 15 and 31, two surveys between June 1 and June 24, and two surveys between June 25 and July 17. Consistent with the protocol, surveys during the final period (June 25 and July 17) were separated by at least 5 days. A tape of recorded flycatcher vocalizations was used, approximately every 50 to 100 feet within suitable habitat, to induce flycatcher responses. If flycatcher were detected, tape playback ceased immediately to avoid harassment.

In concurrence with the accepted Least Bell's Vireo Survey Guidelines (USFWS 2001), eight focused surveys were conducted by qualified Dudek biologist within all riparian areas and any other potential vireo habitats between April 10 and July 31, 2018 (Table 3-1). The site visits were conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Taped playback of vireo vocalizations was not used during the surveys. Surveys were conducted between dawn and noon and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather.

3.3.1.5 Peninsular Bighorn Sheep Surveys

Dudek performed a habitat assessment for bighorn sheep based on the terrain within the Boulder Brush Boundary. In July 2018, pedestrian transect survey we completed in open habitats to search for Peninsular bighorn sheep sign including tracks and pellets. While this survey also included the proposed Torrey Wind project, which is a separate project, the survey also included open habitats within and surrounding the Boulder Brush Corridor (Figure 3-1). This effort was concentrated on the more open northeastern and southwestern habitat within the Boulder Brush Boundary and was not constrained to just the Boulder Brush Corridor but instead focused on areas where there could be a potential for bighorn sheep to occur.

3.3.1.6 Acoustical Bat Surveys

In 2011, Dudek conducted acoustical bat surveys for the previously proposed Jewell Wind project for another applicant. Dudek conducted passive acoustic bat surveys from September 2011 to September 2012 to determine general bat presence, activity levels, and species composition and to establish baseline data for the Jewell Wind project. Dudek used broadband acoustic detectors (Anabat SD2) that are programmed to record bat calls each day from one half-hour before sunset to one half-hour after sunrise each day of the study. Data from this 2011-2012 acoustical bat survey was used to determine the potential and frequency for bats to occur within the Boulder Brush Corridor.

Dudek attached two bat echolocation microphones to a meteorological tower located on the eastern border of the Boulder Brush Boundary (Figure 3-5). One microphone was mounted approximately 15 feet from the ground (low mic) while the second microphone was mounted near the top of the meteorological tower, approximately 200 feet from the ground. The microphone enclosures are fitted with Plexiglas sound reflector plates positioned at 45 degrees below horizontal so that the angle of the call reception is pointed upward at 45 degrees. The Anabat detector is powered by a 12-volt battery that is recharged daily by a 10-watt solar panel attached to the meteorological tower. The microphones were rotated between the two heights on a bi-weekly basis to ensure bat calls are recorded at different heights.

Identification of species used the methods of O'Farrell and Miller (1999) based on frequency characteristics, call shape, and comparison with a comprehensive library of vocal signatures developed by O'Farrell and Miller. An index of activity (IA), or the magnitude of each species contribution to spatial use, was obtained for the monitoring station using the sum of 1-minute time increments for which a species was detected as present divided by the number of nights of sampling (Miller 2001). The IA was multiplied by a factor of 100 in order to scale the smallest index values up to whole numbers and rounded to the nearest whole number for ease in interpreting the tables.

3.3.1.7 Habitat Assessment for Special-Status Butterflies

The County of San Diego Guidelines for Hermes Copper (*Lycaena hermes*) (Attachment B of County of San Diego 2010b) defines suitable habitat for Hermes copper butterfly as areas with redberry buckthorn (*Rhamnus crocea*) within 15 feet of Eastern Mojave buckwheat (*Eriogonum fasciculatum*). No redberry buckthorn were observed during the 2017 and 2018 rare plant surveys (see Section 3.3.1) conducted within the Boulder Brush Corridor (Figure 3-1); therefore, no suitable habitat was mapped within the Boulder Brush Corridor.

During rare plant surveys, surveyors looked for Cleveland's horkelia (*Horkelia clevelandii*), the host plant for the federally-endangered Laguna Mountain skipper. No Cleveland's horkelia is present within the Boulder Brush Corridor; therefore, no suitable habitat was mapped. At the time of listing in 1997, Laguna Mountain skipper occurred in the Laguna Mountains (located northwest of the Project site) and on Palomar Mountain in San Diego County, California, but it is currently restricted to Palomar Mountain, where there are four extant occurrences (USFWS 2016).

3.3.2 Campo Corridor

Surveys on the Reservation were conducted by AECOM in 2010 and by Dudek in 2017 and 2018. These surveys included: vegetation mapping, jurisdictional delineation, focused Quino checkerspot butterfly surveys, focused arroyo toad surveys, focused riparian bird surveys, golden eagle aerial and ground nest surveys, eagle point counts, and bat surveys. The areas surveyed in 2010 for Quino checkerspot butterfly on the Reservation are shown on Figure 3-6. The 2018 survey areas on the Reservation for Quino checkerspot butterfly are shown on Figure 3-7. Focused surveys are described in detail in the *Campo Wind Project Biological Technical Report,* which is Appendix H to the Campo EIS.

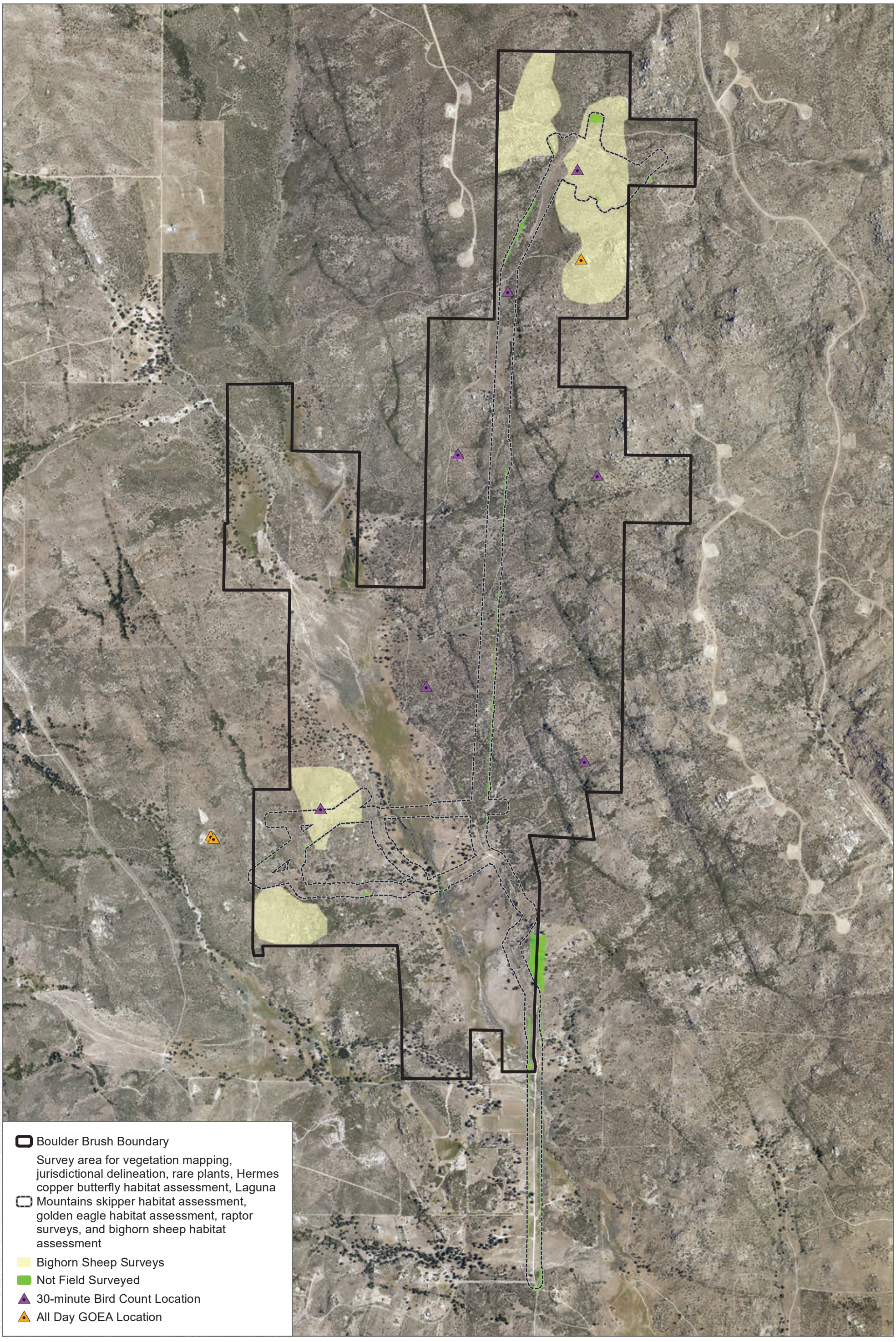
3.4 Survey Limitations

For purposes of this discussion, "special-status species" refers to plant and wildlife species designated by the FESA, the state, and/or the County for the Boulder Brush Facilities. For the

Campo Wind Facilities On-Reservation, "special-status species" refers to plant and wildlife species that are federally protected or regulated. Direct observations of special-status plants and wildlife species were recorded during vegetation mapping, jurisdictional delineations, rare plant surveys, focused wildlife surveys, and habitat assessments. In addition to direct observations of wildlife species, signs such as tracks and scat were also recorded. Special-status species observed during these surveys were recorded and/or mapped (see Section 4 for results). With the exception of the 2016/2017 and 2018/2019 winters, San Diego County experienced drought conditions over the last several years that affected plant growth. Fluctuations in annual plant populations and effect rates of germination are associated with variations in rainfall and other climatic conditions. Therefore, in addition to two years of focused surveys (2017 and 2018), an emphasis was placed on conducting habitat assessments for special-status plant species. In addition, reference checks were conducted for populations of rare plants near the Boulder Brush Corridor to determine appropriate survey timing. Reference checks were conducted near Pine Valley, California, numerous locations off of McCain Valley road, near Boulevard, California, within Jacumba, California, and a few within Anza Borrego Desert State Park. Six flowering rare plants were found before starting surveys which included desert beauty (*Linanthus bellus*), Jacumba milk-wetch (*Astragalus douglasii* var. *perstrictus*), southern jewelflower (*Streptanthus campestris*), pygmy lotus (*Acmispon haydonii*), sticky geraea and alpine gold (*Hulsea californica*).

Focused wildlife surveys were conducted per the appropriate protocols, where required, which resulted in wildlife surveys being conducted during the day. Birds represent the largest component of the vertebrate fauna. Since birds are active in the day, diurnal surveys maximized the number of observations of this portion of the fauna. Daytime surveys, however, may result in fewer observations of animals that are more active at night, such as mammals. Similarly, many species of reptiles and amphibians are nocturnal or cryptic in their habits and may be difficult to observe using standard meandering transects. Performance of diurnal surveys are standard practice, however, the 2010 arroyo toad surveys conducted on the Reservation included nocturnal surveys, which allowed identification of amphibians and reptiles detectable in those habitat types.

To account for survey limitations, biologists identified special-status wildlife species that could occur in the Boulder Brush Corridor and Campo Corridor based on pertinent distribution and habitat preference literature, recorded on-site and off-site observations as well as extensive local experience of the Dudek wildlife biologists (see Section 3.1, Literature Review).



SOURCE: SanGIS 2017

DUDEK

0 1,300 2,600 Feet

FIGURE 3-1

General Boulder Brush Corridor Survey Areas

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary
Boulder Brush Corridor

Quino Survey

1
2
3
4
5
6
7
8
Additional Survey
Areas Removed
Areas
Survey Areas Excluded per Habitat Assessment

SOURCE: SanGIS 2017

DUDEK

0 1,200 2,400 Feet

FIGURE 3-2

2018 Quino Checkerspot Butterfly Survey Areas - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary
Boulder Brush Corridor
Exclusion

Quino Survey Areas

1 (67 acres)
2 (65 acres)
3 (64 acres)
4 (67 acres)
5 (65 acres)
6 (61 acres)
7 (69 acres)
8 (44 acres)

SOURCE: SanGIS 2017

DUDEK

0 1,200 2,400 Feet

FIGURE 3-3

2019 Quino Checkerspot Butterfly Survey Areas - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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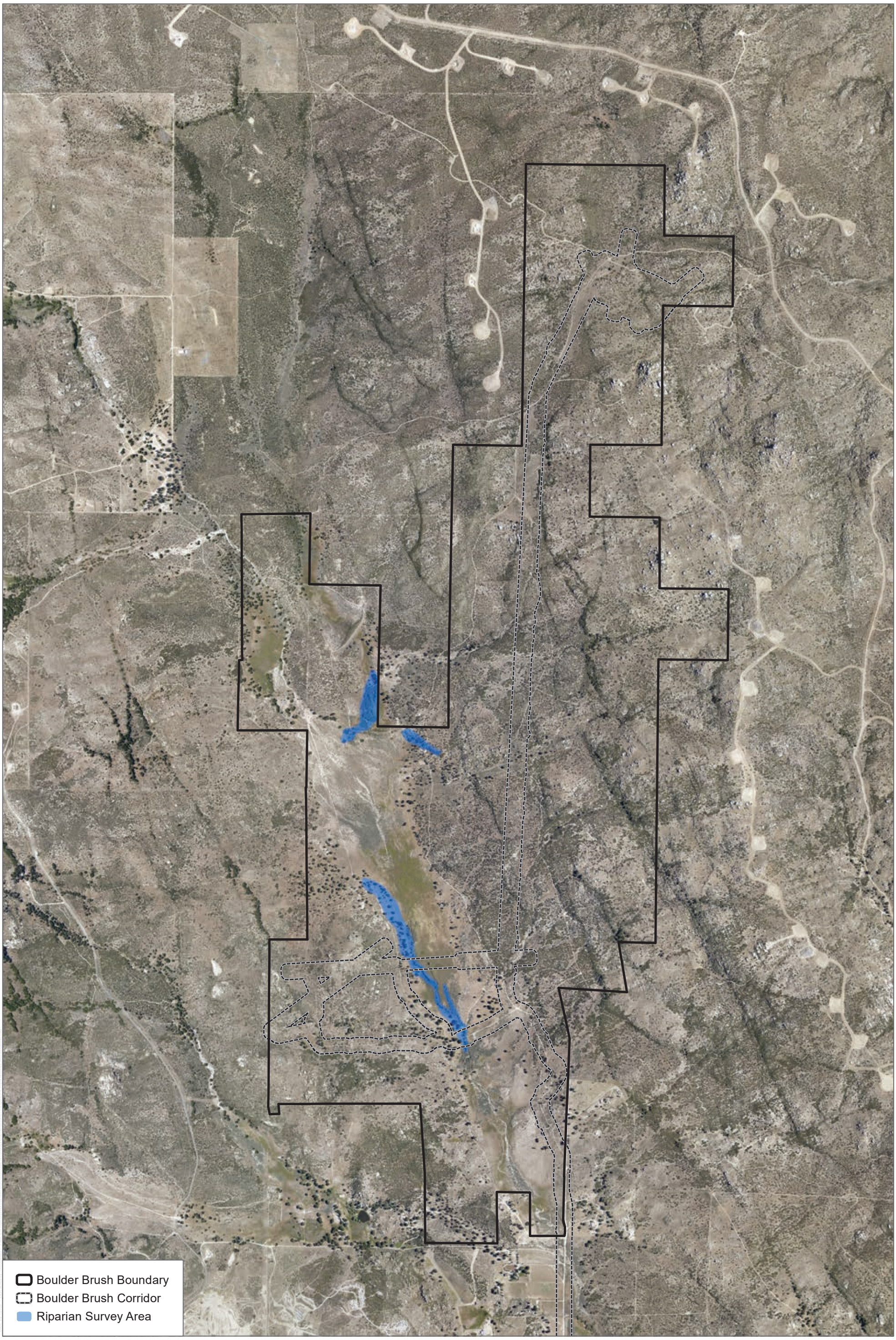

SOURCE: SANGIS 2017

DUDEK

0 800 1,600 Feet

FIGURE 3-4

Riparian Bird Survey Area - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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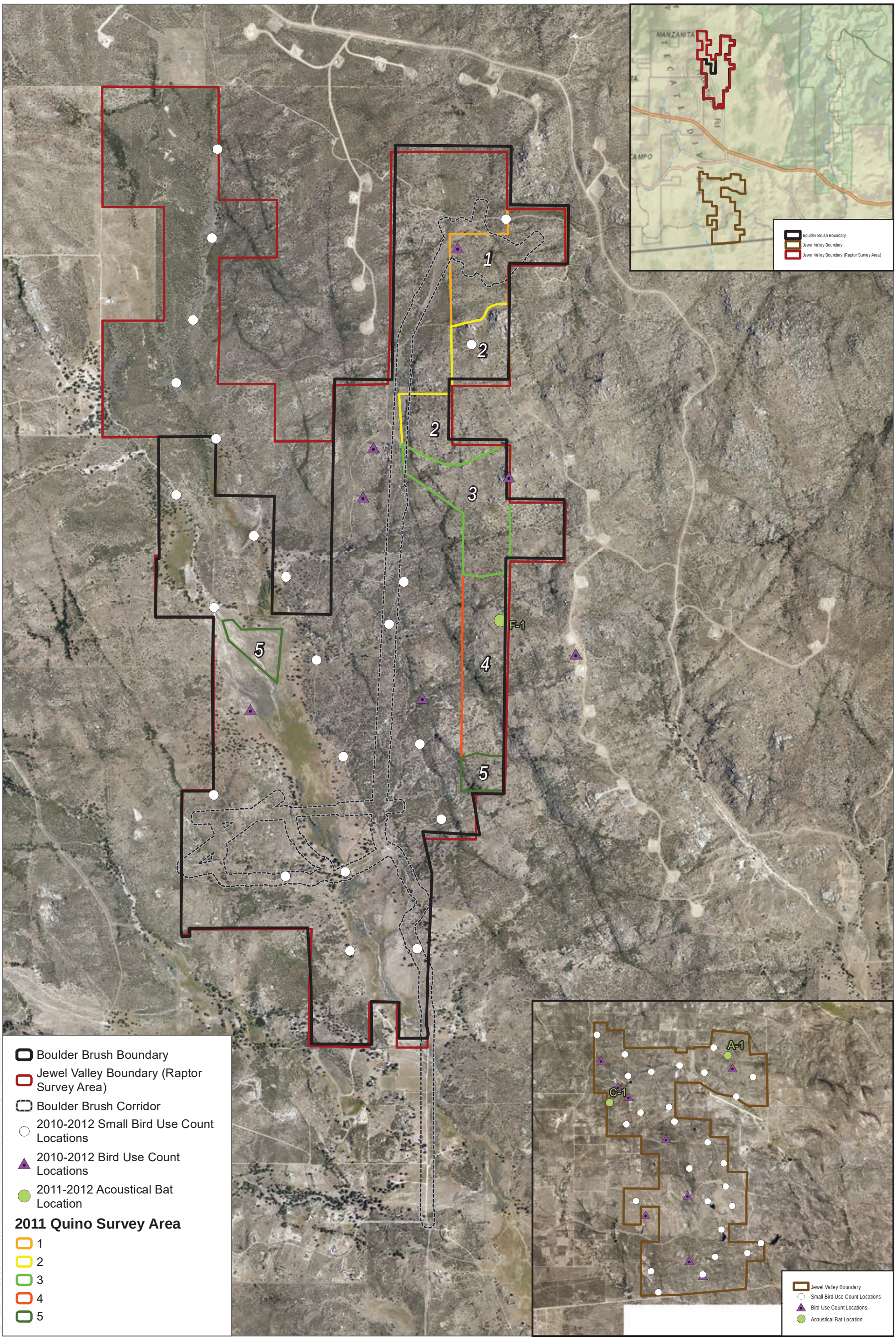

SOURCE: SanGIS 2017

DUDEK

0 1,450 2,900 Feet

FIGURE 3-5

Previous Wildlife Surveys for Jewel Valley Wind Project with Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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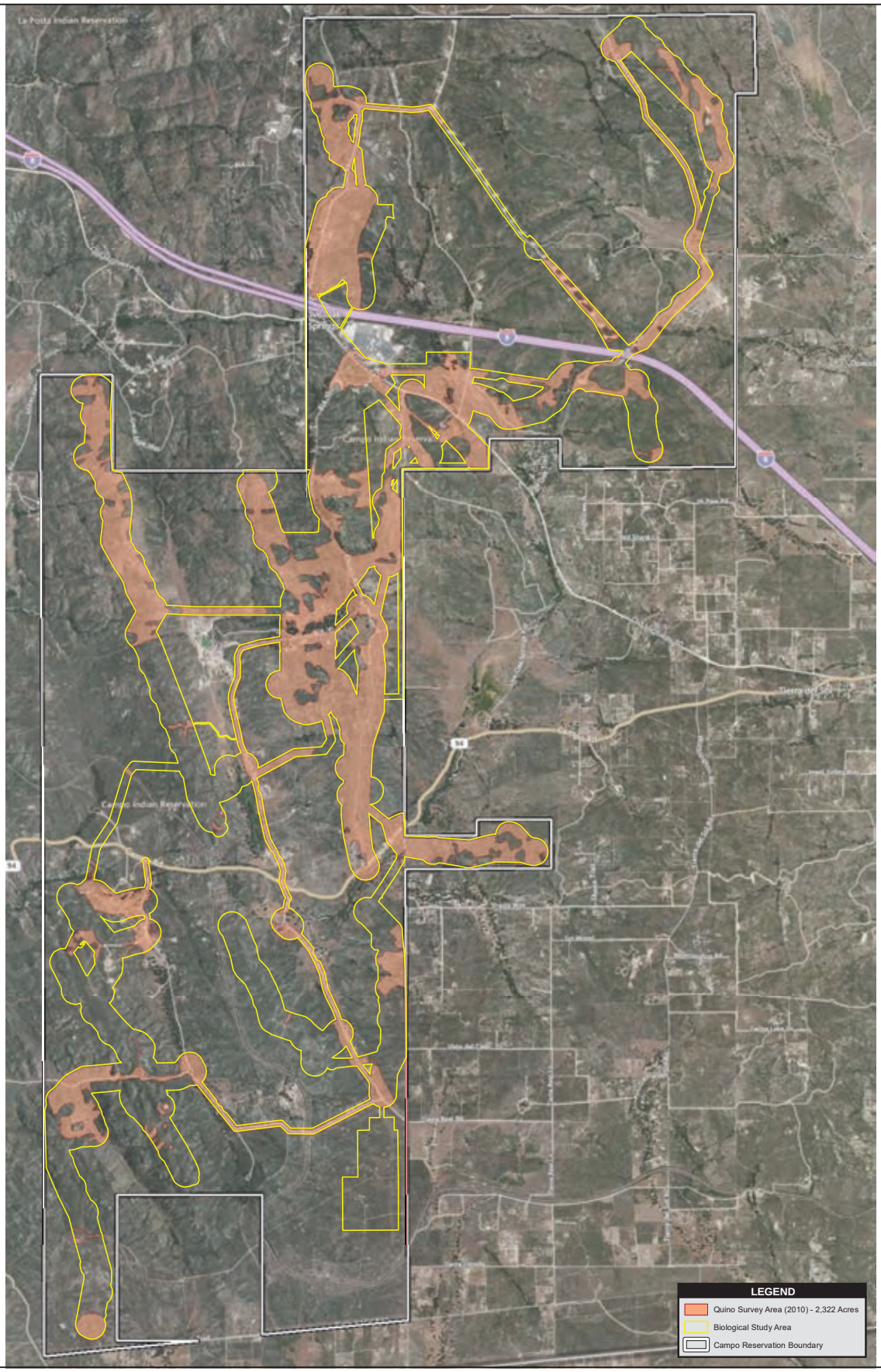

SOURCE: AECOM 2012

FIGURE 3-6

2010 Quino Checkerspot Butterfly Survey Area (AECOM) - Campo Reservation

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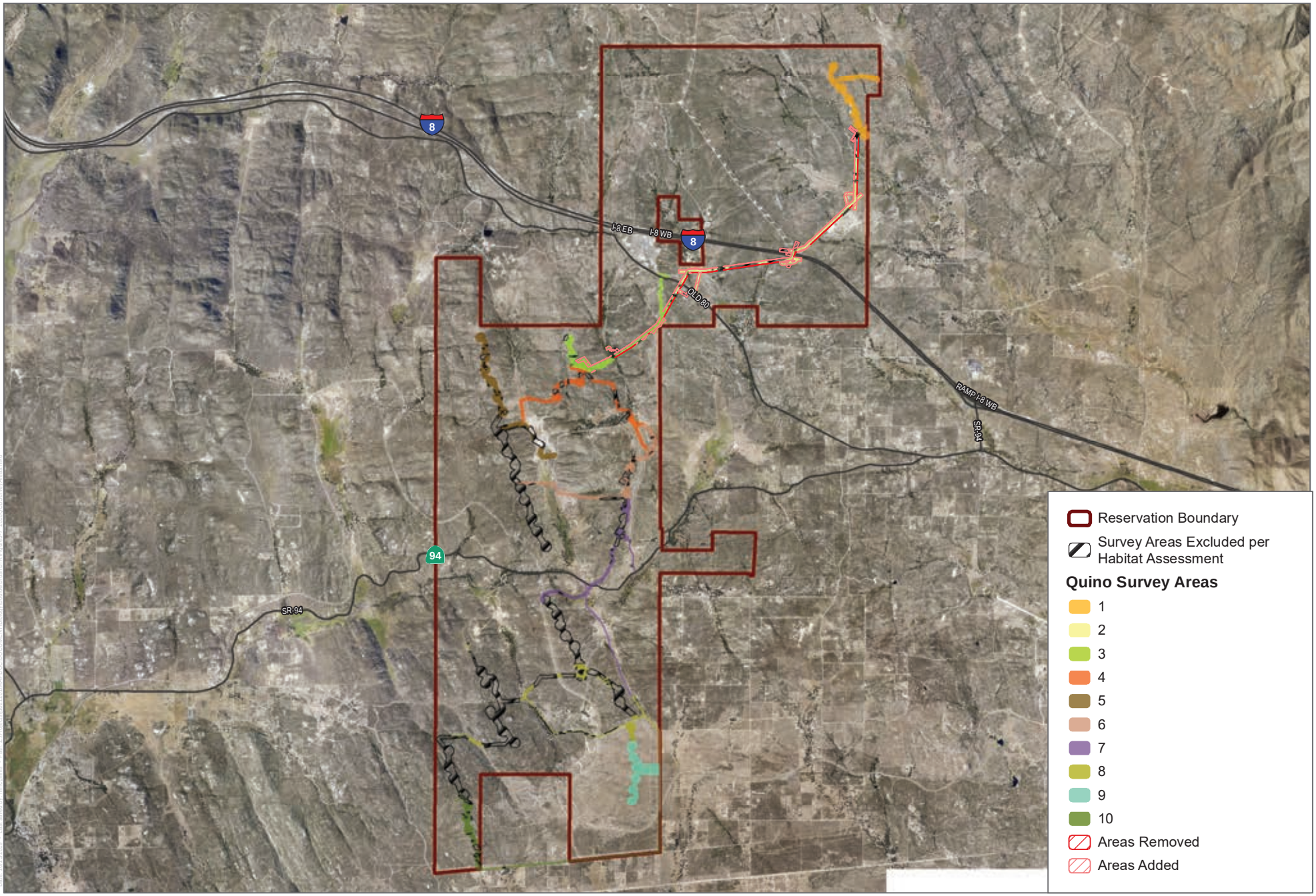

SOURCE: USGS 2018; SANGIS 2017

DUDEK

0 2,000 4,000 Feet

FIGURE 3-7

2018 Quino Checkerspot Butterfly Survey Areas - Campo Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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4 ENVIRONMENTAL SETTING (EXISTING CONDITIONS)

4.1 Site Description

4.1.1 Boulder Brush Boundary

The Boulder Brush Boundary consists of 18 private parcels, totaling approximately 2,000 acres, in unincorporated southeastern San Diego County, California (Figure 1-2, Project Location). The Boulder Brush Boundary is on private land in the McCain Valley area, north of the community of Boulevard, and is accessed via I-8 and Ribbonwood Road. The Boulder Brush Facilities would be developed within an approximately 320-acre corridor (Boulder Brush Corridor). The Boulder Brush Facilities also include improvements to Ribbonwood Road to the south outside of the Boulder Brush Boundary (but within the Boulder Brush Corridor). The total area of disturbance associated with the Boulder Brush Facilities is approximately 130 acres.

The Boulder Brush Boundary lies between two major drainage divides: the Tecate Divide to the west, and the In-Ko-Pah Mountains to the east. It occurs within the Live Oak Springs and Sombrero Peak U.S. Geographic Survey (USGS) topographic quadrangles. The surrounding landscape consists of open space with mountainous terrain consisting of steep slopes, prominent ridgelines, and rock outcroppings. Existing land uses within the vicinity of the Boulder Brush Boundary can be characterized as predominantly rural, large-lot ranches and single-family homes and undeveloped lands, with the exception of the Tule Wind project, located on both Bureau of Land Management and County of San Diego lands. The 500-kilovolt Sunrise Powerlink traverses the northern portion of the Boulder Brush Boundary, with towers located within the Boulder Brush Corridor. The Tule Wind project is located west, northeast, and east of the Boulder Brush Boundary.

The terrain in the area ranges from valley bottoms to house-sized boulder-covered ridgelines. The elevation ranges across the Boulder Brush Corridor from approximately 3,280 feet above mean sea level (amsl) to approximately 4,120 feet amsl. The U.S. Department of Agriculture Soil Survey mapped the Boulder Brush Corridor as being underlain by the following soil types: Calpine coarse sandy loam, 5% to 9% slopes; La Posta loamy coarse sand, 5% to 30% slopes, eroded; La Posta rocky loamy coarse sand, 5% to 30% slopes, eroded; Loamy alluvial land; Mottsville loamy coarse sand, 2% to 9% slopes; and Tollhouse rocky coarse sandy loam, 5% to 30% slopes, eroded (USDA 2018b).

The Boulder Brush Boundary is within the Anza Borrego Hydrologic Unit, Jacumba Hydrologic Area, and the McCain Hydrologic Subarea (722.71). The jurisdictional areas within the Boulder Brush Corridor consist of tributaries to Tule Creek, Tule Creek itself, and tributaries to Carrizo Creek. The majority of land within the Boulder Brush Boundary is characterized by small

ephemeral channels, draining runoff, and surface flow from the hillslopes and roads that drain toward Tule Creek, which is located in the southern portion of the Boulder Brush Corridor. Many of these features do not directly connect to Tule Creek, since these surface features abate into uplands prior to a direct conveyance into Tule Creek; however, these features may have a subsurface connection to downstream receiving waters.

Tule Creek has a wide floodplain with occasional low-flow channels where it receives surface flow, but the majority of the floodplain appears to be supported by subsurface flow, indicated by the patches of riparian herbs, shrubs, and trees within portions of the floodplain. There are sections within the Boulder Brush Corridor where data was collected within Tule Creek that were dominated by upland species, such as big sagebrush scrub, tall tumblemustard (*Sisymbrium altissimum*), and cheatgrass (*Bromus tectorum*).

The northern portion of the Boulder Brush Corridor includes ephemeral non-wetland waters that are tributary to Carrizo Creek. Many of these ephemeral channels have been directly impacted by off-road vehicle use (predominantly motorized dirt bikes). The disturbance created by these activities often bisect the channel, or the length of the channel is used for dirt bike activity. Overall, the features in the Boulder Brush Corridor are dry and lack evidence of recent flows, which is likely due to lack of rainfall in recent years.

Tule Creek receives surface and subsurface flows from headwaters originating in the Laguna Mountains northwest of the Boulder Brush Corridor. It continues draining in a downward gradient in an east and southeast orientation into Tule Lake, located approximately 4.5 miles southeast of the Boulder Brush Corridor. Water then flows into Tule Canyon, which eventually outlets into Carrizo Creek where it drains north–northeast. Carrizo Creek turns into Carrizo Wash and connects to San Felipe Wash and eventually drains into the Salton Sea.

The Boulder Brush Corridor is primarily undeveloped. There are existing areas of disturbance that show evidence of motorcross, all-terrain vehicle (ATV), and other off-highway vehicle use.

4.1.2 Campo Band of Diegueño Mission Indians Reservation (Reservation)

The Reservation is located in the inner-montane zone of southeastern San Diego County, west of a desert transition zone associated with the Sonoran Desert. Elevation within the entire Reservation ranges from 3,280 feet above mean sea level to 4,120 feet above mean sea level. Topography of the Reservation exhibits a range from moderate to steep ridges, to semiarid plateaus and valleys. The area is in a desert transition zone, supporting desert and high desert habitats and vegetative communities. The Reservation is in the central area of the Peninsular Ranges geomorphic province. Altitude and relief generally decrease from east to west towards the Pacific Ocean. Seismicity is

common throughout the Southern California region, with the San Andreas Fault located approximately 65 miles east-northeast near the Salton Sea. Although, areas like the Reservation appear to be relatively quiescent compared to nearby fault lines.

The Reservation supports large, intact expanses of relatively undisturbed habitats characteristic of the region. Dense chaparral covers much of the undeveloped portions of the Reservation, with oak woodlands and riparian habitats present along scattered canyons. A series of north–south-oriented ridges separated by the occasional broad valley or narrow drainages dominate the topography, and various large rock outcrops occur primarily along the ridgelines. Scattered, low-density commercial and residential developments are located within and adjacent to the Reservation. Other development features present include major transportation corridors (I-8 and State Route [SR] 94), asphalt and compacted earthen roads, trails, and fencing.

Drainage patterns on the Reservation vary greatly across topographic changes. Campo Creek flows in an east–west direction through the southern portion of the Reservation. There are numerous tributaries to Campo Creek as well as seeps and springs on the Reservation. Surface water on the Reservation is not sufficient to support domestic uses; therefore, domestic water resources are solely from groundwater wells.

The Campo Corridor is comprised of native upland vegetation communities typical of the high desert and transition zones. Additionally, there are a few wetland and riparian woodland vegetation communities. Additionally, the Campo Corridor is traversed by a portion of Church Road and numerous dirt roads used to access the Reservation.

The northeastern portion of the Campo Corridor is within the Colorado River Hydrologic Basin Planning Area within the Anza Borrego Hydrologic Unit, Jacumba Hydrologic Area, and the McCain Hydrologic Subarea (722.71). The southeastern portion of the Campo Corridor is within the San Diego Hydrologic Basin Planning Area within the Tijuana River Hydrologic Unit and Campo Hydrological Area; there are three Hydrologic Subareas including Hill (911.84), Clover Flat (911.83), and Hipass (911.85) within this hydrologic unit and hydrologic area. The jurisdictional areas include Campo Creek, and tributaries to Campo Creek, Miller Creek, Tule Creek, and Tijuana River (Figure 4 series). All jurisdictional resources (non-wetland waters) within the Campo Corridor are presumed to have a physical, chemical, or biological connection with downstream traditional navigable waters (i.e., Pacific Ocean).

4.2 Habitat Types/Vegetation Communities

4.2.1 Boulder Brush Corridor

Eleven vegetation communities and four non-native communities or land cover types were mapped by Dudek biologists within the Boulder Brush Corridor. Native vegetation communities within the Boulder Brush Corridor are big sagebrush scrub, coast live oak woodland (including open coast live oak woodland), emergent wetland, granitic chamise chaparral, granitic northern mixed chaparral, montane buckwheat scrub, red shank chaparral, semi-desert chaparral, southern arroyo willow riparian forest, and wildflower field. Two non-native vegetation communities, disturbed habitat and eucalyptus woodland, and two land cover types, unvegetated stream channel and urban/developed, were mapped within the Boulder Brush Corridor. These vegetation communities and land cover types are described below. Their acreages are presented in Table 4-1, Vegetation Communities and Land Cover Types within the Boulder Brush Corridor, and their spatial distributions are presented in Figure 4-1, Existing Biological Resources – Boulder Brush Corridor – Index, and Figures 4-1a through 4-1m, Existing Biological Resources – Boulder Brush Corridor.

These vegetation communities follow the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008). Vegetation communities considered special status are those that require mitigation by the County (County of San Diego 2010a) (Table 4-1).

Table 4-1
Vegetation Communities and Land Cover Types within the Boulder Brush Corridor

General Vegetation Community/Land Cover Category	Vegetation Type (Holland/Oberbauer Code[a])	Total (Acres)
Disturbed and Developed Areas (10000)	Disturbed Habitat (11300)	10.9
	Urban/Developed (12000)	0.2
	Eucalyptus Woodland (79100)	2.3
	Disturbed and Developed Areas Subtotal	*13.4*
Scrub and Chaparral (30000)	Big Sagebrush Scrub (35210)[b]	32.2
	Granitic Chamise Chaparral (37210)[b]	11.5
	Granitic Northern Mixed Chaparral (37131)[b]	87.1
	Montane buckwheat scrub (32800)[b]	44.4
	Red Shank Chaparral (37300)[b]	46.0
	Semi-Desert Chaparral (37400)[b]	42.7
	Scrub and Chaparral Subtotal[c]	*263.9*

Table 4-1
Vegetation Communities and Land Cover Types within the Boulder Brush Corridor

General Vegetation Community/Land Cover Category	Vegetation Type (Holland/Oberbauer Code[a])	Total (Acres)
Grasslands, Vernal Pools, Meadows, and other Herb Communities (40000)	Wildflower field (42300)[b]	14.8
Grasslands, Vernal Pools, Meadows, and other Herb Communities Subtotal		*14.8*
Bog and Marsh (50000)	Emergent Wetland (52440)[b]	3.4
Bog and Marsh Subtotal[c]		*3.4*
Riparian and Bottomland Habitat (60000)	Southern Arroyo Willow Riparian Forest (61320)[b]	0.9
Riparian and Bottomland Habitat Subtotal[c]		*0.9*
Woodland (70000)	Coast Live Oak Woodland (71160)[b]	19.4
	Open Coast Live Oak Woodland (71161)[b]	0.5
Woodland Subtotal[c]		*19.9*
Waters of the United States/State	Unvegetated Stream Channel[b]	1.1
Waters of the United States/State Subtota[c]		*1.1*
Total[c]		317.4

[a] Holland (1986) as modified by Oberbauer et al. (2008).
[b] Considered special status by the County (2010a).
[c] Totals may not sum due to rounding.

Special-Status Communities

There are 15 vegetation communities or land covers considered special-status by the County that occur within the Boulder Brush Corridor. Each of these are described below and shown on Figures 4-1a through 4-1m.

Montane Buckwheat Scrub (37K00)

Montane buckwheat scrub is nearly a monoculture community of eastern Mojave buckwheat (*Eriogonum fasciculatum* var. *polifolium*) within San Diego County (Oberbauer et al. 2008). A major factor related to this community is that it is found at higher elevations within San Diego County. Montane buckwheat scrub is usually found on sandy soils and around mountain meadows. Montane buckwheat scrub is typically associated with several varieties of buckwheat. Dominant buckwheat species associated with this community include eastern Mojave buckwheat and bastard sage (*Eriogonum wrightii* var. *membranaceum*) (USDA 2018a). At lower elevations and where disturbance has occurred, flat-topped buckwheat scrub (32800) is associated with California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), which is another variety of *Eriogonum fasciculatum* with the common name California buckwheat.

Montane buckwheat scrub occurs throughout the northern and southern portions of the Boulder Brush Corridor. Areas mapped as montane buckwheat scrub are dominated by three species of buckwheat. As described in Oberbauer et al. 2008, both eastern Mojave buckwheat and bastard sage dominate this montane buckwheat community. Other dominant annual buckwheat species include Davidson's buckwheat (*Eriogonum davidsonii*) and Thurber's buckwheat (*Eriogonum thurberi*). Less common in this montane buckwheat community are subshrubs like longstem buckwheat (*Eriogonum elongatum*), narrowleaf goldenbush (*Ericameria linearifolia*), California match weed (*Gutierrezia californica*), hairy yerba santa and pinebush (*Ericameria pinifolia*). Annuals found within the montane buckwheat scrub include red stem stork's bill (*Erodium cicutarium*), needle goldfields (*Lasthenia gracilis*) and valley lessingia (*Lessingia glandulifera*).

Big Sagebrush Scrub (35210)

Big sagebrush scrub contains soft-woody shrubs, from 1.5 to 6.5 feet tall, with bare ground underneath and between shrubs (Oberbauer et al. 2008). Big sagebrush scrub typically occurs on a wide variety of soils and terrain, including rocky, well-drained slopes and fine-textured valley soils with high water table. In San Diego County, this vegetation community occurs on alluvial washes along dry margins of high desert and montane valleys. Characteristic species include big sagebrush (*Artemisia tridentata*), four-winged saltbush (*Atriplex canescens*), blackbrush (*Coleogyne ramosissima*) and Califonria brome (*Bromus carinatus*).

Big sagebrush scrub occurs within small areas in the northern and central portions of the Boulder Brush Corridor and within the southern portion of the Boulder Brush Corridor, including along Ribbonwood Road. Areas mapped as big sagebrush scrub are dominated by big sagebrush which is a distinctive monoculture. Less commonly occurring species interspersed within this vegetation community include hairy yerba santa, canyon silktassel (*Garrya veatchii*), California evening primrose (*Oenothera californica* spp. *avita),* flatbud prickly poppy (*Argemone minuta*), desert baccharis (*Baccharis sergiloides*) wild tarragon (*Artemisia dracunculus*), narrowleaf goldenbush and threadleaf ragwort (*Senecio flaccidus*).

Granitic Northern Mixed Chaparral (37131)

Granitic northern mixed chaparral is similar to northern mixed chaparral but with granitic soils. Granitic northern mixed chaparral contains broad-leaved sclerophyll shrubs, from 6.5 to 13 feet tall, with little to no understory vegetation (Oberbauer et al. 2008). Granitic northern mixed chaparral forms on granitic soils on dry, rocky, often steep slopes. The shrubs form a dense layer, are typically deep-rooted, and are adapted to repeated fires, to which many species respond by stump sprouting. Plant growth is highest in the spring, reduced in the late summer-fall dry season,

and the flowering season extends from late winter to early summer. Characteristic species include chamise (*Adenostoma fasciculatum*), chaparral white thorn (*Ceanothus leucodermis*), desert ceanothus (*Ceanothus perplexens*), bigberry manzanita (*Arctostaphylos glauca*), sugarbush (*Rhus ovata*), and birch leaf mountain mahogany (*Cercocarpus betuloides*).

Granitic northern mixed chaparral is the most dominant vegetation community within the Boulder Brush Corridor. Granitic northern mixed chaparral occurs throughout the Boulder Brush Corridor. Areas mapped as granitic northern mixed chaparral are dominated by desert ceanothus, chamise, birch leaf mountain mahogany, sugarbush, Mojave buckwheat, holly leaf cherry (*Prunus illicifolia*) and chaparral white thorn. Less commonly occurring species within this vegetation community include, Gander's buckhorn cholla (*Cylindropuntia ganderi*), hairy yerba santa, narrowleaf goldenbush (*Ericameria linearifolia*), silver bird's foot trefoil (*Acmispon argophyllus* var. *argophyllus*), hybrid scrub oak (*Quercus x acutidens*), hollyleaf redberry (*Rhamnus illicifolia*). Dominant annuals that cover the ground component of this vegetation community include needle goldfields and cheatgrass (*Bromus tectorum*).

Granitic Chamise Chaparral (37210)

Granitic chamise chaparral contains shrubs, overwhelmingly dominated by chamise, from 3 to 10 feet tall, with little cover provided by other species. Mature stands of granitic chamise are densely interwoven and contain few herbaceous species within the understory (Oberbauer et al. 2008). Stump sprouting allows this vegetation to adapt to repeated fires. Granitic chamise chaparral typically occurs on dry slopes and ridges (Holland 1986). The chamise chaparral alliance is ranked by CDFW as a G5S5 alliance (CDFG 2010). This ranking indicates that globally and within California the alliance is widespread, abundant, and considered secure (CDFG 2010; NatureServe 2014).

Granitic chamise chaparral occurs within the southwestern portion of the Boulder Brush Corridor. Areas mapped as granitic chamise chaparral contain numerous granitic boulders and at least 80% cover of chamise. In many areas with granitic chamise chaparral, chamise is the only subshrub present. Other less commonly occurring species include infrequent distributions of birch leaf mountain mahogany, hybrid scrub oak, desert ceanothus and eastern Mojave buckwheat. Dominant annuals found in limited openings of granitic chamise include fringed spineflower (*Chorizanthe fimbriata*) and chia (*Salvia columbariae*). One perennial herb was also abundant in openings: woollyfruit desertparsley (*Lomatium dasycarpum* ssp. *dasycarpum*).

Red Shank Chaparral (37300)

Red shank chaparral is dominated by pure stands of redshank (*Adenostoma sparsifolium*) of at least 50% cover (Oberbauer et al. 2008). Red shank chaparral shrub layer is typically open, 6.5 to 13 feet in height, and confined to granitic soils. This vegetation community occurs on interior cismontane slopes between 300 and 6,000 feet with greater precipitation and colder winters. Plant species observed within this vegetation community include chamise, tulip pricklypear (*Opuntia phaeacantha*), desert ceanothus, and bigberry manzanita.

Red shank chaparral occurs throughout the Boulder Brush Corridor. Areas mapped as red shank chaparral are dominated by redshank. Areas mapped as redshank chaparral consisted of redshank communities with more than 75% cover of redshank. Less commonly occurring species include desert ceanothus, point leaf manzanita, common silktassel (*Garrya veatchii*), eastern Mojave buckwheat, hybrid oak, narrowleaf goldenbush, woolly easterbonnets (*Eriophyllum wallacei*), Mojave yucca (*Yucca schidigera*), desert ceanothus, scarlet buglar (*Penstemon centranthifolius*), big sagebrush and sticky geraea.

Semi-Desert Chaparral (37400)

Semi-desert chaparral contains 5- to 10-foot-tall sclerophylls in an open layer dominated by *Juniperus*, *Eriogonum*, and *Opuntia* (Oberbauer et al. 2008). Semi-desert chaparral occurs in dry, cold winters and dry, hot summers, and on rocky soils or recently burned sites. This vegetation community is less fire-prone than other chaparrals due to lower fuel loads. Semi-desert chaparral is found in San Diego County on high desert plateaus and escarpment of the Peninsular Range. Characteristic species include chamise, bigberry manzanita, eastern Mojave buckwheat, and California juniper (*Juniperus californica*).

Semi-desert chaparral occurs within the northern and southern portion of the Boulder Brush Corridor. Semi-desert chaparral is dominated by cactus species and characteristic desert associates including California joint fir (*Ephedra californica*), flatbud prickly poppy (*Argemone munita*), numerous combseeds (*Pectocarya*), eastern Mojave buckwheat, tulip pricklypear (*Opuntia phaecantha*), Gander's buckhorn cholla (*Cylindropuntia ganderi*) and brownspined pricklypear (*Cylindropuntia californica* var. *parkeri*). Less commonly occurring associates within this community include California juniper (*Juniperus californica*) and desert ceanothus.

Wildflower Field (42300)

Wildflower fields consist of native herb dominated communities. Wildflower fields are noted for an obvious annual wildflower display. Dominance of flowers varies from year to year depending

on rainfall patterns. Site factors include being associated with grasslands and oak woodlands. Within San Diego County, sandy soils are often present within these vegetation communities.

Wildflower fields within the Boulder Brush Corridor consist of abandoned pasture for grazing animals. These wildflower fields primarily occur in the southern portion of the Boulder Brush Corridor and along Ribbonwood Road. Range managers may have irrigated some of these areas historically, since left over water pipes and irrigation equipment were found within some sections of these pasture lands. During the spring season needle goldfields dominated this vegetation community creating a blanket of yellow across the range. Less commonly occurring wildflowers like variable linanthus (*Leptosiphon parviflorus*) were also mixed in with the needle goldfields. In the late season giant woollystar (*Eriastrum densifolium*) dominated the community, creating a blanket of purple within some areas of the wildflower fields. Jacumba milk-vetch also dominated the wildflower field community and is positively affected by disturbance; one example of disturbance being that of historically grazed lands. Other dominant perennial herbs and annuals within the pasture include western tansymustard (*Descurainia pinnata*), tall tumblemustard (*Sisymbrium altissimum*), and herb Sophia (*Descurainia sophia*). Grass species were scattered within the vegetation community and include slender wild oats (*Avena barbata*), mouse barley (*Hordeum murinum*), compact brome (*Bromus madritensis* ssp. *madritensis*), and rat-tail fescue (*Festuca myuros*). Less commonly occurring species include cheatgrass, Mediterranean grass (*Schismus barbatus*), shortpod mustard (*Hirschfeldia incana*), and London rocket (*Sisymbrium irio*).

Emergent Wetland (52440)

Emergent wetland is a generally persistent wetland dominated by low-growing, perennial plant species. It occurs in channels, seeps, and springs, and along the margins of perennial aquatic features. This vegetation community can be dominated by various wetland plant species, including sedges (*Carex* spp.), pale spike rush (*Eleocharis macrostachya*), rushes (*Juncus* spp.), curly dock (*Rumex salicifolius*), and many others (Oberbauer et al. 2008).

Emergent wetland occurs within southern portion of the Boulder Brush Corridor. Areas mapped as emergent wetland are dominated by Mexican rush (*Juncus mexicanus*), cheatgrass, western ragweed (*Ambrosia psilostachya*), salt grass (*Distichlis spicata*), and seaside heliotrope (*Heliotropium curassavicum* var. *oculatum*). Less commonly occurring species within this vegetation community include tamarisk (*Tamarix ramosissima*), mulefat (*Baccharis salicifolia*), ripgut brome (*Bromus diandrus*), yerba mansa (*Anemopsis californica*), and red willow (*Salix laevigata*).

Southern Arroyo Willow Riparian Forest (61320)

Southern arroyo willow riparian forest is a winter-deciduous riparian forest dominated by broad-leafed trees and arroyo willow (*Salix lasiolepis*). Typically it consists of a moderately tall, closed, or nearly closed canopy, with an understory of shrubby willows (Oberbauer et al. 2008). Southern arroyo willow riparian forest is characterized by the presence of several species besides arroyo willow, including San Diego sagewort (*Artemisia palmeri*), mulefat (*Baccharis salicifolia*), manroot (*Marah macrocarpus*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), Goodding's willow (*Salix gooddingii*), narrowleaf willow (*Salix exigua*), and yellow willow (*Salix lasiandra*) (Oberbauer et al. 2008). Southern arroyo willow riparian forest occurs in sub-irrigated and frequently overflowed areas along rivers and streams that are perennially wet (Oberbauer et al. 2008).

Southern arroyo willow riparian forest occurs in the southern portion of the Boulder Brush Corridor and along Ribbonwoor Road. Areas mapped as southern arroyo willow riparian forest are dominated by red willow, mulefat, broom baccharis (*Baccharis sergiloides*), and arroyo willow with associated species including yerba mansa, Mexican rush, western ragweed, Mexican whorled milkweed (*Asclepias fascicularis*), salt cedar (*Tamarix ramosissima*), wild tarragon (*Artemisia dracunculus*) and stinging nettle (*Urtica dioica* ssp. *holosericea*). Some sections of the southern arroyo willow riparian forest consisted of little to no herbaceous perennial plant species, and other areas were abundant with Mexican rush, yerba mansa, western ragweed and wild tarragon.

Coast Live Oak Woodland (71160) and Open Coast Live Oak Woodland (71161)

Coast live oak woodland is dominated by a single evergreen species: coast live oak (*Quercus agrifolia*) with a canopy height reaching 32.8 to 82.0 feet (10 to 25 meters). The shrub layer is poorly developed, but may include toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), or laurel sumac (*Malosma laurina*). The herb component is continuous, dominated by a variety of introduced species (Oberbauer et al. 2008).

Coast live oak woodland occurs within the northern and southern portions of the Boulder Brush Corridor. Areas mapped as coast live oak woodland are dominated by coast live oak with an understory of annual cheatgrass, bare ground and small scattered subshrubs. Areas mapped as open coast live oak woodland have an overall lower density of coast live oak, but still functions as a coast live oak woodland. Less common associated species include eastern Mojave buckwheat, Jacumba milk-vetch, desert ceanothus, valley lessingia (*Lessingia gladulifera* var. *glandulifera*), needle goldfields, white margin sand mat (*Euphorbia albomargina*), Colorado four o'clock (*Mirabilis multiflora*), and redstem stork's bill (*Erodium cicutarium*).

Unvegetated Stream Channel

Unvegetated stream channel is not recognized by Holland (1986) or Oberbauer et al. (2008). Vegetation may be present but is usually less than 10% total cover and grows on the outer edge of the channel. Unvegetated stream channels occur along Tule Creek and throughout portions of the Boulder Brush Corridor. These resources are discussed more in Section 4.7, Jurisdictional Aquatic Resources.

Non-Special-Status Communities and Land Covers

There are three non-special-status vegetation communities and land covers mapped within the Boulder Brush Corridor and are described below.

Disturbed Habitat (11300)

Disturbed habitats are areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association (Oberbauer et al. 2008). These areas may continue to retain soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes or areas, graded firebreaks, graded construction pads, temporary construction staging areas, off-road-vehicle trails, areas repeatedly cleared for fuel management, or areas that are repeatedly used in ways that prevent revegetation (e.g., parking lots, trails that have persisted for years).

Disturbed habitat occurs throughout the Boulder Brush Corridor. Dirt roads, prominent dirt trails, and other disturbed areas are mapped as disturbed habitat. The disturbed habitat mostly consists of bareground with few plant species. Dominant plant species that were present within the disturbed habitat include non-native cheatgrass (*Bromus tecortum*) and Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*). Jacumba milk-vetch is a rare plant species found in the Boulder Brush Corridor in both disturbed areas and undisturbed areas but within the disturbed vegetation community (roads, trails) Jacumba milk-vetch is the dominant plant species. Although less common, hairy yerba santa (*Eriodictyon trichocalyx* var. *lanatum*) also occurred. One annual species, sapphire wooly star (*Eriastrum sapphirinum* ssp. *sapphirium*) was abundant on some of the dirt roads and trails for a short duration.

Urban/Developed (12000)

Urban/developed refers to areas that have been constructed upon or disturbed so severely that native vegetation is no longer supported. Developed land includes areas with permanent or semi-permanent structures, pavement or hardscape, landscaped areas, and areas with a large amount of debris or other materials (Oberbauer et al. 2008).

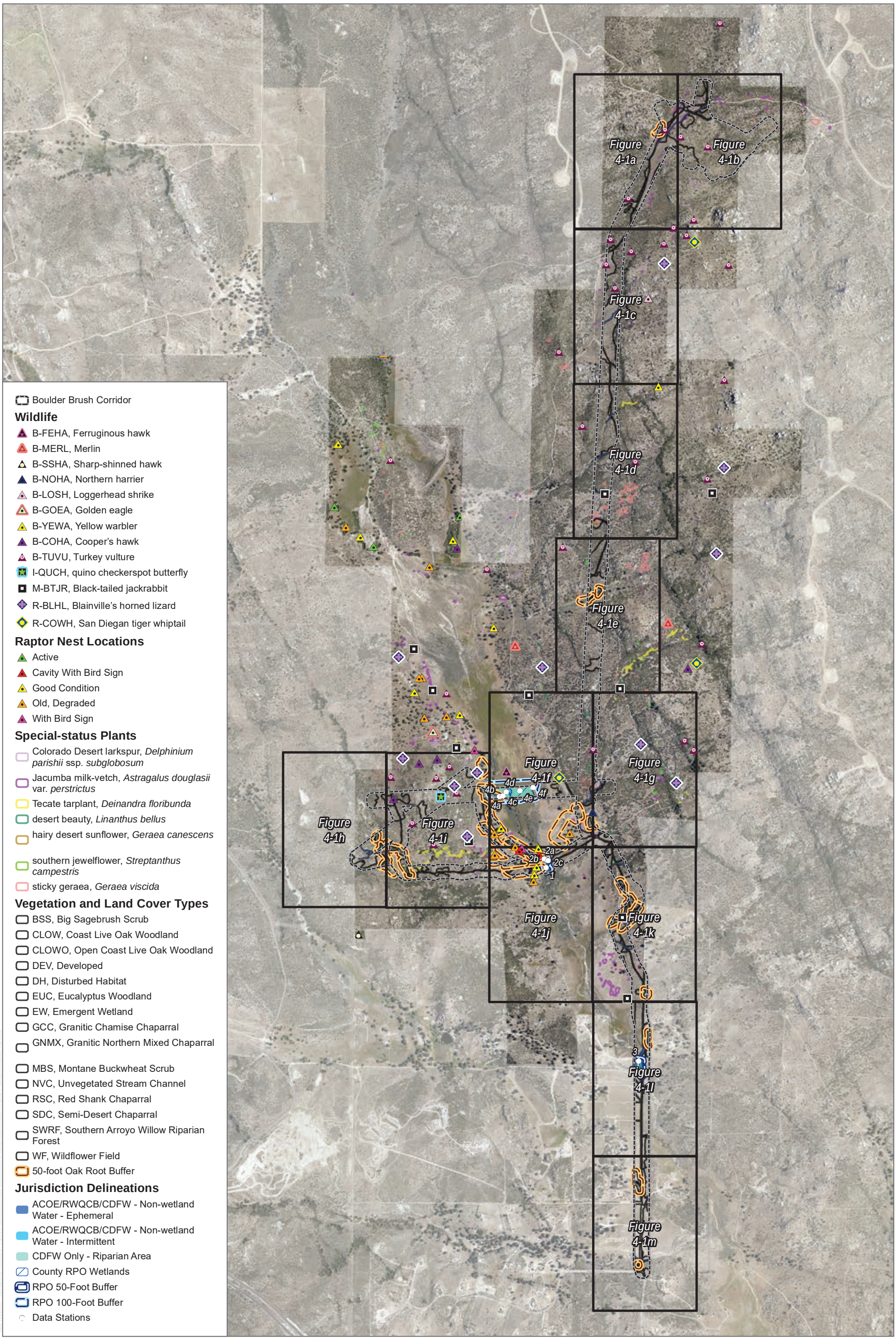
Within the Boulder Brush Corridor, urban and developed areas are located along Ribbonwood Road.

Eucalyptus Woodland (79100)

Eucalyptus woodland is not recognized by Holland (1986), but is recognized by Oberbauer et al. (2008). This "naturalized" vegetation community is fairly widespread in Southern California and is considered a woodland habitat. Eucalyptus woodland occurs along Ribbonwood Road. It typically consists of monotypic stands of introduced Australian eucalyptus trees (*Eucalyptus* spp.). The understory is either depauperate (i.e., lacking species variety) or absent, owing to high leaf litter. Although eucalyptus woodlands are of limited value to most native plants and animals, they frequently provide nesting and perching sites for several raptor species.

4.2.2 Campo Corridor

Twenty-two vegetation communities and land cover types were mapped by Dudek within the Campo Corridor. Native vegetation communities within the Campo Corridor include big sagebrush scrub (including disturbed), coast live oak woodland (including open and dense forms), emergent wetland, freshwater marsh, granitic chamise chaparral, granitic northern mixed chaparral, montane buckwheat scrub, mulefat scrub, non-native grassland, non-native grassland broadleaf-dominated, red shank chaparral, scrub oak chaparral, southern coast live oak riparian forest, southern willow scrub, upper Sonoran subshrub scrub, and valley Sacaton grassland. Developed and disturbed habitat, as well as one land cover–unvegetated stream channel, occur within the Campo Corridor. These vegetation communities follow the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008). The vegetation communities and land cover types listed above are described below. Their spatial distributions are presented in the Figure 4-2, Existing Biological Resources – Reservation – Index, and Figures 4-2a through 4-2bo, Existing Biological Resources – Reservation. These vegetation communities and land cover types are described in detail in the *Campo Wind Project Biological Technical Report* (Appendix H to the Campo EIS).



SOURCE: SANGIS 2017

DUDEK

0 850 1,700 Feet

FIGURE 4-1

Existing Biological Resources - Boulder Brush Corridor - Index

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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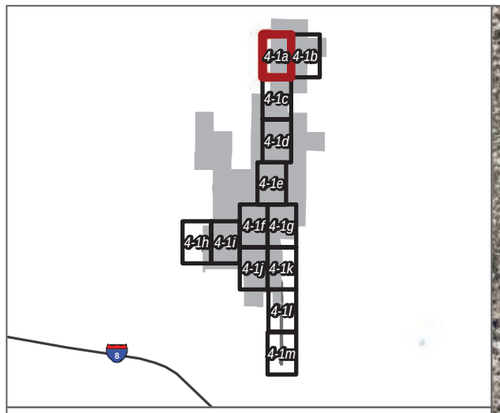

Boulder Brush Boundary

Boulder Brush Corridor

Wildlife

- B-TUVU, Turkey vulture
- R-COWH, San Diegan tiger whiptail

Special-status Plants

- Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
- Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
- sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SDC, Semi-Desert Chaparral
- 50-foot Oak Root Buffer

Jurisdiction Delineations

- ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1a

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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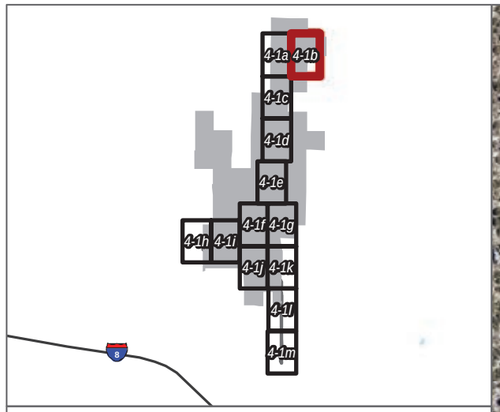

Boulder Brush Boundary

Boulder Brush Corridor

Wildlife

- B-TUVU, Turkey vulture
- R-COWH, San Diegan tiger whiptail

Special-status Plants

- Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
- Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
- sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SDC, Semi-Desert Chaparral
- 50-foot Oak Root Buffer

Jurisdiction Delineations

- ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1b

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary

Boulder Brush Corridor

Wildlife

- B-LOSH, Loggerhead shrike
- B-YEWA, Yellow warbler
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- R-BLHL, Blainville's horned lizard
- R-COWH, San Diegan tiger whiptail

Special-status Plants

- Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
- Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
- Tecate tarplant, *Deinandra floribunda*
- sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel

Jurisdiction Delineations

- ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1c

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary

Boulder Brush Corridor

Wildlife

- B-YEWA, Yellow warbler
- B-TUVU, Turkey vulture
- M-BTJR, Black-tailed jackrabbit
- R-BLHL, Blainville's horned lizard

Special-status Plants

- Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
- Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
- Tecate tarplant, *Deinandra floribunda*
- desert beauty, *Linanthus bellus*
- hairy desert sunflower, *Geraea canescens*
- southern jewelflower, *Streptanthus campestris*
- sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral

Jurisdiction Delineations

- ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1d

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1e

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary
Boulder Brush Corridor

Wildlife
- B-FEHA, Ferruginous hawk
- B-NOHA, Northern harrier
- B-GOEA, Golden eagle
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- I-QUCH, quino checkerspot butterfly
- M-BTJR, Black-tailed jackrabbit
- R-BLHL, Blainville's horned lizard
- R-COWH, San Diegan tiger whiptail

Raptor Nest Locations
- Cavity With Bird Sign
- Good Condition
- Old, Degraded
- With Bird Sign

Special-status Plants
- Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
- Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
- Tecate tarplant, *Deinandra floribunda*
- desert beauty, *Linanthus bellus*
- southern jewelflower, *Streptanthus campestris*
- sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types
- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- EW, Emergent Wetland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SDC, Semi-Desert Chaparral
- SWRF, Southern Arroyo Willow Riparian Forest
- WF, Wildflower Field
- 50-foot Oak Root Buffer

Jurisdiction Delineations
- ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral
- ACOE/RWQCB/CDFW - Non-wetland Water - Intermittent
- CDFW Only - Riparian Area
- County RPO Wetlands
- RPO 50-Foot Buffer
- RPO 100-Foot Buffer
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1f

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary
Boulder Brush Corridor

Wildlife
- B-NOHA, Northern harrier
- B-TUVU, Turkey vulture
- M-BTJR, Black-tailed jackrabbit
- R-BLHL, Blainville's horned lizard
- R-COWH, San Diegan tiger whiptail

Raptor Nest Locations
- Cavity With Bird Sign
- Good Condition
- Old, Degraded
- With Bird Sign

Special-status Plants
- Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
- Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
- Tecate tarplant, *Deinandra floribunda*
- desert beauty, *Linanthus bellus*
- southern jewelflower, *Streptanthus campestris*
- sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types
- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- EW, Emergent Wetland
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SDC, Semi-Desert Chaparral
- SWRF, Southern Arroyo Willow Riparian Forest
- WF, Wildflower Field
- 50-foot Oak Root Buffer

Jurisdiction Delineations
- ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral
- ACOE/RWQCB/CDFW - Non-wetland Water - Intermittent
- CDFW Only - Riparian Area
- County RPO Wetlands
- RPO 50-Foot Buffer
- RPO 100-Foot Buffer
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1g

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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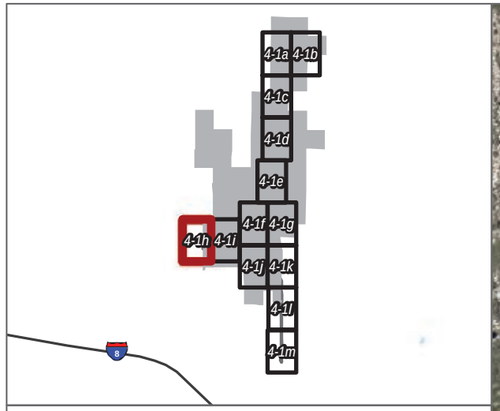

Boulder Brush Boundary

Boulder Brush Corridor

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- I-QUCH, quino checkerspot butterfly
- M-BTJR, Black-tailed jackrabbit
- R-BLHL, Blainville's horned lizard

Special-status Plants

- Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
- Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
- Tecate tarplant, *Deinandra floribunda*
- southern jewelflower, *Streptanthus campestris*
- sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SDC, Semi-Desert Chaparral
- 50-foot Oak Root Buffer

Jurisdiction Delineations

- ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1h

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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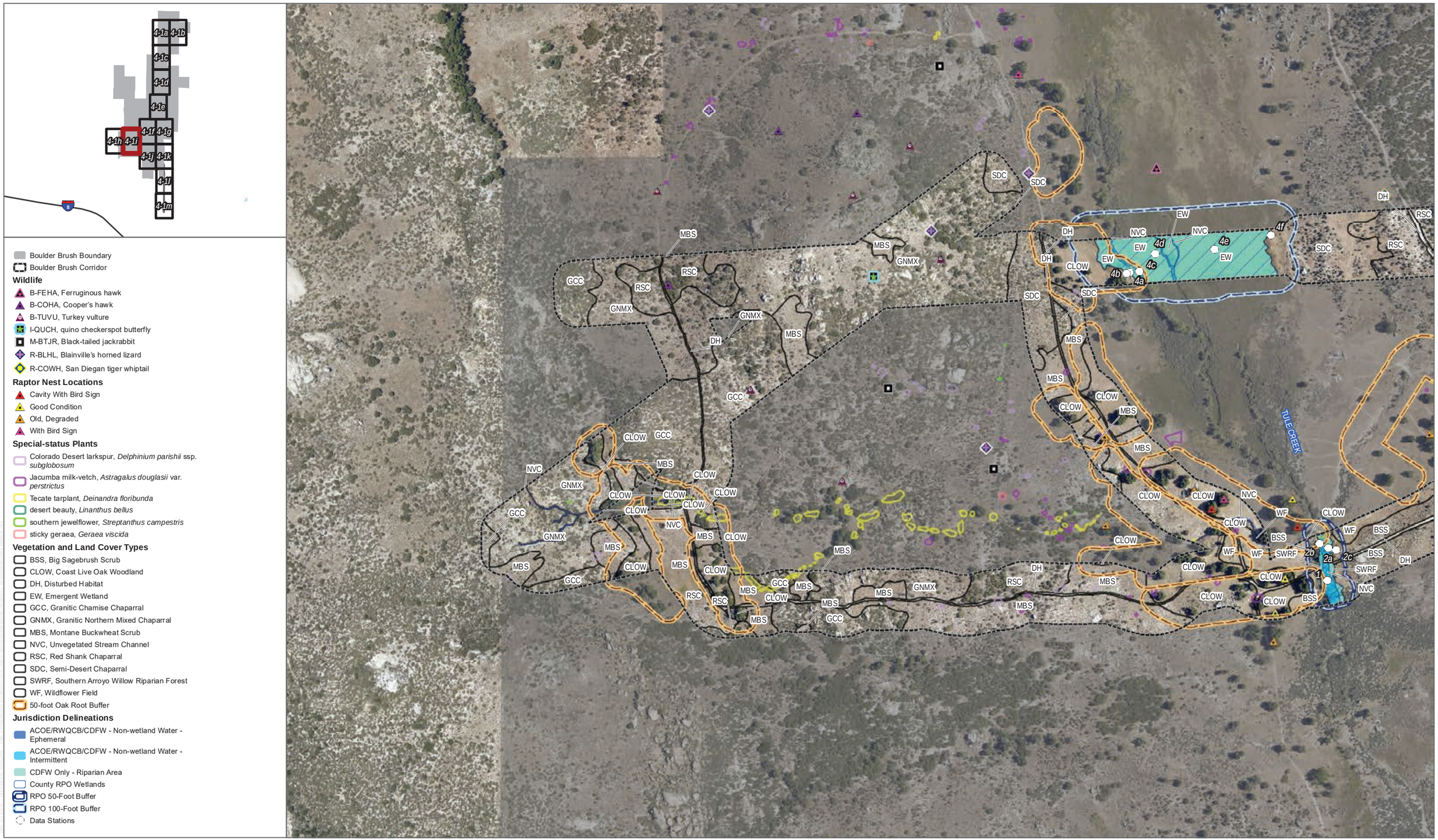

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1i

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary

Boulder Brush Corridor

Wildlife

- B-TUVU, Turkey vulture
- M-BTJR, Black-tailed jackrabbit
- R-BLHL, Blainville's horned lizard

Raptor Nest Locations

- Cavity With Bird Sign
- Good Condition
- Old, Degraded
- With Bird Sign

Special-status Plants

- Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
- Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
- Tecate tarplant, *Deinandra floribunda*
- desert beauty, *Linanthus bellus*
- southern jewelflower, *Streptanthus campestris*
- sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SDC, Semi-Desert Chaparral
- SWRF, Southern Arroyo Willow Riparian Forest
- WF, Wildflower Field
- 50-foot Oak Root Buffer

Jurisdiction Delineations

- ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral
- ACOE/RWQCB/CDFW - Non-wetland Water - Intermittent
- CDFW Only - Riparian Area
- County RPO Wetlands
- RPO 50-Foot Buffer
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1j

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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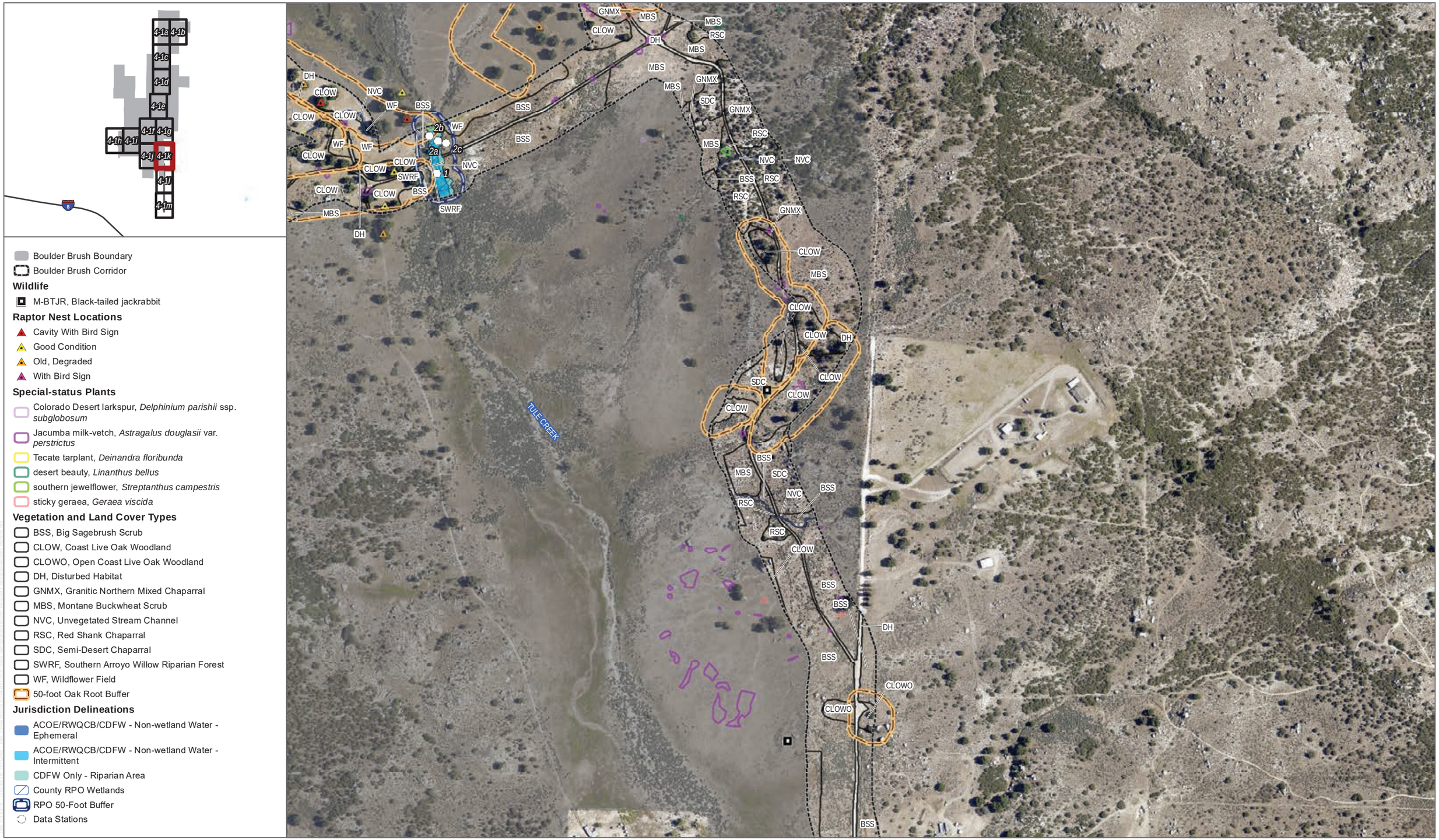

SOURCE: SANGIS 2017

DUDEK

FIGURE 4-1k

Existing Biological Resources - Boulder Brush Corridor

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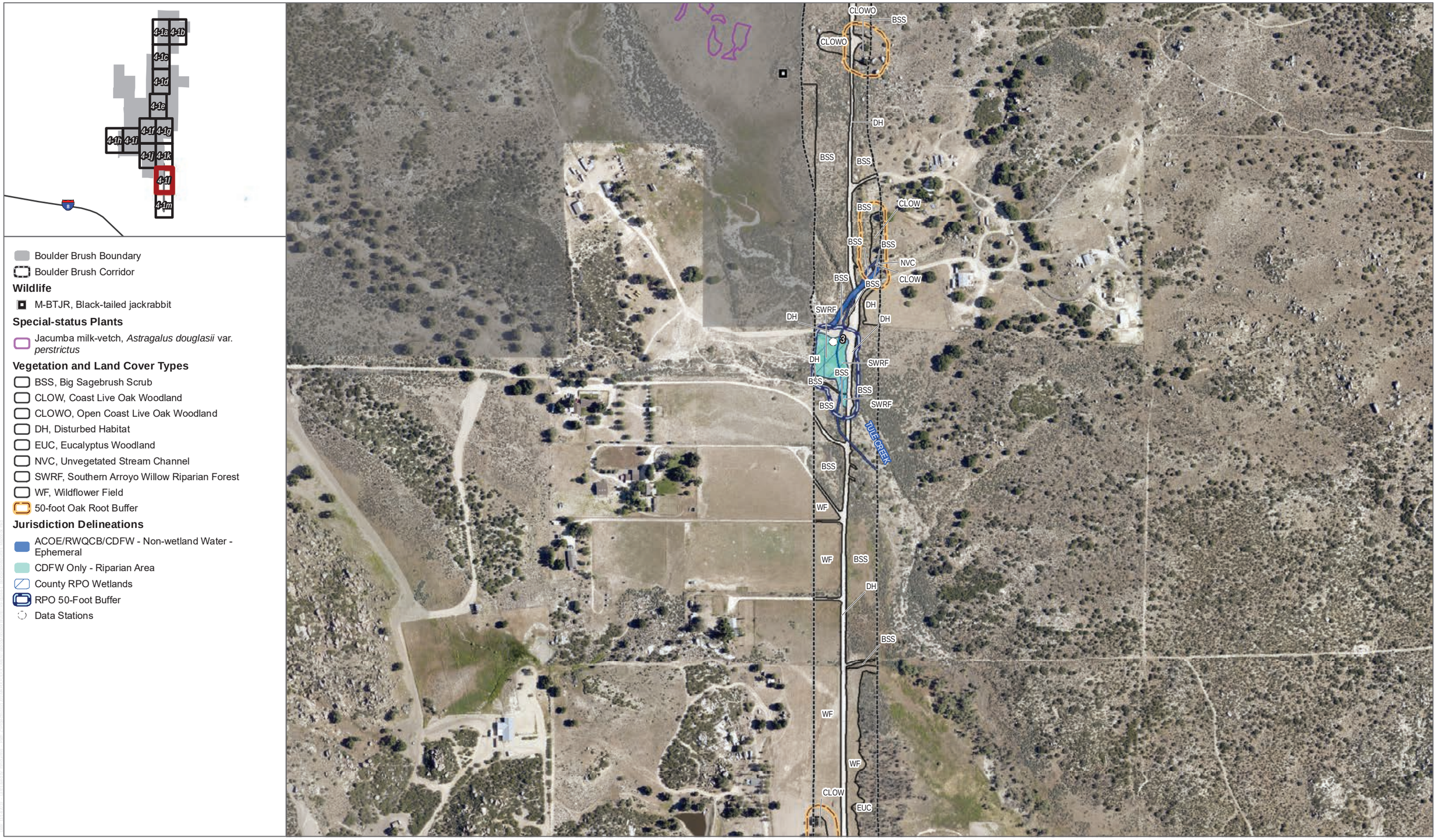

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1l

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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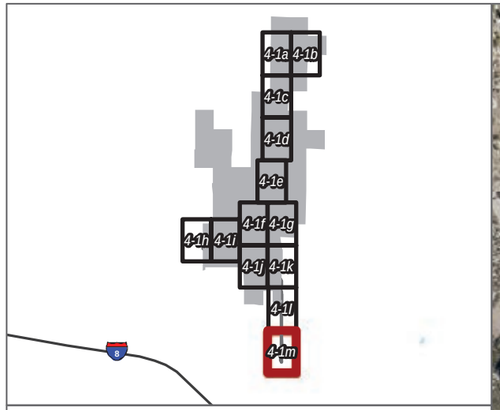

Boulder Brush Corridor

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- EUC, Eucalyptus Woodland
- GNMX, Granitic Northern Mixed Chaparral
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- WF, Wildflower Field
- 50-foot Oak Root Buffer

Jurisdiction Delineations

- ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 4-1m

Existing Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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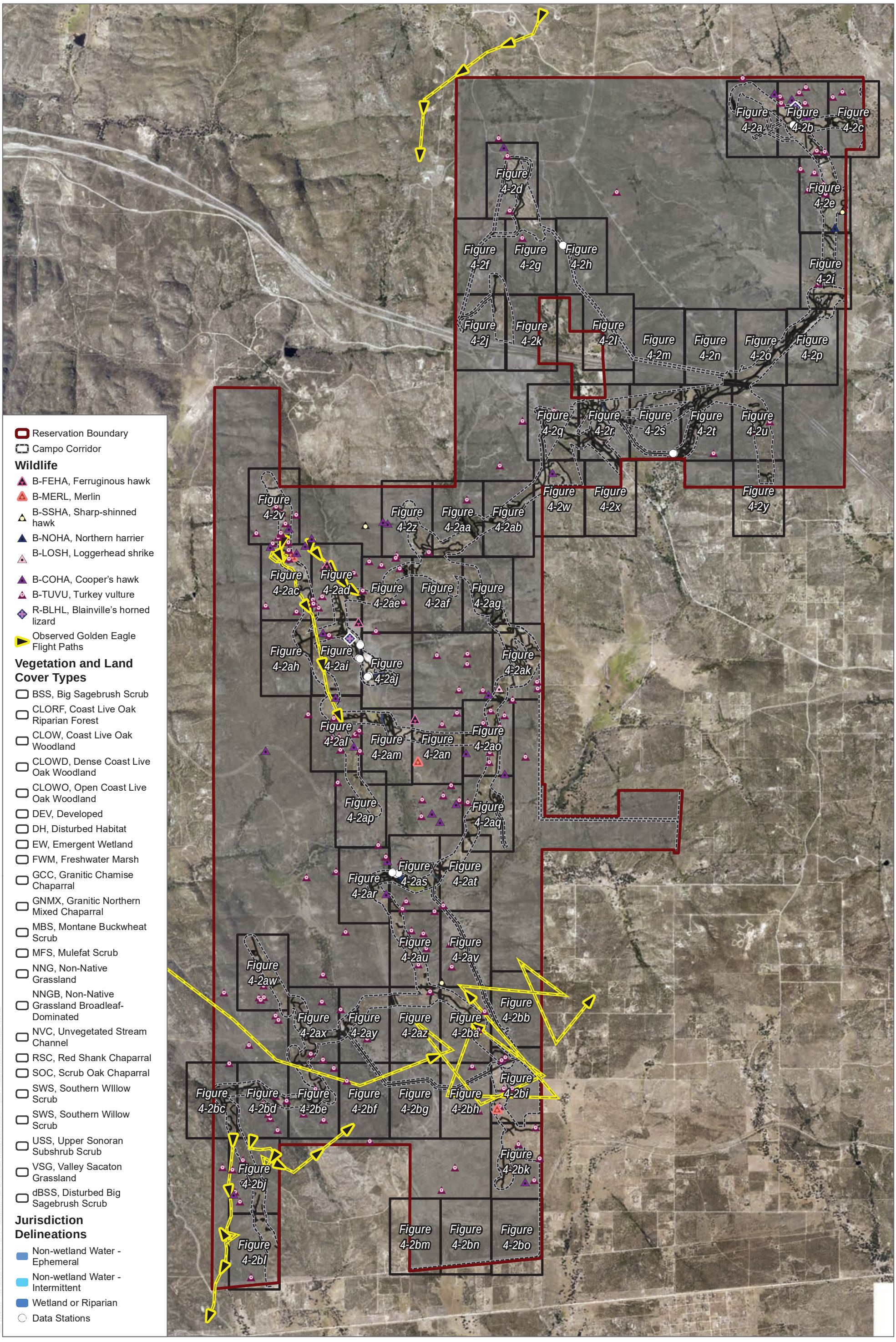

SOURCE: SANGIS 2017

DUDEK

0 1,750 3,500 Feet

FIGURE 4-2

Existing Bioloigcal Resources - Reservation - Index

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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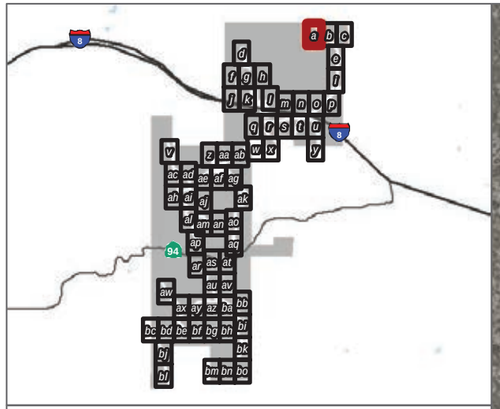

Reservation Boundary
Campo Corridor

Wildlife

- B-SSHA, Sharp-shinned hawk
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- R-BLHL, Blainville's horned lizard

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Data Stations

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2a

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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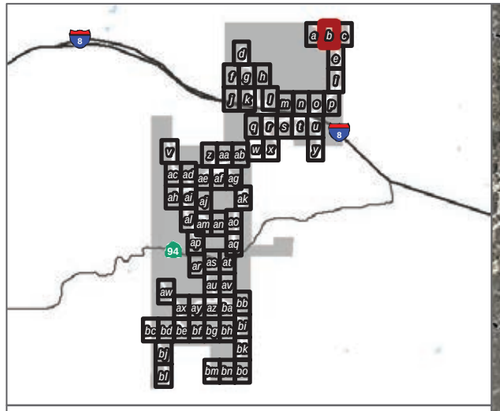

Reservation Boundary

Campo Corridor

Wildlife

- B-SSHA, Sharp-shinned hawk
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- R-BLHL, Blainville's horned lizard

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Data Stations

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2b

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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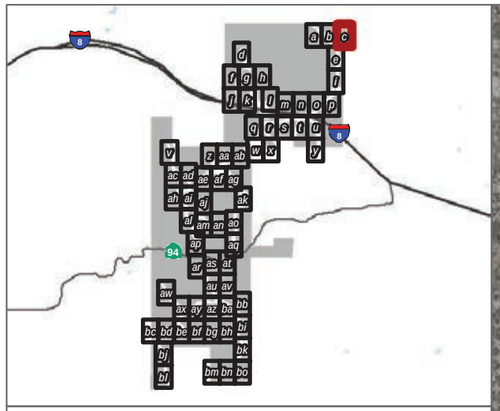

- Reservation Boundary
- Campo Corridor

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2c

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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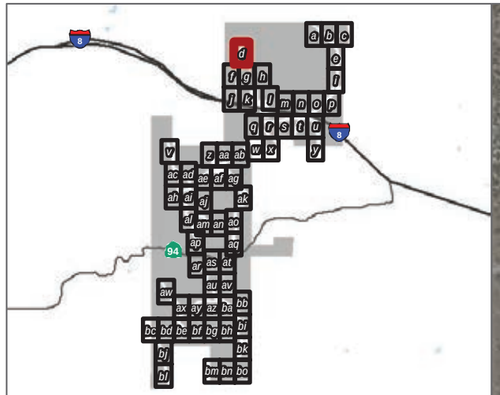

Reservation Boundary

Campo Corridor

Wildlife

B-COHA, Cooper's hawk

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

CLOW, Coast Live Oak Woodland

DEV, Developed

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral

B-COHA
B-TUVU
B-TUVU
B-TUVU
DH
GNMX
NVC
GNMX
GNMX
DH
GCC
GNMX
B-TUVU
GCC
GCC
NVC
NVC
GNMX
NVC
NVC
DH
GCC
GCC
NVC
DH
DEV
GNMX
NVC
GNMX
MBS
MBS
GNMX
B-TUVU
CLOW
CLOW

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2d

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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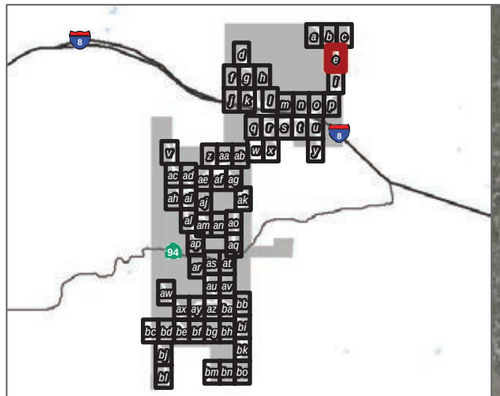

Reservation Boundary

Campo Corridor

Wildlife

- B-SSHA, Sharp-shinned hawk
- B-NOHA, Northern harrier
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- RSC, Red Shank Chaparral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2e

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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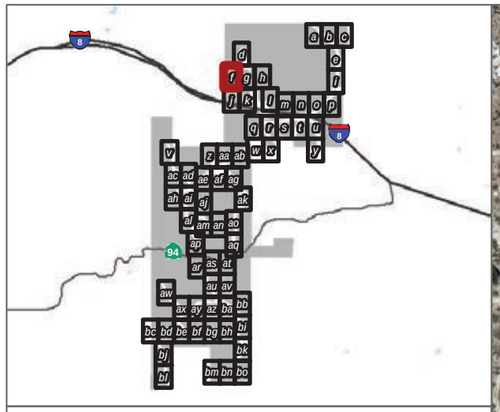

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub

CLOW, Coast Live Oak Woodland

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2f

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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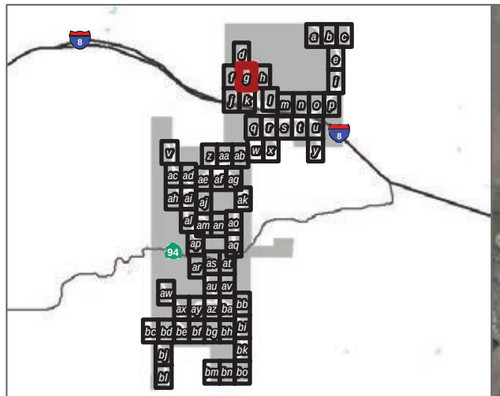

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub

CLOW, Coast Live Oak Woodland

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral

Data Stations

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2g

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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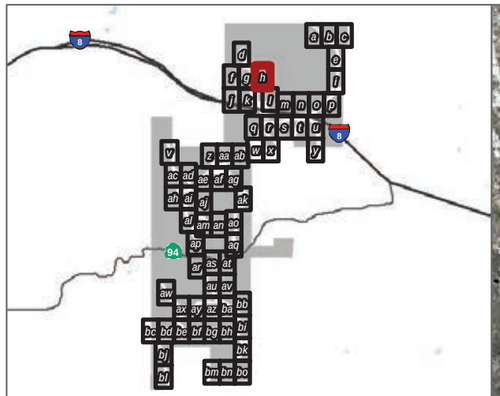

Reservation Boundary
Campo Corridor

Vegetation and Land Cover Types

CLOW, Coast Live Oak Woodland
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral
Data Stations

GNMX
GNMX
CLOW
DH
GNMX
NVC
DS 4
CLOW
CLOW
NVC
CLOW
CLOW
NVC
CLOW
DH
GNMX
GNMX
GNMX
GCC

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2h

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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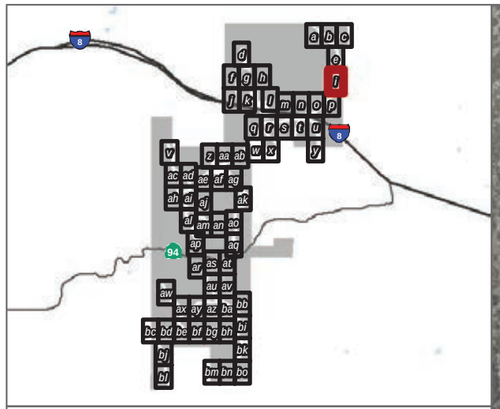

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub

CLOW, Coast Live Oak Woodland

DEV, Developed

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

SOC, Scrub Oak Chaparral

USS, Upper Sonoran Subshrub Scrub

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2i

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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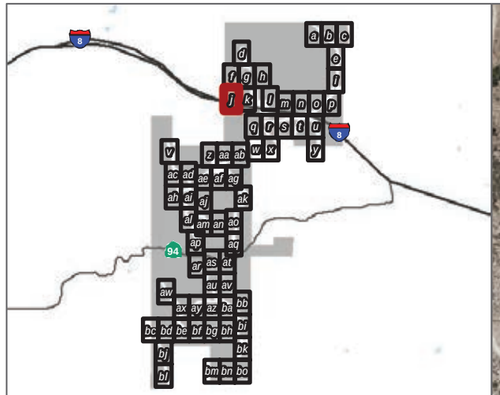

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2j

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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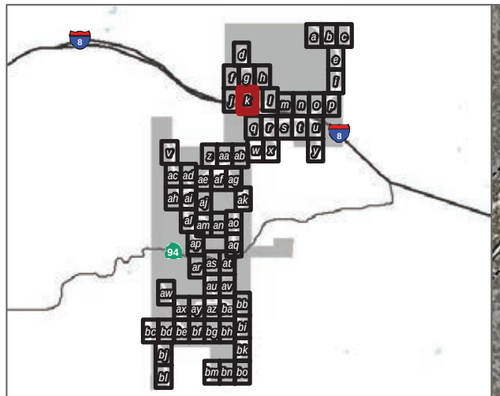

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2k

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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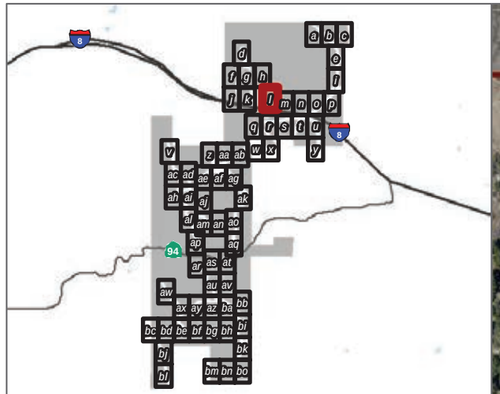

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2I

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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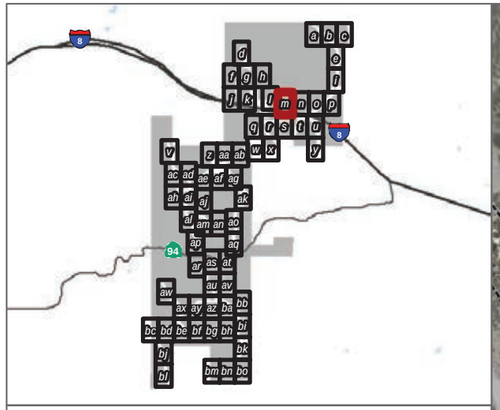

- Reservation Boundary
- Campo Corridor

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2m

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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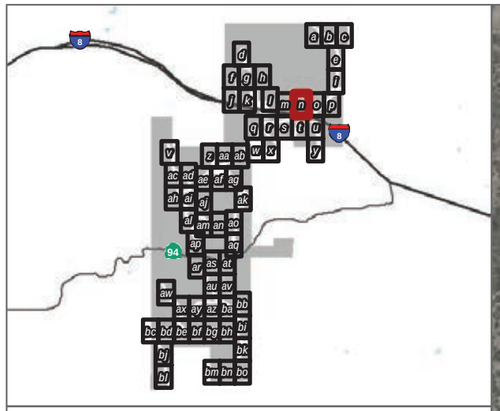

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2n

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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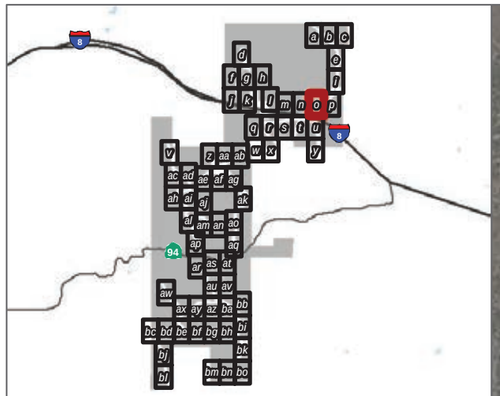

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2o

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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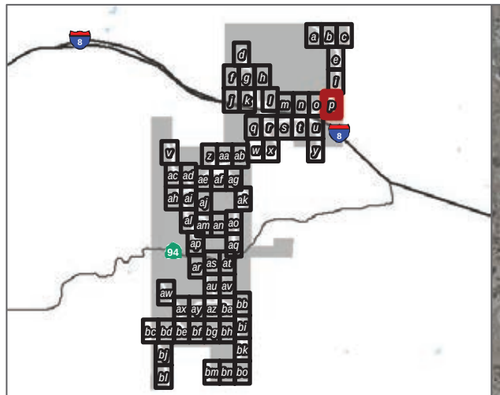

- Reservation Boundary
- Campo Corridor

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2p

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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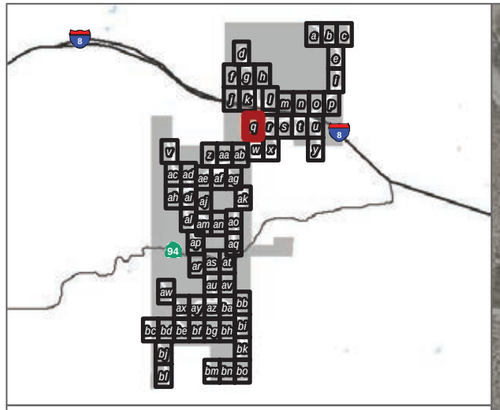

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub

CLOW, Coast Live Oak Woodland

DEV, Developed

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NNG, Non-Native Grassland

NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

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FIGURE 4-2q

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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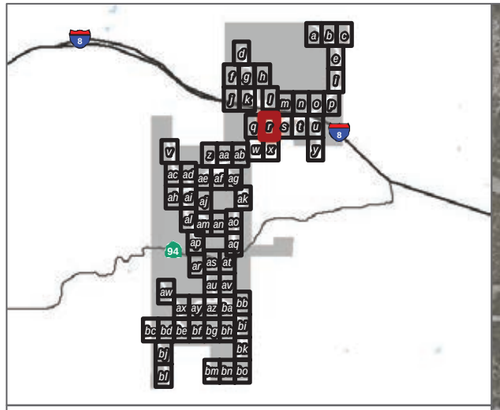

- Reservation Boundary
- Campo Corridor

Wildlife

- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2r

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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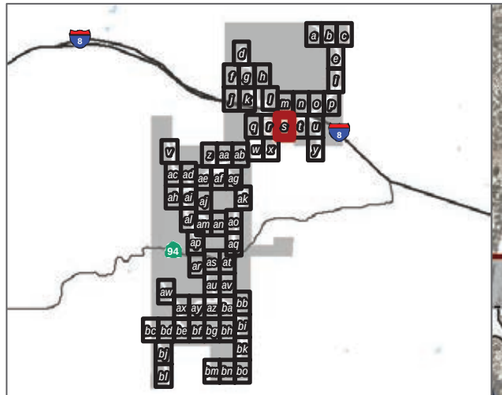

- Reservation Boundary
- Campo Corridor

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- EW, Emergent Wetland
- FWM, Freshwater Marsh
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Wetland or Riparian
- Data Stations

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2s

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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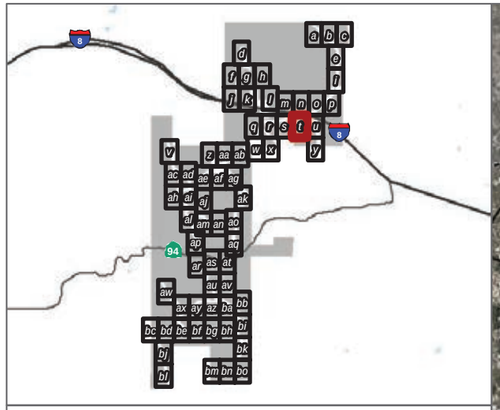

Reservation Boundary

Campo Corridor

Wildlife

- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- EW, Emergent Wetland
- FWM, Freshwater Marsh
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Wetland or Riparian
- Data Stations

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2t

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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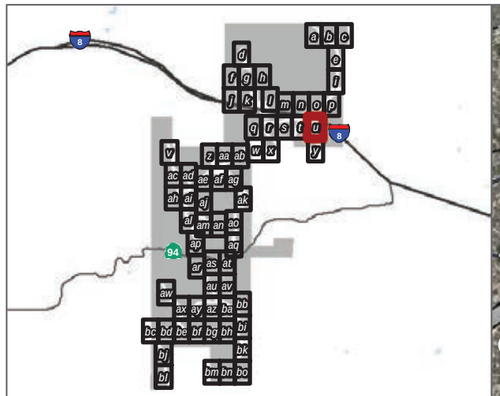

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

DEV, Developed

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

SOC, Scrub Oak Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2u

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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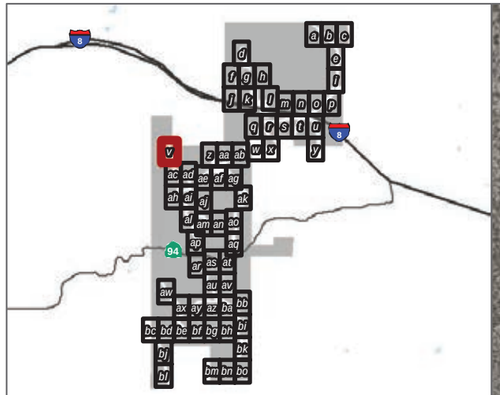

Reservation Boundary

Campo Corridor

Wildlife

B-COHA, Cooper's hawk

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

GCC, Granitic Chamise Chaparral

MBS, Montane Buckwheat Scrub

USS, Upper Sonoran Subshrub Scrub

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2v

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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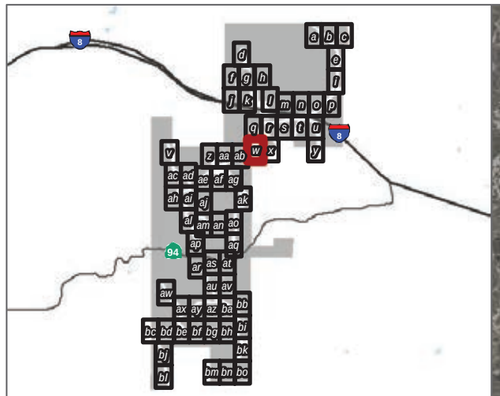

- Reservation Boundary
- Campo Corridor

Wildlife

- B-COHA, Cooper's hawk

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2w

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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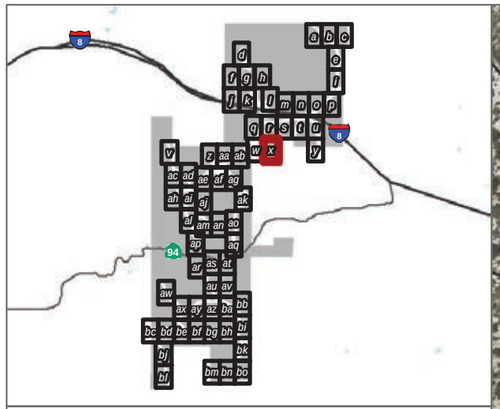

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2x

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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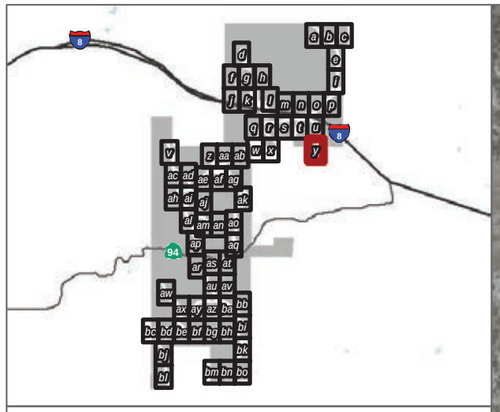

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

GCC, Granitic Chamise Chaparral

MBS, Montane Buckwheat Scrub

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2y

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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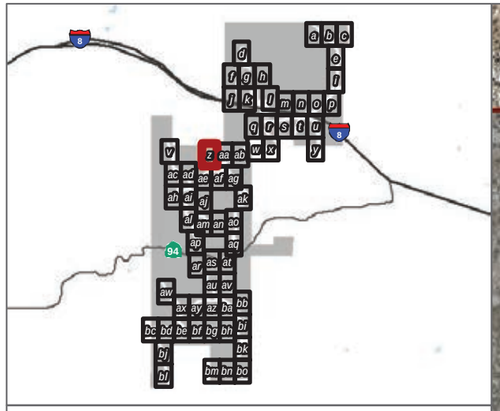

Reservation Boundary

Campo Corridor

Wildlife

- B-SSHA, Sharp-shinned hawk
- B-NOHA, Northern harrier
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2z

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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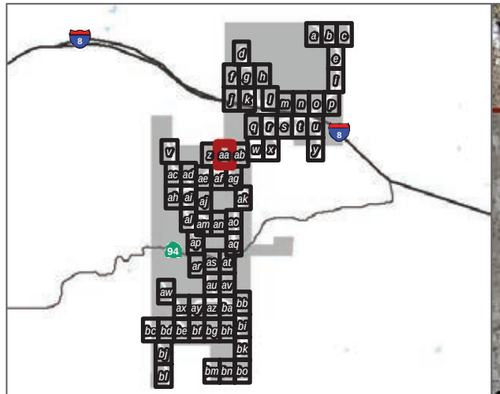

- Reservation Boundary
- Campo Corridor

Wildlife

- B-NOHA, Northern harrier
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

B-TUVU
B-NOHA
B-TUVU
GCC
DH
MBS
NVC
MBS
NVC
GCC
NVC
GCC
CLOW
GNMX
CLOW
NVC
CLOW
CLOW
RSC
GNMX
DEV
NVC
RSC
GNMX
MBS
GNMX
MBS
MBS
B-TUVU
GCC
NVC
GNMX
NVC
NVC

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2aa

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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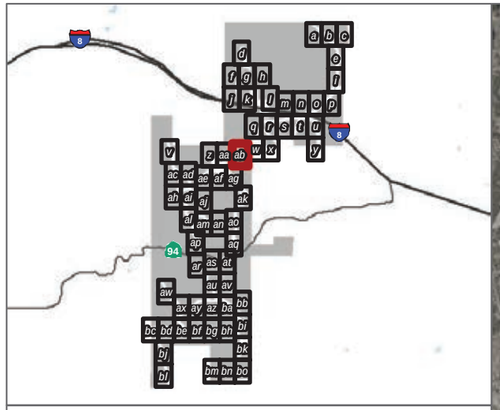

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

CLOW, Coast Live Oak Woodland

DEV, Developed

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

SOC, Scrub Oak Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ab

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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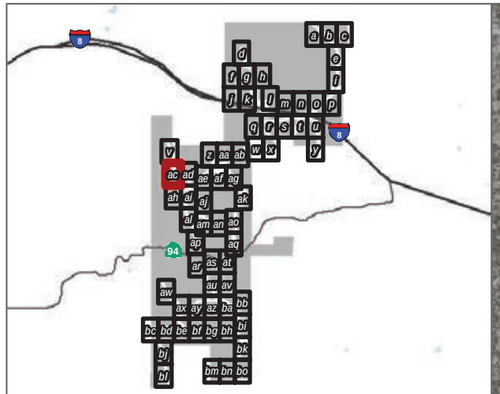

Reservation Boundary

Campo Corridor

Wildlife

- B-FEHA, Ferruginous hawk
- B-MERL, Merlin
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- USS, Upper Sonoran Subshrub Scrub

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ac

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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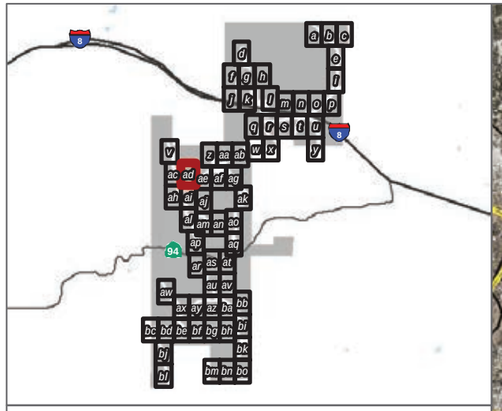

Reservation Boundary

Campo Corridor

Wildlife

- B-FEHA, Ferruginous hawk
- B-MERL, Merlin
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ad

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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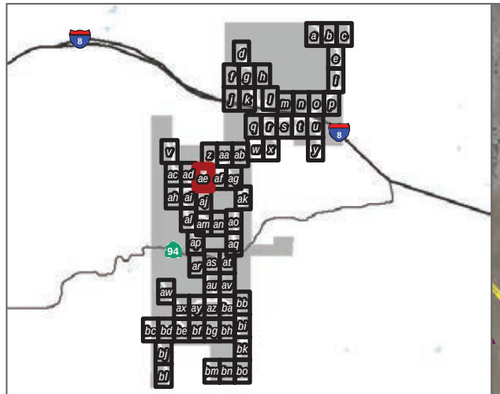

Reservation Boundary

Campo Corridor

Wildlife

B-FEHA, Ferruginous hawk

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub

CLOW, Coast Live Oak Woodland

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NNG, Non-Native Grassland

NVC, Unvegetated Stream Channel

USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ae

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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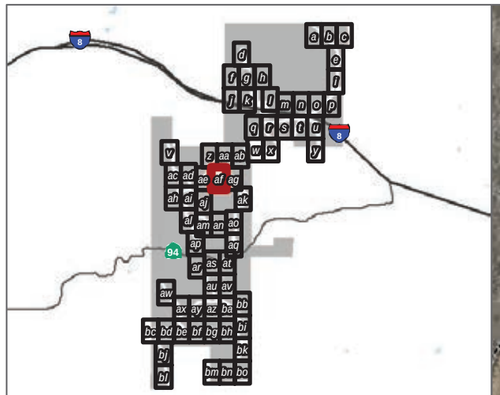

- Reservation Boundary
- Campo Corridor

Wildlife

- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- CLORF, Coast Live Oak Riparian Forest
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2af

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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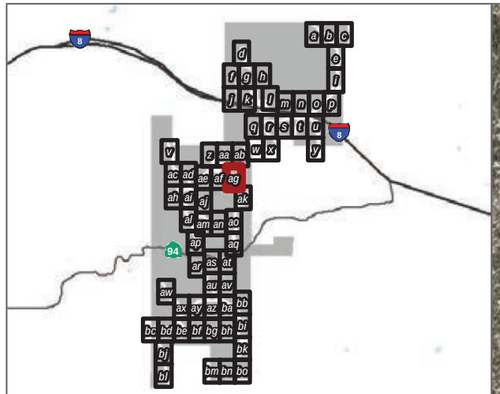

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLORF, Coast Live Oak Riparian Forest
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ag

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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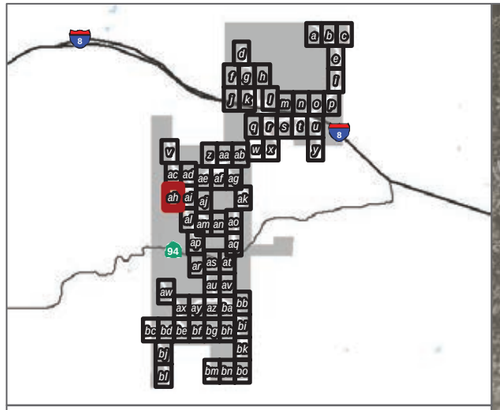

- Reservation Boundary
- Campo Corridor

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ah

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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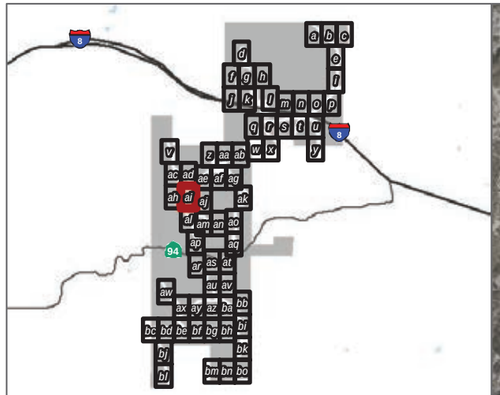

Reservation Boundary
Campo Corridor

Wildlife

- B-FEHA, Ferruginous hawk
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- R-BLHL, Blainville's horned lizard
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- DEV, Developed
- DH, Disturbed Habitat
- EW, Emergent Wetland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- MFS, Mulefat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SWS, Southern Willow Scrub
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Wetland or Riparian
- Data Stations

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ai

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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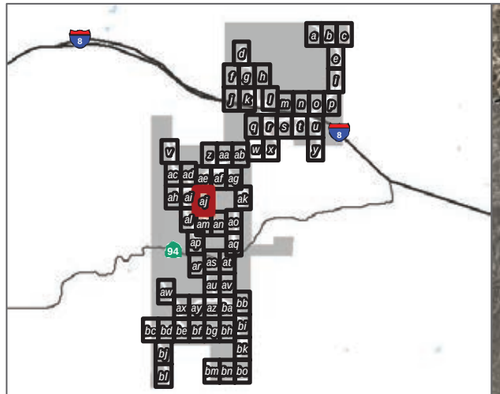

Reservation Boundary
Campo Corridor

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- R-BLHL, Blainville's horned lizard
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- DEV, Developed
- DH, Disturbed Habitat
- EW, Emergent Wetland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MFS, Mulefat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SWS, Southern Willow Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Wetland or Riparian
- Data Stations

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2aj

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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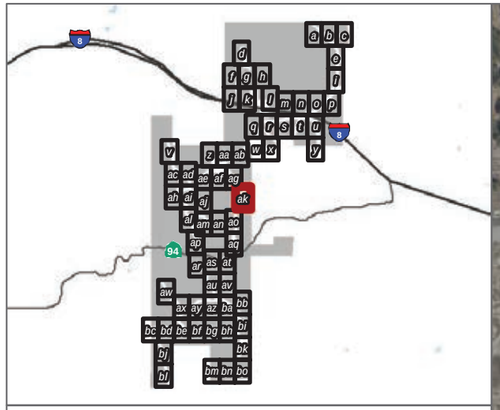

Reservation Boundary
Campo Corridor

Wildlife

- B-NOHA, Northern harrier
- B-LOSH, Loggerhead shrike
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLORF, Coast Live Oak Riparian Forest
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ak

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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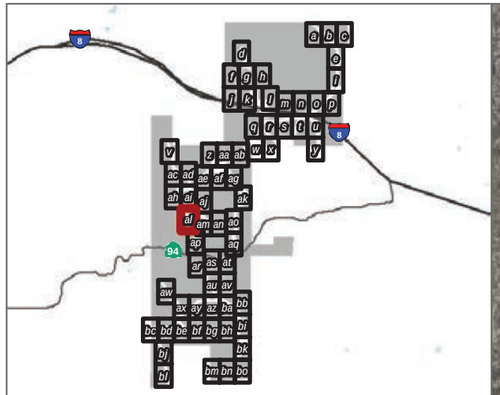

- Reservation Boundary
- Campo Corridor

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2aI

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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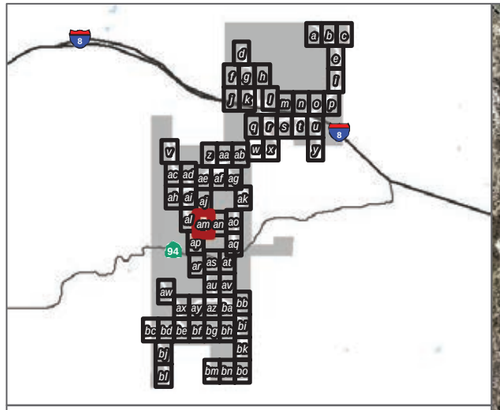

Reservation Boundary
Campo Corridor

Wildlife

B-FEHA, Ferruginous hawk
B-MERL, Merlin
B-COHA, Cooper's hawk
B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
DEV, Developed
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub
NNG, Non-Native Grassland
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral
SOC, Scrub Oak Chaparral
dBSS, Disturbed Big Sagebrush Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

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FIGURE 4-2am

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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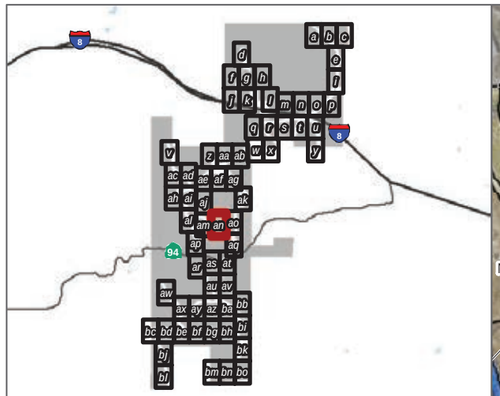

Reservation Boundary
Campo Corridor

Wildlife

- B-FEHA, Ferruginous hawk
- B-MERL, Merlin
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- dBSS, Disturbed Big Sagebrush Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

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FIGURE 4-2an

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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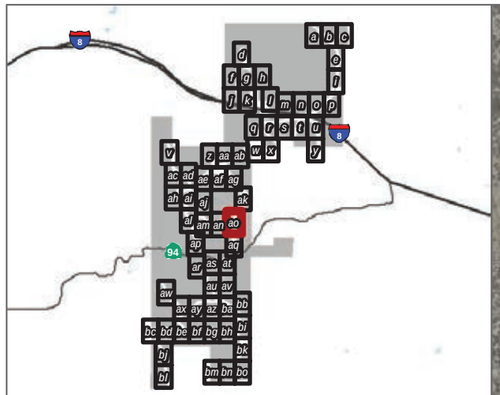

Reservation Boundary

Campo Corridor

Wildlife

B-COHA, Cooper's hawk

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

CLOW, Coast Live Oak Woodland

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

SOC, Scrub Oak Chaparral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ao

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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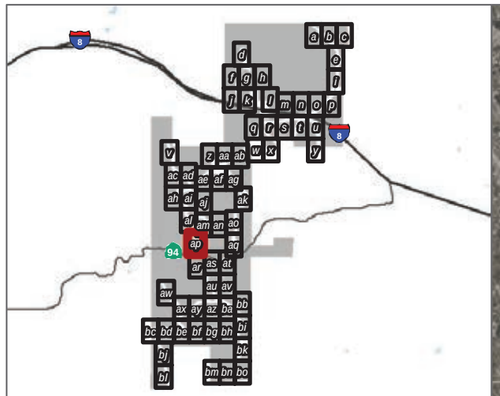

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

GCC, Granitic Chamise Chaparral

NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ap

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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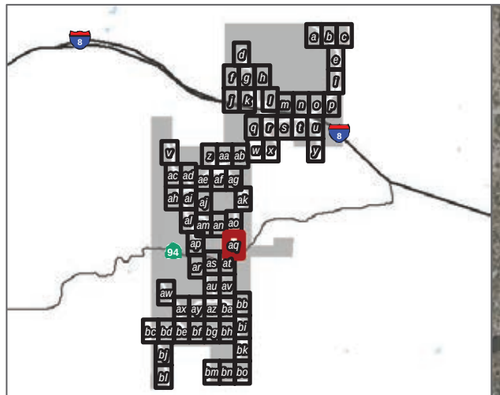

Reservation Boundary

Campo Corridor

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2aq

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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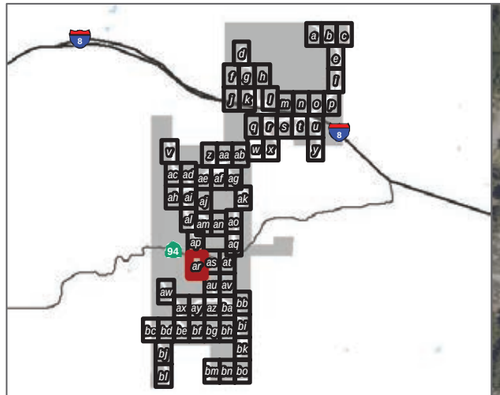

Reservation Boundary
Campo Corridor

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- EW, Emergent Wetland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SWS, Southern WIllow Scrub
- VSG, Valley Sacaton Grassland

Jurisdiction Delineations

- Wetland or Riparian
- Data Stations

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ar

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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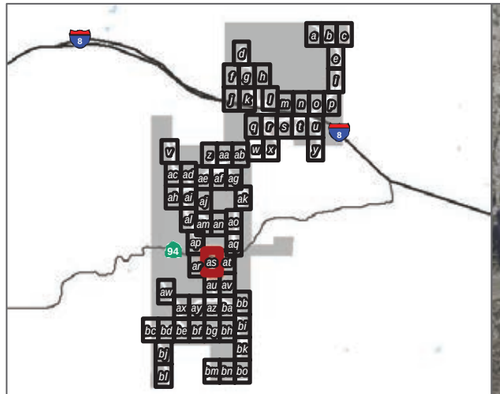

- Reservation Boundary
- Campo Corridor

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- EW, Emergent Wetland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- SWS, Southern WIllow Scrub
- USS, Upper Sonoran Subshrub Scrub
- VSG, Valley Sacaton Grassland

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Non-wetland Water - Intermittent
- Wetland or Riparian
- Data Stations

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2as

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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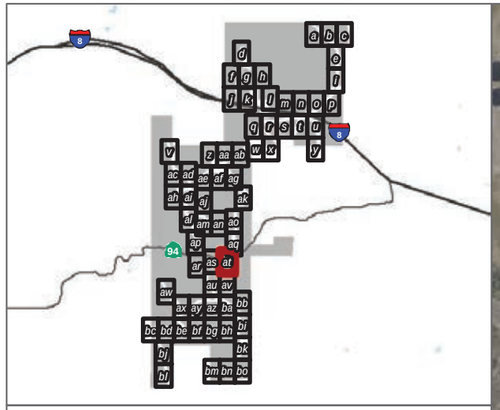

- Reservation Boundary
- Campo Corridor

Wildlife

- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Non-wetland Water - Intermittent

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2at

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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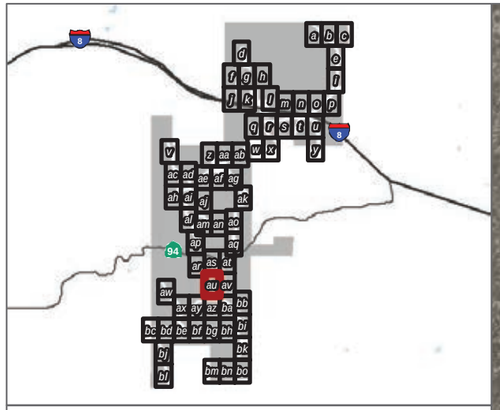

Reservation Boundary

Campo Corridor

Wildlife

B-SSHA, Sharp-shinned hawk

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub

CLOW, Coast Live Oak Woodland

CLOWO, Open Coast Live Oak Woodland

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

MBS, Montane Buckwheat Scrub

NNG, Non-Native Grassland

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

SOC, Scrub Oak Chaparral

USS, Upper Sonoran Subshrub Scrub

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2au

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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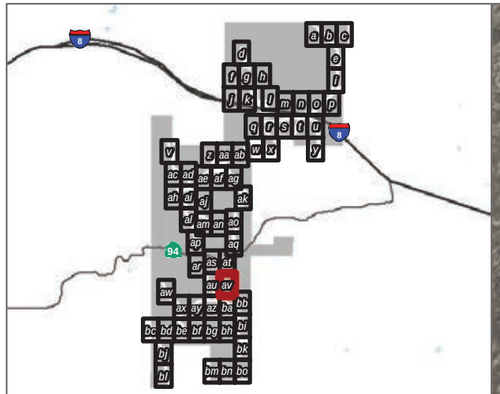

Reservation Boundary
Campo Corridor

Wildlife

B-SSHA, Sharp-shinned hawk
B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
CLOWD, Dense Coast Live Oak Woodland
CLOWO, Open Coast Live Oak Woodland
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub
NNG, Non-Native Grassland
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral
SOC, Scrub Oak Chaparral
USS, Upper Sonoran Subshrub Scrub

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2av

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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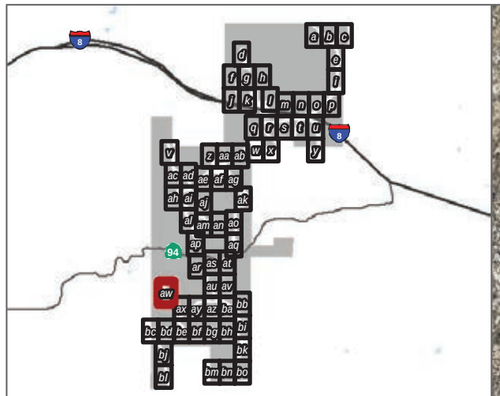

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

GNMX, Granitic Northern Mixed Chaparral

NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2aw

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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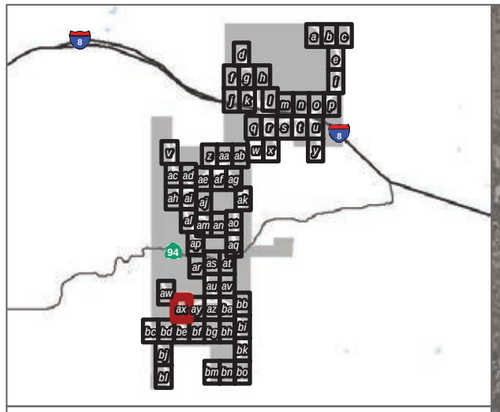

- Reservation Boundary
- Campo Corridor

Wildlife

- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ax

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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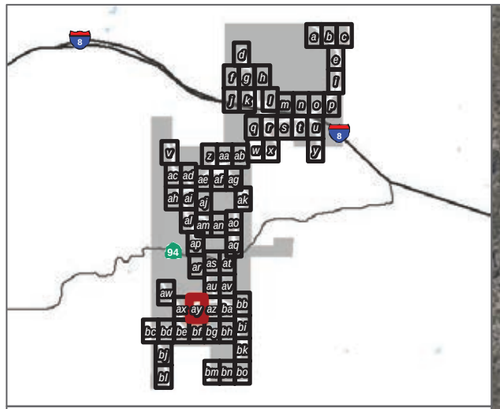

- Reservation Boundary
- Campo Corridor

Wildlife

- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ay

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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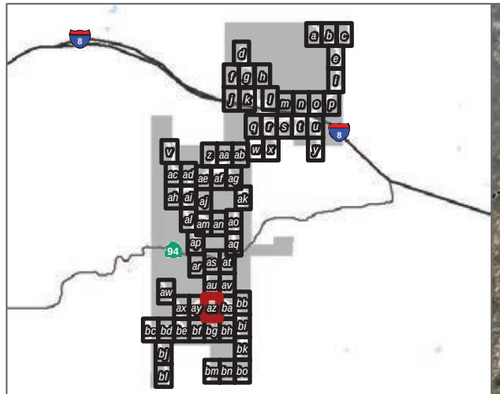

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

CLOW, Coast Live Oak Woodland

CLOWD, Dense Coast Live Oak Woodland

CLOWO, Open Coast Live Oak Woodland

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2az

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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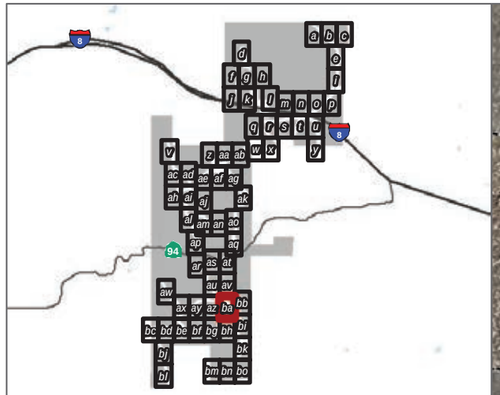

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub

CLOW, Coast Live Oak Woodland

CLOWD, Dense Coast Live Oak Woodland

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

SOC, Scrub Oak Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2ba

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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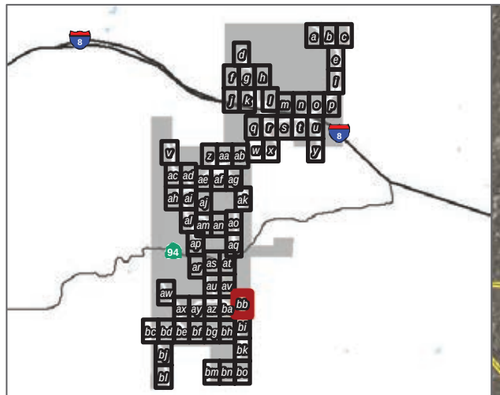

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub

CLOW, Coast Live Oak Woodland

CLOWD, Dense Coast Live Oak Woodland

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

SOC, Scrub Oak Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2bb

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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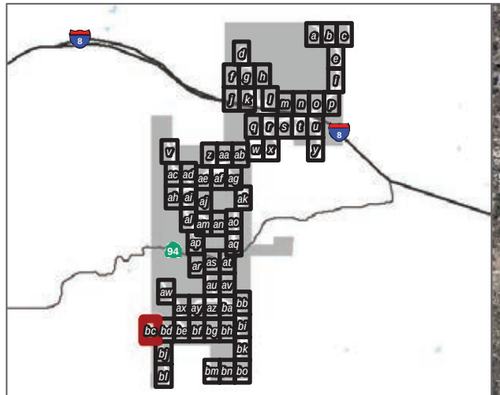

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2bc

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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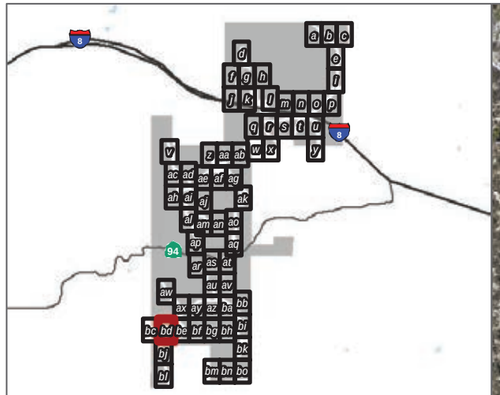

Reservation Boundary
Campo Corridor

Wildlife

B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral
USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

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FIGURE 4-2bd

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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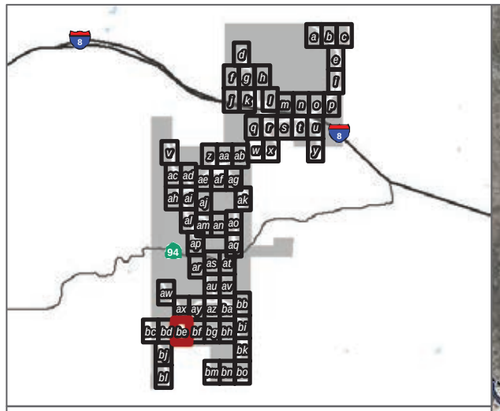

Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

GNMX, Granitic Northern Mixed Chaparral

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

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FIGURE 4-2be

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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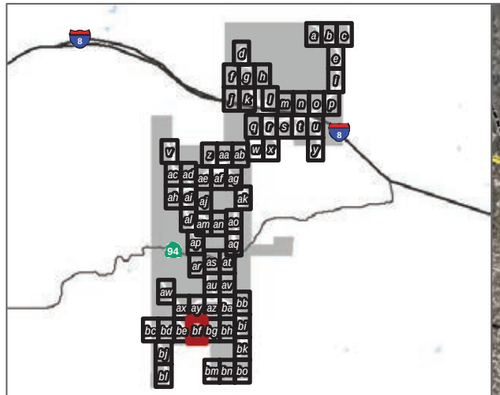

- Reservation Boundary
- Campo Corridor

Wildlife

- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

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FIGURE 4-2bf

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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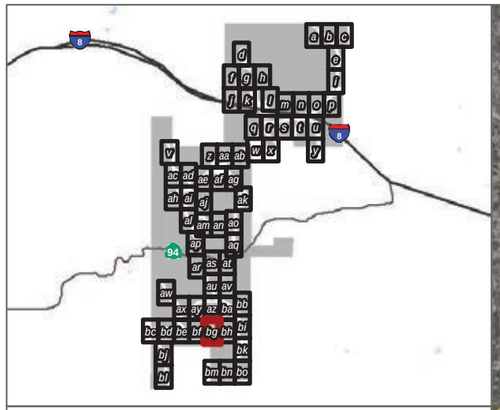

- Reservation Boundary
- Campo Corridor
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

SOURCE: Source: SANGIS 2017

DUDEK

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FIGURE 4-2bg

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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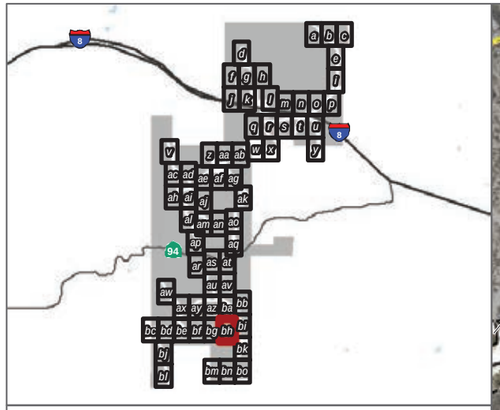

Reservation Boundary
Campo Corridor

Wildlife

B-MERL, Merlin
B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral
SOC, Scrub Oak Chaparral

SOURCE: Source: SANGIS 2017

DUDEK

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FIGURE 4-2bh

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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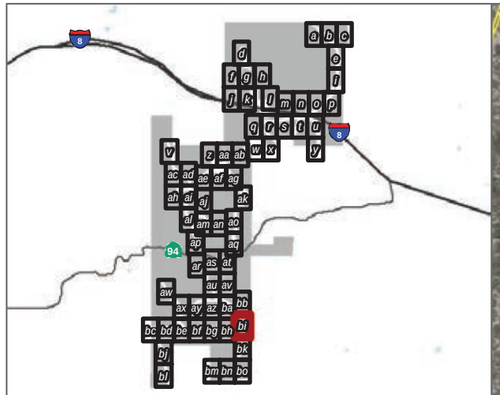

Reservation Boundary

Campo Corridor

Wildlife

B-MERL, Merlin

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

SOC, Scrub Oak Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2bi

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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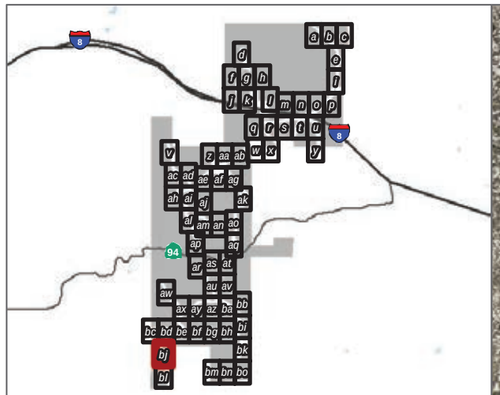

Reservation Boundary

Campo Corridor

Wildlife

B-COHA, Cooper's hawk

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

NVC, Unvegetated Stream Channel

USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2bj

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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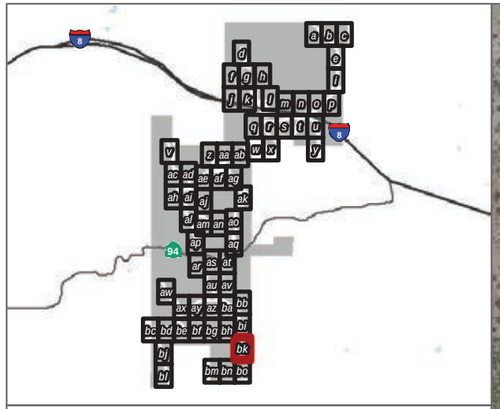

Reservation Boundary

Campo Corridor

Wildlife

B-COHA, Cooper's hawk

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2bk

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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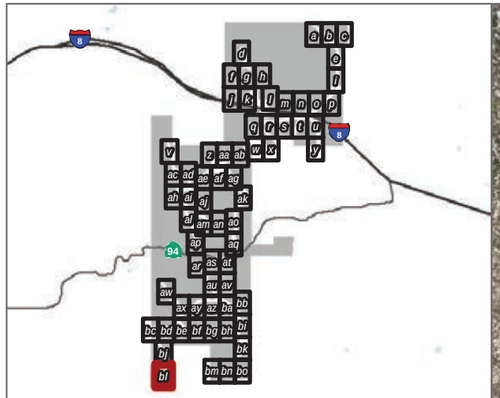


Reservation Boundary

Campo Corridor

Wildlife

B-TUVU, Turkey vulture

Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

DH, Disturbed Habitat

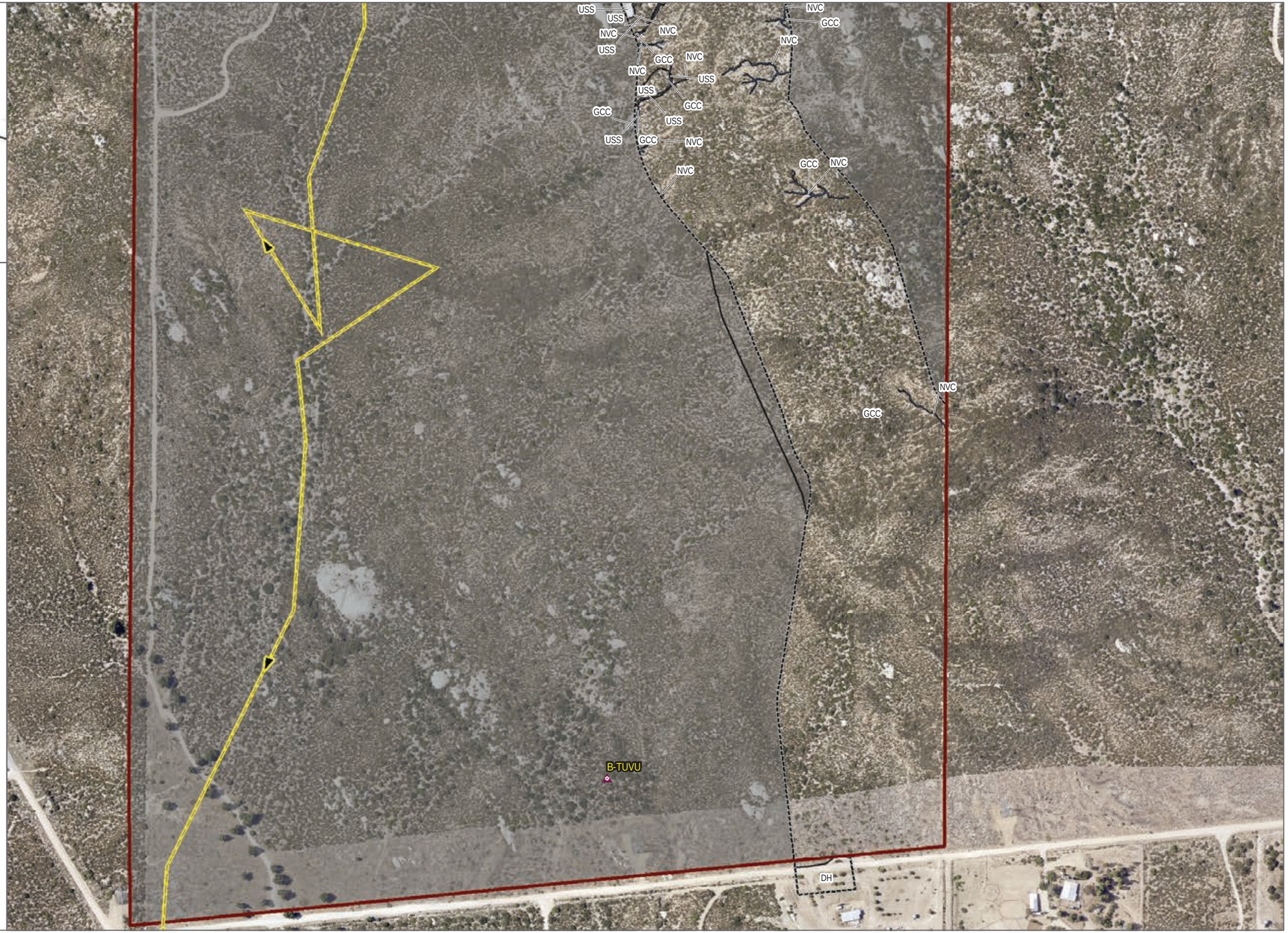
GCC, Granitic Chamise Chaparral

NVC, Unvegetated Stream Channel

USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral



SOURCE: Source: SANGIS 2017

DUDEK

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FIGURE 4-2bI

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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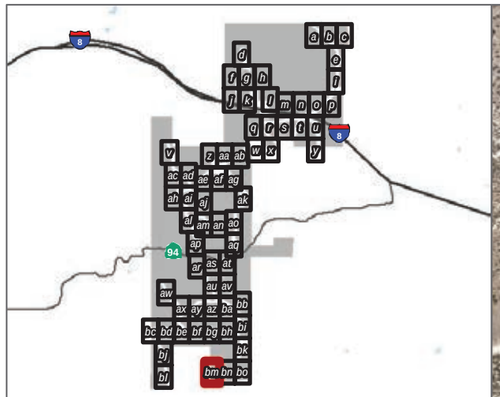

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2bm

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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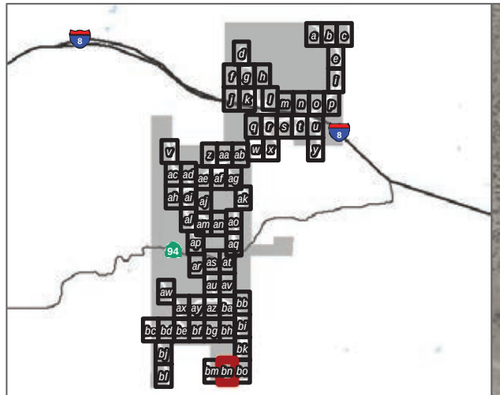

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2bn

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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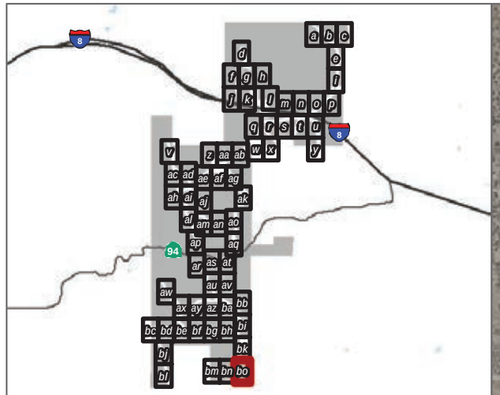

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

DH, Disturbed Habitat

GCC, Granitic Chamise Chaparral

SOURCE: Source: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 4-2bo

Vegetation Communities and Landcovers - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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4.3 Flora Diversity

4.3.1 Boulder Brush Corridor

A total of 321 vascular plant species, consisting of 287 native species (89%), and 34 non-native species (11%), were recorded on site during surveys[1] conducted in 2017, 2018, and 2019 (Attachment D). Fifty-seven families are represented, with nearly half of species coming from the *Asteraceae*, *Boraginaceae*, *Poaceae*, *Polemoniaceae*, *Fabaceae*, and *Brassicaceae* families. Seven special-status plant species were observed within the Boulder Brush Corridor: Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*), Tecate tarplant (*Deinandra floribunda*), sticky geraea (*Geraea viscida*), desert beauty (*Linanthus bellus*), southern jewelflower (*Streptanthus campestris*), and Colorado Desert larkspur (*Delphinium parishii* ssp. *subglobosum*).

4.3.2 Campo Corridor

During surveys conducted by Dudek biologists in 2017 and 2018, 119 vascular plant species, consisting of 96 native species (81%) and 23 non-native species (19%), were recorded on site during vegetation mapping, jurisdictional delineation, and Quino checkerspot surveys. In 2010 and 2011, AECOM performed focused rare plant surveys. An additional 237 vascular plant species were recorded during these previous surveys conducted by AECOM, including an additional 218 native species and 19 non-native species[2]. Fifty-nine families are represented on site, with nearly half of the species coming from the Asteraceae, Boraginaceae, Poaceae, Fabaceae, and Brassicaceae families. No federally listed plant species were observed within the Campo Corridor. A cumulative list of plants species observed during these surveys is provided in the *Campo Wind Project Biological Technical Report* (Appendix H to the Campo EIS).

4.4 Wildlife Diversity

4.4.1 Boulder Brush Corridor

The Boulder Brush Corridor supports habitat for common upland and riparian species. Chaparral, sagebrush scrub, woodland, and riparian habitat within the Boulder Brush Corridor provide foraging and nesting habitat for migratory and resident birds and other wildlife species. Rock

[1] These species were recorded as part of efforts for a prior wind project on the same land, the Torrey Wind project, and the Boulder Brush Facilities project.

[2] Many more plant species were observed during the previous efforts because focused plant surveys were performed in 2010. Focused plant surveys were not performed as part of this current effort.

outcroppings, chaparral, sagebrush scrub, and woodlands within the Boulder Brush Corridor provide cover and foraging opportunities for wildlife species, including reptiles and mammals.

There were 207 species observed in the Boulder Brush Corridor during surveys conducted for the site. Of the total species observed, 27 of these are considered special status, one of which is a federally listed species. Species observed within the Boulder Brush Corridor were recorded during focused surveys, habitat assessments, vegetation mapping, and sensitive plant surveys. A cumulative list of wildlife species observed during these surveys is provided in Attachment E, Wildlife Species Observed. Species richness in the Boulder Brush Corridor is moderate due to the property size, amount of undeveloped land, and the number of native upland habitats. Species richness is generally increased with the presence of more habitat types and ecotones. The Boulder Brush Corridor is dominated by four habitat types: granitic northern mixed chaparral comprises 39%, sagebrush scrub communities comprise 14%, red shank chaparral comprises 16%, and semi-desert chaparral comprises 15% of the Boulder Brush Corridor. Although species richness is moderate, the number of species and the wildlife population levels (i.e., number of individuals) is typical for undeveloped areas in this region, particularly those areas that support multiple upland habitat types. The Boulder Brush Corridor supports numerous special-status wildlife species, which are addressed in Section 4.6, Sensitive Wildlife Species.

Reptiles and Amphibians

Thirteen reptile species were observed within the Boulder Brush Corridor during surveys. Commonly observed reptiles include western fence lizard (*Sceloporus occidentalis*) and common side-blotched lizard (*Uta stansburiana*). One amphibian species, western toad (*Anaxyrus boreas*), was observed within the Boulder Brush Corridor during surveys.

Special-status reptiles observed include San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), and Blainville's horned lizard (*Phrynosoma blainvillii*). No special-status amphibian species were documented within the Boulder Brush Corridor. Special-status species are discussed further in Section 4.6.

Birds

Ninety-nine bird species were observed within the Boulder Brush Corridor. Commonly observed birds included western meadowlark (*Sturnella neglecta*), California scrub-jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), turkey vulture (*Cathartes aura*), wrentit (*Chamaea fasciata*), common raven (*Corvus corax*), greater roadrunner (*Geococcyx californianus*), California towhee

(*Melozone crissalis*), northern mockingbird (*Mimus polyglottos*), ash-throated flycatcher (*Myiarchus cinerascens*), phainopepla (*Phainopepla nitens*), spotted towhee (*Pipilo maculatus*), bushtit (*Psaltriparus minimus*), and Bewick's wren (*Thryomanes bewickii*).

Special-status birds observed included Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk, turkey vulture, loggerhead shrike (*Lanius ludovicianus*), California horned lark (*Eremophila alpestris actia*), golden eagle, northern harrier (*Circus hudsonius*), red-shouldered hawk (*Buteo lineatus*), western bluebird (*Sialia mexicana*), barn owl (*Tyto alba*), merlin (*Falco columbarius*), Bell's sage sparrow, and yellow warbler (*Setophaga petechia*). Special-status species are discussed further in Section 4.6.

Mammals

Nineteen mammal species were detected (directly or indirectly) during biological surveys within and adjacent to the Boulder Brush Corridor. Commonly observed mammals included desert cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), California ground squirrel (*Spermophilus (Otospermophilus) beecheyi*), and coyote (*Canis latrans*).

Special-status mammals observed included San Diego black-tailed jackrabbit (*Lepus californica bennettii*) and mule deer (*Odocoileus hemionus*).

Acoustical bat surveys were conducted in 2011 for the previously Jewell Wind project proposed by a different applicant. The surveys resulted in the detection of 13 bat species within the vicinity of the broadband acoustic detectors, which were located along the eastern edge of the Boulder Brush Boundary. It is assumed that all bat species recorded during the surveys would utilize suitable habitat within the Boulder Brush Corridor for foraging.

To evaluate the levels of activity for bats that could occur in the Boulder Brush Corridor, a comparison of total index of activity (IA), or the magnitude of each species' contribution to spatial use, was prepared for similar habitat from long-term acoustic studies within Clark County, Nevada (O'Farrell 2018). Within the Boulder Brush Corridor, there are no apparent attractant features (e.g., dense riparian habitat, open water). While there are rock outcroppings within and surrounding the Boulder Brush Corridor, these features are not large enough to support large roosting populations of bats. Compared to the Clark County project locations with those attractant features, the bats likely to occur within the Boulder Brush Corridor demonstrated IA values lower than those obtained at locations with attractant features. For example, the IA values at the Virgin River sample area had an IA of 46,583 (O'Farrell 2006a) and the Las Vegas Wash sample area had IA values ranging from 28,594 to 168,428 (O'Farrell 2006b). The Table Mountain sample area was a mid-elevation site on a large mountain plateau with ridgelines and lacked attractant features similar to the Boulder

Brush Corridor; the IA values ranged from 75-345 (O'Farrell 2007). Table 4-2, Acoustic Activity Indices for All Bats Detected in the Vicinity of the Boulder Brush Corridor, provides the bat species observed within the vicinity of the Anabat equipment and their IA. Each of these species is expected to use the site for foraging, while one special-status bat species, western small-footed myotis (*Myotis ciliolabrum*), has a potential to roost within the Boulder Brush Corridor. Compared to areas that have attractant features, the IA for the Boulder Brush Corridor is very low (215-855) and is consistent with other sites that have limited habitat attractants for bats. The Ocotillo Wind and Tule Wind projects, both located within the Project Vicinity, have also conducted bat surveys. The Tule Wind surveys recorded 22 bat species while the Ocotillo Wind surveys recorded 5 species (Gruver et al. 2011 and Ocotillo Express 2012). The IA for these sets of surveys was not included in any reports prepared for those projects.

Table 4-2
Acoustic Activity Indices for All Bats Detected
in the Vicinity of the Boulder Brush Corridor

Common Name	Index of Activity	
	High Microphone	*Low Microphone*
Special-Status Bats		
Pallid bat (*Antrozous pallidus*)	—	6
Townsend's big-eared bat (*Corynorhinus townsendii*)	—	20
Western mastiff bat (*Eumops perotis californicus*)	9	5
Hoary bat (*Lasiurus cinereus*)	9	4
Western yellow bat (*Lasiurus xanthinus*)	—	2
Western small-footed myotis (*Myotis cilioloabrum*)	—	218
Yuma myotis (*Myotis yumanensis*)	1	18
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	98	37
Big free-tailed bat (*Nyctinomops macrotis*)	1	—
Total	118	310
Non-Special-Status Bats		
Big brown bat (*Eptesicus fuscus*)	6	44
California myotis (*Myotis californicus*)	—	19
Canyon bat (*Parastrellus hesperus*)	27	460
Brazilian free-tailed bat (*Tadarida brasiliensis*)	64	22
Total	97	545

Special-status species are discussed further in Section 4.6.

Invertebrates

Sixty-two invertebrate species were observed within the Boulder Brush Corridor during the 2018 and 2019 protocol surveys conducted for Quino checkerspot butterfly. Commonly observed species included painted lady (*Vanessa cardui*), Behr's metalmark (*Apodemia mormo virgulti*), funereal duskywing (*Erynnis funeralis*), checkered white (*Pontia protodice*), and Pacific sara orangetip (*Anthocharis sara sara*). No Quino checkerspot butterfly individuals were observed during the 2018 surveys. No Quino larval host plants were observed within the Quino survey area during the habitat assessment or focused surveys in 2018; however, surveyors did observe some dead *Cordylanthus rigidus* remaining from the previous year's rainfall. Previous surveys conducted in 2011 for the Jewell Valley project, which overlaps partially with the Boulder Brush Corridor, did not result in the detection of any host plants. A total of five Quino checkerspot butterfly individuals were observed along the southeastern side of the Boulder Brush Corridor during the 2019 protocol surveys (see Section 4.6.1).

Fish

No fish species were documented during the numerous surveys (see Table 3-1) conducted within the Boulder Brush Corridor. There are no areas within the Boulder Brush Corridor that would support fish species (i.e., large areas of open water or perennial water sources).

4.4.2 Campo Corridor

There were 181 wildlife species observed in the Campo Corridor during surveys conducted by Dudek during Quino checkerspot butterfly surveys, bird count surveys, eagle surveys, and 2011-2012 bat surveys. In 2010, AECOM conducted Quino checkerspot butterfly surveys, arroyo toad surveys, riparian bird surveys, eagle surveys, and bat surveys. There were 124 additional species observed in the Campo Corridor during these previous surveys conducted by AECOM. Of the 305 total species observed, 83 were butterflies and moths, 16 were reptiles, 3 were amphibians, 171 were avian species, 16 were terrestrial mammal species, and 16 were bat species.[3] A cumulative list of wildlife species observed during these surveys is provided in the *Campo Wind Project Biological Technical Report* (Appendix H to the Campo EIS).

Commonly observed reptiles include western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard (*Uta stansburiana*), and gophersnake (*Pituophis catenifer*).

[3] Bat species recorded within the Campo Corridor were noted during acoustical bat surveys conducted from September 2011 to September 2012.

Commonly observed birds include western meadowlark (*Sturnella neglecta*), California scrub-jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), turkey vulture (*Cathartes aura*), wrentit (*Chamaea fasciata*), common raven (*Corvus corax*), greater roadrunner (*Geococcyx californianus*), California towhee (*Melozone crissalis*), northern mockingbird (*Mimus polyglottos*), ash-throated flycatcher (*Myiarchus cinerascens*), phainopepla (*Phainopepla nitens*), spotted towhee (*Pipilo maculatus*), bushtit (*Psaltriparus minimus*), and Bewick's wren (*Thryomanes bewickii*).

Commonly observed mammals included desert cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), California ground squirrel (*Spermophilus [Otospermophilus] beecheyi*), and coyote (*Canis latrans*).

Commonly observed invertebrate species included painted lady (*Vanessa cardui*), Behr's metalmark (*Apodemia mormo virgulti*), funereal duskywing (*Erynnis funeralis*), checkered white (*Pontia protodice*), and Pacific sara orangetip (*Anthocharis sara sara*).

4.5 Sensitive Plant Species

Endangered, rare, or threatened plant species, as defined in CEQA Guidelines Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status plant species" in this report and include (1) endangered or threatened plant species recognized in the context of CESA and FESA (CDFW 2018b), (2) plant species with a CRPR 1 through 4 (CDFW 2018c; CNPS 2018), and (3) plant species considered "sensitive" by the County (Table 2 in County of San Diego 2010a).

In considering rarity, the CNPS inventory of rare and endangered vascular plants of California was the primary reference (CNPS 2018). Use of the CNPS inventory is helpful because it defines levels of endangerment and rarity for all of the species addressed in the inventory. The CNPS inventory divides its subject taxa into four ranks: CRPR 1 (which is further divided into 1A and 1B), CRPR 2 (which is further divided into 2A and 2B), CRPR 3, and CRPR 4. Plants with a CRPR of 1A are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. Plants with a CRPR of 1B are rare throughout their range, with the majority of them endemic to California. Plants with a CRPR of 2A are presumed extirpated because they have not been observed or documented in California for many years. Except for being common beyond the boundaries of California, plants with a CRPR of 2B would have been ranked 1B. Plants with a CRPR of 3 have not had sufficient information collected to assign them to one of the other ranks or to reject them. Plants with a CRPR of 4 are of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly.

Some of the plants constituting CRPR 4 meet the definitions of CESA of the California Fish and Game Code, and few, if any, are eligible for state listing; this rank is considered to be a watch list. Nevertheless, many of them may be significant locally, and it is recommended that CRPR 4 plants be evaluated for impact significance during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, based on CEQA Guidelines Section 15125(c) and/or 15380. This may be particularly appropriate for the following:

- The type locality of a CRPR 4 plant
- Populations at the periphery of a species' range
- Areas where the taxon is especially uncommon
- Areas where the taxon has sustained heavy losses
- Populations exhibiting unusual morphology or occurring on unusual substrates

In addition to CRPR 1–4 species, plant species listed on County Lists A through D (County of San Diego 2010a) also were included in the consideration of sensitive plant species for this analysis.

4.5.1 Boulder Brush Corridor

Focused plant surveys were conducted in portions of the Boulder Brush Corridor in 2017 and the Boulder Brush Corridor in 2018 to determine the presence or absence of special-status plant species that are considered endangered, rare, or threatened under CEQA Guidelines Section 15380 (14 CCR 15000 et seq.). In June 2019, due to changes in the Boulder Brush Facilities development footprint, 27.1 acres were added to the Boulder Brush Corridor. These areas consist of 12 extended polygons ranging from less than 0.01 acres to 4.6 acres. Although these areas generally support the same type of vegetation communities as previously analyzed, a total of 27.1 acres were not surveyed.

Special-status plant species directly observed during focused surveys or known to occur in the surrounding region are described in Attachment F-1, Special-Status Plant Species Detected or Potentially Occurring in the Boulder Brush Corridor, which describes their known occurrences or potential to occur within the Boulder Brush Corridor based on their general biology (primary habitat associations, life form, blooming period, and known elevation range).

Sensitive plant species directly observed within the Boulder Brush Corridor include the following County List A-D species: Tecate tarplant (*Deinandra floribunda*, List A), Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*, List A), sticky geraea (*Geraea viscida*, List B), desert

beauty *(Linanthus bellus*, List B), southern jewelflower (*Streptanthus campestris*, List A), and Colorado Desert larkspur (*Delphinium parishii* ssp. *subglobosum*, List D).

Payson's jewelflower (*Caulanthus simulans*, List D) has high potential to occur within the Boulder Brush Corridor. Plants that are not expected to occur or have low potential to occur are listed in Attachment G-1, Special-Status Plant Species with Low Potential or Not Expected to Occur in the Boulder Brush Corridor. The Attachments F-1 and G-1 include all County Lists A–D species (County of San Diego 2010a), as well as species recorded in the Live Oak Springs quadrangle and the surrounding eight quadrangles (CDFW 2018a; CNPS 2018; SDNHM 2018; USFWS 2018a). The potential-to-occur determination is based on elevation, habitat, and soils present within the Boulder Brush Corridor, and Dudek biologists' knowledge of biological resources in the area and regional distribution of each species.

County List A and B Species

Plants categorized as County List A species are plants that are rare, threatened, or endangered in California and elsewhere. Plants categorized as County List B are rare, threatened, or endangered in California, but more common elsewhere (County of San Diego 2010a). County List A and B species that have been observed in the Boulder Brush Corridor are described below and included in Attachment F-1. Additional species that have low potential to occur are described in more detail in Attachment G-1. The location of the populations within the Boulder Brush Corridor are described for each species and shown in the Figure 4-1 series.

Tecate Tarplant (*Deinandra floribunda*, List A)

Tecate tarplant is a CRPR List 1B.2 (CNPS 2018) and a County List A species (County of San Diego 2010a). A member of the sunflower (Asteraceae) family, this species blooms from August through October in chaparral and coastal scrub habitats. Tecate tarplant is an annual herb that occurs at elevations of 230 to 4,003 feet amsl. It has been recorded in San Diego County and Baja California, Mexico (CNPS 2018). The Jepson bioregional range for Tecate tarplant is based on the elevation range restrictions, which shows its potential range throughout inland San Diego County, a portion of southern Riverside County, and parts of Orange County. Specimen records are primarily from Jamul to the Boulevard area (Jepson Flora Project 2018). This species is relatively common within dry, ephemeral drainages and washes in upland habitats in this region based on the results of plant surveys in the area. Within the washes where Tecate tarplant occurs a deep sandy alluvium is present which creates limited shrub cover allowing for well adapted species like Tecate tarplant to grow unencumbered. Vegetative competition in these sandy ephemeral drainages is limited (Reiser 2001).

Within the Boulder Brush Corridor, Tecate tarplant occurs only within the ephemeral drainages and in some instances at the top of the ephemeral drainage banks (where overbank flow would occur during heavy rain events). The ephemeral drainages consisted of sandy soils within the Boulder Brush Corridor where Tecate tarplant was present and many times could be classified as a non-vegetated channel. Tecate tarplant was more likely to be present within high gradient incised ephemeral drainages and less likely to be found in the low gradient ephemeral drainages. Within the Boulder Brush Corridor there were approximately 3,059 individuals of Tecate tarplant, based on the survey conducted in 2018. Tecate tarplant occurs in the south central portion of the Boulder Brush Corridor and did not occur in the northernmost sections of the Boulder Brush Corridor. Ephemeral drainages with Tecate tarplant run through a variety of vegetation communities, including big sagebrush scrub, red shank chaparral, montane buckwheat scrub, granitic chamise chaparral, coast live oak woodland, unvegetated stream channel, and disturbed habitat. Tecate tarplant occurs within four larger drainages that flow either to associated willow riparian communities or montane wet meadow communities.

Jacumba Milk-Vetch (*Astragalus douglasii *var.* perstrictus*, List A)

Jacumba milk-vetch is a CRPR List 1B.2 (CNPS 2018) and County List A species (County of San Diego 2010a). This perennial herb in the pea or bean family (Fabaceae) blooms from April through June. It occurs in chaparral, cismontane woodland, pinyon and juniper woodland, riparian scrub, valley and foothill grassland, and rocky communities at elevations of 2,953 to 4,495 feet amsl. It has been recorded in San Diego County and Baja California, Mexico (CNPS 2018). The Jepson bioregional range for Jacumba milk-vetch is based on the elevation range restrictions, which shows its potential range along the foothills of the Peninsular Ranges, San Jacinto Mountain, and Santa Ana Mountain (Jepson Flora Project 2018). Specimen records include Boulevard, Jacumba, La Posta, Tierra del Sol, Live Oak Springs, Kitchen Creek, and Julian (Jepson Flora Project 2018). La Posta loams are one soil type used by Jacumba milk-vetch (Reiser 2001). Jacumba milk-vetch is associated with chamise, sticky geraea and mountain mahogany (Reiser 2001). Jacumba milk-vetch is relatively common in upland habitats and roadsides in this region based on the results of plant surveys in the area.

Within the Boulder Brush Corridor, numerous occurrences of Jacumba milk-vetch were observed. Jacumba milk-vetch thrives where soils have been noticeably disturbed. Top soils are no longer intact where the largest populations of Jacumba milk-vetch occur. Some descriptions of the habitat where Jacumba milk-vetch is most likely to occur within the Boulder Brush Corridor include general disturbed habitat where numerous annual weeds occur (i.e., cheatgrass fields), disturbed pastures containing numerous animals tracks (i.e., historical lands grazed likely by cattle), old dirt roads no longer in use, currently disturbed areas with numerous vehicle tracks, motorcycle trails, off-road-

vehicle trails, in open areas where soils have been moved, on old road turnarounds, areas of disturbed washes and within openings of vegetation where soils are less disturbed. Within the Boulder Brush Corridor there were approximately 255 individuals of Jacumba milk-vetch, based on the survey conducted in 2018. Jacumba milk-vetch populations were scattered throughout the entire Boulder Brush Corridor. These populations occur within nine of the vegetation communities: big sagebrush scrub, semi-desert chaparral, red shank chaparral, montane buckwheat scrub, coast live oak woodland, disturbed habitat, granitic northern mixed chaparral, wildflower fields, and unvegetated stream channel. The largest populations of Jacumba milk-vetch within the Boulder Brush Corridor occur within wildflower field, disturbed habitat and coast live oak woodland.

Sticky Geraea (*Geraea viscida*, List B)

Sticky geraea is a CRPR List 2.3 (CNPS 2018) and a County List B species (County of San Diego 2010a). A member of the sunflower (Asteraceae) family, this perennial herbaceous species has rayless flowers and blooms from May through June in chaparral habitats. Sticky geraea occurs at elevations from 1,476 to 5,557 feet amsl (CNPS 2018). It has been recorded in San Diego County, Imperial County, and Baja California, Mexico (CNPS 2018). The Jepson bioregional range for sticky geraea is based on the elevation range restrictions, which shows its potential range throughout inland San Diego County, a portion of southern Riverside County, and parts of Orange County. Specimen records are primarily from Campo to the Ocotillo area (Jepson Flora Project 2018). This species is relatively common within openings in upland habitats in this region based on the results of plant surveys in the area. High desert chaparral openings are the preferred habitat for this short-lived herbaceous perennial and fires promote reproduction. Sticky geraea is associated with tollhouse rocky coarse sandy loam (Reiser 2001). Sticky geraea is found to be associated with Jacumba milk-vetch, white daisy tidytips (*Layia glandulosa*) and desert beauty (*Linanthus bellus*) (Reiser 2001).

Within the Boulder Brush Corridor, sticky geraea occurs within exposed sandy openings. Top soils are intact where sticky geraea occurs. Sandy, xeric soils, which was found within the Boulder Brush Corridor, are frequently used by sticky geraea (Reiser 2001). Within the Boulder Brush Corridor, Jacumba milk-vetch, white daisy tidytips and desert beauty are associates. Within the Boulder Brush Corridor there were approximately 673 individuals of sticky geraea, based on the survey conducted in 2018. Sticky geraea is found throughout the Boulder Brush Corridor, but is most abundant within central portions of the Boulder Brush Corridor. Populations of sticky geraea occur within seven of the vegetation communities: big sagebrush scrub, red shank chaparral, montane buckwheat scrub, coast live oak woodland, granitic northern mixed chaparral, semi-desert chaparral, and disturbed habitat. The largest populations of sticky geraea within the Boulder Brush Corridor occur within red shank chaparral.

Desert Beauty (*Linanthus bellus*, List B)

Desert beauty is a CRPR List 2.3 (CNPS 2018) and a County List B species (County of San Diego 2010a). A member of the phlox (Polemoniaceae) family, this annual herb blooms from April through May in chaparral habitats typical of the high desert region (Reiser 2001). This species typically occurs at elevations of 3,281 to 5,493 feet amsl. It has been recorded in San Diego County and Baja California, Mexico (CNPS 2018). The Jepson bioregional range for desert beauty is based on the elevation range restrictions, which shows its potential range along the foothills of the Peninsular Ranges, San Jacinto Mountain, and Santa Ana Mountain (Jepson Flora Project 2018). Specimen records are primarily from the Boulevard and McCain Valley areas, with a couple of records also north of Warner Springs, Tierra del Sol, and Jacumba (Jepson Flora Project 2018). This species is relatively common within openings in upland habitats in this region based on the results of plant surveys in the area. Desert beauty uses Mottsville loamy coarse sand. Desert beauty is typically associated with sticky geraea and variable linanthus (*Leptosiphon parviflorus*) and coastal gilia (*Gilia diegensis*) (Reiser 2001).

Within the Boulder Brush Corridor, broad sandy openings within upland habitat are the typical habitat of desert beauty. Desert beauty is associated with sticky geraea and viable linanthus. Trails, roads, off road vehicle routes and other disturbed soils lack desert beauty populations within the Boulder Brush Corridor. Top soils are undisturbed where desert beauty is found. Within the Boulder Brush Corridor there were approximately 1,400 individuals of desert beauty, based on the survey conducted in 2018. Desert beauty occurs more frequently within the central portion of the Boulder Brush Corridor. Populations of desert beauty occur within three vegetation communities: red shank chaparral, montane buckwheat scrub, and granitic northern mixed chaparral. The largest populations of desert beauty in the Boulder Brush Corridor occur within red shank chaparral.

Southern Jewelflower (*Streptanthus campestris*, List A)

Southern jewelflower is a CRPR List 1B.3 (CNPS 2018) and a County List A species (County of San Diego 2010a). A member of the mustard (Brassicaceae) family, this tall annual herb blooms from May through June in chaparral, yellow pine forest, and pinyon-juniper woodland habitats. It is most likely to occur within the high desert region (Reiser 2001). Near Boulevard, southern jewelflower is found within large boulder fields with partial shade typically from junipers and in Miller Valley, chamise chaparral is the more typical habitat of southern jewelflower (Reiser 2001). Southern jewelflower has been documented from Julian, California, to In-Koh-Pah Mountains, California (Reiser 2001). Tollhouse rocky coarse sandy loam is the typical soil type of southern jewelflower (Reiser 2001). This species typically occurs at elevations of 2,900 feet to 7,500 feet amsl. Cleveland's beardtougue (*Penstemon clevelandii*) is a likely associate of southern jewelflower.

Within the Boulder Brush Corridor, shaded habitats are the typical habitat of southern jewelflower. Southern jewelflower occurs within sandy loam soils around both chamise plants and redshank plants. Areas with southern jewelflower are undisturbed and top soils are intact. Within the Boulder Brush Corridor there were approximately 30 individuals of southern jewelflower, based on the survey conducted in 2018. Southern jewelflower occurs more frequently within the central portion and northern portions of the Boulder Brush Corridor. Populations of southern jewelflower occur within four of the vegetation communities: red shank chaparral, granitic northern mixed chaparral, unvegetated stream channel, and disturbed habitat. The largest populations of southern jewelflower occur within redshank chaparral.

County List C and D Species

Plants categorized as County List C species are plants that may be rare but more information is needed to determine their true rarity status. Plants categorized as County List D are of limited distribution and are uncommon, but are not presently rare or endangered (County of San Diego 2010a). Two County List D species were observed in the Boulder Brush Corridor. There are no County List C and D species that have high potential to occur.

Payson's Jewelflower (*Caulanthus simulans*, List D)

Payson's jewelflower is a CRPR 4.2 (CNPS 2018) and a County List D species (County of San Diego 2010a). A member of the mustard (Brassicaceae) family, this annual herb blooms from March through June in chaparral and coastal sage scrub. Payson's jewelflower has also been documented in Juniper woodland and pinyon pine (Reiser 2001). Payson's jewelflower has been documented from Julian, California, to Jacumba Hotsprings, California (SDNHM 2018). Reports of Payson's jewelflower have been documented from McCain Valley, Jacumba and Campo. Payson's jewelflower is found on sheephead rocky fine sandy loam (Reiser 2001). Payson's jewelflower is associated with California juniper (*Juniperus californica*), Desert apricot (*Prunus fremontii*), and hairy lotus (*Acmispon strigosus*). This species typically occurs at elevations of 1,300 feet to 7,200 feet amsl. It has been recorded in San Diego County.

Payson's jewelflower was observed north of the Boulder Brush Corridor during 2019 Quino checkerspot butterfly surveys. It was not observed during 2017 or 2018 rare plant surveys, despite being in full bloom at the start of February 2018 within nearby Campo, California (based on personal communication with botanists (Mulligan 2018)). The Boulder Brush Corridor consists of quality habitat for Payson's jewelflower and is within the distribution of this species. Based on this information and the typical distribution of Payson's jewelflower, it has high potential to occur in suitable habitat but was not documented in 2017 or 2018 due to timing of rare plant surveys and

perhaps lower rainfall. Given that Payson's jewelflower is a CRPR 4.2 (CNPS 2018) and a County List D species (County of San Diego 2010a), impacts to this species would not be significant.

Colorado Desert Larkspur (*Delphinium parishii *ssp.* subglobosum*, List D)

Colorado Desert larkspur is a CRPR 4.3 (CNPS 2018) and a County List D species (County of San Diego 2010a). A member of the buttercup (Ranunculaceae) family, this perennial herb blooms from March through April in creosote bush scrub, chaparral and pinyon-juniper woodland. According to Reiser, open Sonoran desert scrub is the most favorable habitat for Colorado Desert larkspur. Colorado Desert larkspur is found within both high and low desert plant communities but favorable to partially shaded locations (Reiser 2001). Historical records of Colorado Desert larkspur document populations within McCain Valley and Lost Valley (near Boulevard, California) but numerous populations are found within the desert (Reiser 2001). Colorado Desert larkspur is associated with Pectocarya species, Arizona lupine (*Lupinus arizonicus*) and California barrel cactus (*Ferocactus cylindraceus*) (Reiser 2001). This species typically occurs at elevations of 1,900 feet to 4,200 feet amsl.

Within the Boulder Brush Corridor, Colorado Desert larkspur is associated with buckwheat species and documented growing within or near the buckwheat shrubs in many cases. The Boulder Brush Corridor consists of a mixture of desert and high desert areas which Colorado Desert larkspur is successful within. Buckwheat within the Boulder Brush Corridor may provide shade needed for Colorado Desert larkspur germination or overall growth. Colorado Desert larkspur was also documented near numerous Pectocarya plants as cited by Reiser 2001. Areas with Colorado Desert larkspur are undisturbed and topsoils are intact. Within the Boulder Brush Corridor there were approximately 82 individuals of southern Colorado Desert larkspur, based on the survey conducted in 2018. Colorado Desert larkspur occurs more frequently within the southwestern sections of the Boulder Brush Corridor. Colorado Desert larkspur occur within six of the vegetation communities: montane buckwheat scrub, coast live oak woodland, semi-desert chaparral, granitic northern mixed chaparral, red shank chaparral, and disturbed habitat. The largest populations of Colorado Desert larkspur were within montane buckwheat scrub.

4.5.2 Campo Corridor

Based on habitat assessments, no federally listed plant species have the potential to occur in the Campo Corridor. Focused surveys for plants were conducted by AECOM on an overlapping project site in spring and fall of 2010 and spring 2011 (AECOM 2012). Special-status plant species directly observed during focused surveys or known to occur in the surrounding region are described in Attachment F-2, Special-Status Plant Species Detected or Potentially Occurring in the

Campo Corridor, which describes their known occurrences or potential to occur within the Campo Corridor based on their general biology (primary habitat associations, life form, blooming period, and known elevation range).

Sensitive plant species directly observed within the Campo Corridor for the Shu'luuk Wind project include the following County List A-D species: Tecate cypress (*Hesperocyparis forbesii*, List A), Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*, List A), sticky geraea (*Geraea viscida*, List B), southern jewelflower (*Streptanthus campestris*, List A), Payson's jewelflower (List D), Peninsular spineflower (*Chorizanthe leptotheca*, List D), Colorado desert larkspur (*Delphinium parishii* ssp. *subglobosum*, List D), and pride-of-California (*Lathyrus splendens*, List D).

Additional plant species with a moderate to high potential to occur are listed in Attachment F-2 and described below. Plants that are not expected to occur or have low potential to occur are listed in Attachment G-2, Special-Status Plant Species with Low Potential or Not Expected to Occur in the Campo Corridor. Attachments F-2 and G-2 include all County Lists A–D species (County of San Diego 2010a), as well as species recorded in the Live Oak Springs, Cameron Corners, Campo, and Tierra Del Sol quadrangles and the surrounding quadrangles (CDFW 2018a; CNPS 2018; USFWS 2018a). The potential-to-occur determination is based on elevation, habitat, and soils present within the Campo Corridor, and Dudek biologists' knowledge of biological resources in the area and regional distribution of each species.

County List A and B Species

Plants categorized as County List A species are plants that are rare, threatened, or endangered in California and elsewhere. Plants categorized as County List B are rare, threatened, or endangered in California, but more common elsewhere (County of San Diego 2010a). County List A and B species that have been observed during surveys for an overlapping project in 2010 and 2011 (AECOM 2012) are described below and included in Attachment F-2. Species with a moderate or high potential to occur are also discussed below. Additional species that are not expected to occur or have low potential to occur are described in more detail in Attachment G-2. Location information for the species observed during surveys in 2010 and 2011 is not available because AECOM did not map non-federally listed species (AECOM 2012).

Jacumba Milk-Vetch (*Astragalus douglasii *var.* perstrictus*, List A)

Jacumba milk-vetch is a CRPR List 1B.2 (CNPS 2018) and County List A species (County of San Diego 2010a). This perennial herb in the pea or bean family (Fabaceae) blooms from April through June. It occurs in chaparral, cismontane woodland, pinyon and juniper woodland, riparian scrub,

valley and foothill grassland, and rocky communities at elevations of 2,953 to 4,495 feet amsl. It has been recorded in San Diego County and Baja California, Mexico (CNPS 2018). The Jepson bioregional range for Jacumba milk-vetch is based on the elevation range restrictions, which shows its potential range along the foothills of the Peninsular Ranges, San Jacinto Mountain, and Santa Ana Mountain (Jepson Flora Project 2018). Specimen records include Boulevard, Jacumba, La Posta, Tierra del Sol, Live Oak Springs, Kitchen Creek, and Julian (Jepson Flora Project 2018). La Posta loams are one soil type used by Jacumba milk-vetch (Reiser 2001). Jacumba milk-vetch is associated with chamise, sticky geraea and mountain mahogany (Reiser 2001). Jacumba milk-vetch is relatively common in upland habitats and roadsides in this region based on the results of plant surveys in the area.

Jacumba milk-vetch was observed during surveys conducted in spring and fall of 2010 and spring 2011 for the Shu'luuk Wind project (AECOM 2012), which is located in the same general area as the Campo Corridor on the Reservation.

Tecate Tarplant (*Deinandra floribunda*, List A)

Tecate tarplant is a CRPR List 1B.2 (CNPS 2018) and a County List A species (County of San Diego 2010a). A member of the sunflower (Asteraceae) family, this species blooms from August through October in chaparral and coastal scrub habitats. Tecate tarplant is an annual herb that occurs at elevations of 230 to 4,003 feet amsl. It has been recorded in San Diego County and Baja California, Mexico (CNPS 2018). The Jepson bioregional range for Tecate tarplant is based on the elevation range restrictions, which shows its potential range throughout inland San Diego County, a portion of southern Riverside County, and parts of Orange County. Specimen records are primarily from Jamul to the Boulevard area (Jepson Flora Project 2018). This species is relatively common within dry, ephemeral drainages and washes in upland habitats in this region based on the results of plant surveys in the area. Within the washes where Tecate tarplant occurs a deep sandy alluvium is present which creates limited shrub cover allowing for well adapted species like Tecate tarplant to grow unencumbered. Vegetative competition in these sandy ephemeral drainages is limited (Reiser 2001).

While Tecate tarplant was not observed during focused surveys conducted for the Shu'luuk Wind project, it has a high potential to occur within the Campo Corridor, because suitable habitat occurs on site.

Tecate Cypress (*Hesperocyparis forbesii*, List A)

Tecate cypress is a CRPR List 1B.1 (CNPS 2018) and County List A species (County of San Diego 2010a). This perennial evergreen tree occurs in closed-cone coniferous forest and chaparral communities with clay, gabbroic, or metavolcanic substrates at elevations of 206 to 4,920 feet amsl. It has been recorded in Orange, Riverside, and San Diego counties as well as Baja California, Mexico (CNPS 2018).

Tecate cypress was observed during surveys conducted in spring and fall of 2010 and spring 2011 for the Shu'luuk Wind project (AECOM 2012), which is located in the same general area as the Campo Corridor.

Sticky Geraea (*Geraea viscida*, List B)

Sticky geraea is a CRPR List 2.3 (CNPS 2018) and a County List B species (County of San Diego 2010a). A member of the sunflower (Asteraceae) family, this perennial herbaceous species has rayless flowers and blooms from May through June in chaparral habitats. Sticky geraea occurs at elevations from 1,476 to 5,557 feet amsl (CNPS 2018). It has been recorded in San Diego County, Imperial County, and Baja California, Mexico (CNPS 2018). The Jepson bioregional range for sticky geraea is based on the elevation range restrictions, which shows its potential range throughout inland San Diego County, a portion of southern Riverside County, and parts of Orange County. Specimen records are primarily from Campo to the Ocotillo area (Jepson Flora Project 2018). This species is relatively common within openings in upland habitats in this region based on the results of plant surveys in the area. High desert chaparral openings are the preferred habitat for this short-lived herbaceous perennial and fires promote reproduction. Sticky geraea is associated with tollhouse rocky coarse sandy loam (Reiser 2001). Sticky geraea is found to be associated with Jacumba milk-vetch, white daisy tidytips (*Layia glandulosa*) and desert beauty (*Linanthus bellus*) (Reiser 2001).

Sticky geraea was observed during surveys conducted in spring and fall of 2010 and spring 2011 for the Shu'luuk Wind project (AECOM 2012), which is located in the same general area as the Campo Corridor.

Desert Beauty (*Linanthus bellus*, List B)

Desert beauty is a CRPR List 2.3 (CNPS 2018) and a County List B species (County of San Diego 2010a). A member of the phlox (Polemoniaceae) family, this annual herb blooms from April through May in chaparral habitats typical of the high desert region (Reiser 2001). This species typically occurs at elevations of 3,281 to 5,493 feet amsl. It has been recorded in San Diego County

and Baja California, Mexico (CNPS 2018). The Jepson bioregional range for desert beauty is based on the elevation range restrictions, which shows its potential range along the foothills of the Peninsular Ranges, San Jacinto Mountain, and Santa Ana Mountain (Jepson Flora Project 2018). Specimen records are primarily from the Boulevard and McCain Valley areas, with a couple of records also north of Warner Springs, Tierra del Sol, and Jacumba (Jepson Flora Project 2018). This species is relatively common within openings in upland habitats in this region based on the results of plant surveys in the area. Desert beauty uses Mottsville loamy coarse sand. Desert beauty is typically associated with sticky geraea and variable linanthus (*Leptosiphon parviflorus*) and coastal gilia (*Gilia diegensis*) (Reiser 2001).

While Desert beauty was not observed during focused surveys conducted for the Shu'luuk Wind project, it has a high potential to occur within the Campo Corridor, because suitable habitat occurs on site.

Southern Jewelflower (*Streptanthus campestris*, List A)

Southern jewelflower is a CRPR List 1B.3 (CNPS 2018) and a County List A species (County of San Diego 2010a). A member of the mustard (Brassicaceae) family, this tall annual herb blooms from May through June in chaparral, yellow pine forest, and pinyon-juniper woodland habitats. It is most likely to occur within the high desert region (Reiser 2001). Near Boulevard, southern jewelflower is found within large boulder fields with partial shade typically from junipers and in Miller Valley, chamise chaparral is the more typical habitat of southern jewelflower (Reiser 2001). Southern jewelflower has been documented from Julian, California, to In-Koh-Pah Mountains, California (Reiser 2001). Tollhouse rocky coarse sandy loam is the typical soil type of southern jewelflower (Reiser 2001). This species typically occurs at elevations of 2,900 feet to 7,500 feet amsl. Cleveland's beardtougue (*Penstemon clevelandii*) is a likely associate of southern jewelflower.

Southern jewelflower was observed during surveys conducted in spring and fall of 2010 and spring 2011 for the Shu'luuk Wind project (AECOM 2012), which is located in the same general area as the Campo Corridor.

County List C and D Species

Plants categorized as County List C species are plants that may be rare but more information is needed to determine their true rarity status. Plants categorized as County List D are of limited distribution and are uncommon, but are not presently rare or endangered (County of San Diego 2010a). Four County List D species were observed during surveys conducted in spring and fall of 2010 and spring 2011 for the Shu'luuk Wind project and are described below.

Colorado Desert Larkspur (*Delphinium parishii *ssp.* subglobosum*, List D)

Colorado Desert larkspur is a CRPR 4.3 (CNPS 2018) and a County List D species (County of San Diego 2010a). A member of the buttercup (Ranunculaceae) family, this perennial herb blooms from March through April in creosote bush scrub, chaparral and pinyon-juniper woodland. According to Reiser, open Sonoran desert scrub is the most favorable habitat for Colorado Desert larkspur. Colorado Desert larkspur is found within both high and low desert plant communities but favorable to partially shaded locations (Reiser 2001). Historical records of Colorado Desert larkspur document populations within McCain Valley and Lost Valley (near Boulevard, California) but numerous populations are found within the desert (Reiser 2001). Colorado Desert larkspur is associated with Pectocarya species, Arizona lupine (*Lupinus arizonicus*) and California barrel cactus (*Ferocactus cylindraceus*) (Reiser 2001). This species typically occurs at elevations of 1,900 feet to 4,200 feet amsl.

Colorado Desert larkspur was observed during surveys conducted in spring and fall of 2010 and spring 2011 for the Shu'luuk Wind project (AECOM 2012), which is located in the same general area as the Campo Corridor.

Payson's Jewelflower (*Caulanthus simulans*, List D)

Payson's jewelflower is a CRPR 4.2 (CNPS 2018) and a County List D species (County of San Diego 2010a). A member of the mustard (Brassicaceae) family, this annual herb blooms from March through June in chaparral and coastal sage scrub. Payson's jewelflower has also been documented in Juniper woodland and pinyon pine (Reiser 2001). Payson's jewelflower has been documented from Julian, California, to Jacumba Hotsprings, California (SDNHM 2018). Reports of Payson's jewelflower have been documented from McCain Valley, Jacumba and Campo. Payson's jewelflower is found on sheephead rocky fine sandy loam (Reiser 2001). Payson's jewelflower is associated with California juniper (*Juniperus californica*), Desert apricot (*Prunus fremontii*), and hairy lotus (*Acmispon strigosus*). This species typically occurs at elevations of 1,300 feet to 7,200 feet amsl. It has been recorded in San Diego County.

Payson's jewelflower was observed during surveys conducted in spring and fall of 2010 and spring 2011 for the Shu'luuk Wind project (AECOM 2012), which is located in the same general area as the Campo Corridor.

Peninsular spineflower (*Chorizanthe leptotheca*, List D)

Peninsular spineflower is a CRPR 4.2 (CNPS 2018) and a County List D species (County of San Diego 2010a). A member of the buckwheat (Polygonaceae) family, this annual herb blooms from

May through August in chaparral, coastal scrub, and lower montane coniferous forest vegetation communities. It occurs associated with alluvial fans or on granitic substrates. Peninsular spineflower has been documented from Otay east to Campo and north to Palomar Mountain area (SDNHM 2018). Peninsular spineflower may be associated with California cottonrose (*Logfia filaginoides*), hooked pincushionplant (*Navarretia hamata*), and sapphire woollystar (*Eriastrum sapphirinum*) (Reiser 2001). This species typically occurs at elevations of 980 feet to 6,235 feet amsl. It has been recorded in Riverside, San Bernardino, and San Diego counties, as well as Baja California, Mexico (CNPS 2018).

Peninsular spineflower was observed during surveys conducted in spring and fall of 2010 and spring 2011 for the Shu'luuk Wind project (AECOM 2012), which is located in the same general area as the Campo Corridor.

Pride-of-California (*Lathyrus splendens*, List D)

Pride-of-California is a CRPR 4.3 (CNPS 2018) and a County List D species (County of San Diego 2010a). A member of the legume family (Fabaceae), this climbing perennial herb blooms from March through June in chaparral habitats, typically those dominated by chamise (Reiser 2001; CNPS 2018). This species is only known from San Diego County and Baja California, Mexico (CNPS 2018). This climbing species with tendrils is generally found growing through woody shrubs (Reiser 2001). Pride-of-California has been documented from Jamul to Boulevard, California in southern San Diego County (SDNHM 2018). This species typically occurs at elevations of 655 feet to 5,005 feet amsl (CNPS 2018). Black sage (*Salvia mellifera*), ladies' tobacco (*Pseudognaphalium californicum*), and Peninsular spineflower are likely associates of pride-of-California (Reiser 2001).

Pride-of-California was observed during surveys conducted in spring and fall of 2010 and spring 2011 for the Shu'luuk Wind project (AECOM 2012), which is located in the same general area as the Campo Corridor.

4.6 Sensitive Wildlife Species

The County divides sensitive wildlife species into County Group 1 and County Group 2 based on the species' rarity and known threats (County of San Diego 2010a). County Group 1 species include those that have a high level of sensitivity, are listed as threatened or endangered, or have a natural history requirement that increases their sensitivity. County Group 2 species include those that are becoming less common, although not so rare that extinction is imminent without immediate action. CDFW assigns status to species whose population levels are declining, have limited ranges, and/or are vulnerable to extinction due to continuing threats (CDFW 2018b). In addition, Fully Protected

species are protected by CDFW, and Watch List (WL) species are candidates for higher sensitivity status. USFWS provides the Birds of Conservation Concern (BCC) status to migratory and non-migratory bird species that adhere to the 1988 amendment to the Fish and Wildlife Conservation Act that mandates USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973" (USFWS 2008).

County Group 1 and/or Species of Special Concern (SSC), as well as County Group 2 species that have been observed in the Boulder Brush Corridor, or those that have a high potential to occur, are also discussed in this section and included in Attachment H-1, Special-Status Wildlife Species Detected or Potentially Occurring in the Boulder Brush Corridor and Attachment H-2, Special-Status Wildlife Species Detected or Potentially Occurring in the Campo Corridor. Additional species that have moderate potential to occur are also described in more detail in Attachments H-1 and H-2. Species that have been observed or have potential to occur, but not during the life history phase that is considered "special-status" (e.g., roosting or nesting), are described in Attachment I-1, Special-Status Wildlife Species Not Expected or Low Potential to Occur in the Boulder Brush Corridor and Attachment I-2, Special-Status Wildlife Species Not Expected or Low Potential to Occur in the Campo Corridor. For example, certain bat species may have potential to forage in the Boulder Brush Corridor or Campo Corridor, but would not roost, due to lack of roosting structures.

4.6.1 Boulder Brush Corridor

The following special-status wildlife species were observed within or adjacent to the Boulder Brush Corridor during surveys conducted in 2011, 2012, 2017, 2018 and/or 2019: turkey vulture, loggerhead shrike, golden eagle, California horned lark, San Diego black-tailed jackrabbit, Cooper's hawk, sharp-shinned hawk, northern harrier, red-shouldered hawk, western bluebird (*Sialia mexicana*), yellow warbler, barn owl, Bell's sage sparrow, mule deer, San Diegan tiger whiptail, Blainville's horned lizard, and Quino checkerspot butterfly. One merlin was observed flying over the site in October 2018.

Special-status wildlife species with a high potential to occur within the Boulder Brush Corridor include Coronado skink (*Plestiodon skiltonianus interparietalis*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), San Diego ringneck snake (*Diadophis punctatus similis*), rosy boa (*Lichanura trivirgata*), San Diego banded gecko (*Coleonyx variegatus abbotti*), San Diego

desert woodrat (*Neotoma lepida intermedia*[4]), cougar (*Puma concolor*), western small-footed myotis (*Myotis ciliolabrum*; roosting potential), and Peninsular metalmark (*Apodemia virgulti peninsularis*) (Attachment H-1).

The Project Site does not overlap within any critical habitat for plant or wildlife species (Figure 2-1, USFWS Critical Habitat). The Project Site is located approximately 2.1 miles west of designated critical habitat for Peninsular bighorn sheep.

4.6.1.1 County Group 1 Species and/or Species of Special Concern

County Group 1 species and/or a SSC that have been observed in the Boulder Brush Corridor or have high potential to occur are described below, and are included in Attachment H-1. Additional species that have moderate potential to occur are described in more detail in Attachment H-1. One federally listed species was observed within the Boulder Brush Corridor: Quino checkerspot butterfly. No state-listed species were observed or have potential to occur within the Boulder Brush Corridor.

Amphibians and Reptiles

San Diegan Tiger Whiptail (*Aspidoscelis tigris stejnegeri*), SSC/County Group 2

San Diegan tiger whiptail is a SSC and County Group 2 species. It is found in coastal Southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges, north into Ventura County, and south into Baja California, Mexico (Lowe et al. 1970; Stebbins 2003).

Tiger whiptail (*A. tigris*) is found in a variety of habitats, primarily in areas where plants are sparse and there are open areas for running. According to Stebbins (2003), the species range occurs from deserts to montane pine forests, where the species prefers warmer and drier areas. The species is also found in woodland and streamside growth, and it avoids dense grassland and thick shrub growth.

San Diegan tiger whiptail was observed several times during surveys in 2018 and 2019.

San Diego Banded Gecko (*Coleonyx variegatus abbotti*), SSC/County Group 1

San Diego banded gecko is a SSC and County Group 1 species. San Diego banded gecko is only recorded in Riverside, San Diego, and San Bernardino Counties in California (CDFW 2018a). San

[4] The San Diego Mammal Atlas (Tremor et al. 2017) describes this species as N. bryanti, a distinct species from N. lepida, with N. bryanti occurring in Baja and Southern California west of Imperial and Coachella Valley. However, wildlife agencies still refer to this species as N. l. intermedia and, therefore, this name is used for this analysis.

Diego banded gecko is active at night and hides in burrows during daylight (Nafis 2016). The typical breeding season for San Diego banded gecko occurs during April and May, and hibernation is generally November through February (Nafis 2016). General habitat for this species includes coastal scrub and chaparral, and this species is typically found in granite or rocky outcrops (CDFW 2018a).

This species has high potential to occur within the Boulder Brush Corridor. Suitable habitat within the Boulder Brush Corridor includes chaparral (granitic northern mixed chaparral, granitic chamise chaparral, red shank chaparral, and semi-desert chaparral), and sage scrub (montane buckwheat scrub and big sagebrush scrub).

Blainville's Horned Lizard (*Phrynosoma blainvillii*), SSC/County Group 2

Blainville's horned lizard (previously coast horned lizard) is a SSC, and County Group 2 species. It is found from the Sierra Nevada foothills and central California to coastal Southern California. It is often associated with coastal sage scrub, especially areas of level to gently sloping ground with well-drained loose or sandy soil, but the species can also be found in annual grasslands, chaparral, oak woodland, riparian woodland, and coniferous forest between 30 and 7,030 feet amsl (Jennings and Hayes 1994). This reptile typically avoids dense vegetation, preferring 20% to 40% bare ground in its habitat. Blainville's horned lizard can be locally abundant in areas where it occurs, with densities of near 20 adults per acre. Adults are active from late March through late August, and young are active from August through November or December.

Blainville's horned lizard was observed numerous times during Project surveys in 2018 and 2019.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgultea*), SSC/Group 2

Coast patch-nosed snake is a SSC and County Group 2 species. This species occurs in California from the northern Carrizo Plains along the coast toward coastal northern Baja California (Nafis 2018). Coast patch-nosed snake inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains. This species is known to dig with the tip of its nose into underground burrows. The typical breeding season for coast patch-nosed snake occurs May through August (Nafis 2018).

This species has high potential to occur within the Boulder Brush Corridor. The Boulder Brush Corridor is within the species' range (Nafis 2018). Within the Boulder Brush Corridor, suitable habitat includes chaparral (granitic northern mixed chaparral, granitic chamise chaparral, red shank chaparral, and semi-desert chaparral), and sage scrub (flat-topped buckwheat and big sagebrush scrub).

Birds

Cooper's Hawk (*Accipiter cooperii*), WL/County Group 1

Cooper's hawk is a WL, and County Group 1 species. It is found throughout California in wooded areas. This species inhabits live oak, riparian, deciduous, or other forest habitats near water. Nesting and foraging usually occur near open water or riparian vegetation. Nests are built in dense stands with moderate crown depths, usually in second-growth conifer or deciduous riparian areas. Cooper's hawk uses patchy woodlands and edges with snags for perching while it hunts for prey such as small birds, small mammals, reptiles, and amphibians within broken woodland and habitat edges (Zeiner et al. 1990a).

A Cooper's hawk was observed foraging and nesting on site in the norther, central and western portion of the Boulder Brush Corridor during Project surveys in 2018 and 2019.

Sharp-Shinned Hawk (*Accipiter striatus*), WL/County Group 1

Sharp-shinned hawk is a WL and County Group 1 species. This species is a common migrant and winter resident throughout California, and an uncommon permanent resident and breeder in mid-elevation habitats (Zeiner et al. 1988–1990). Sharp-shinned hawk breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats on north-facing slopes with perches. This species prefers riparian habitats, and roosts in intermediate- to high-canopy forest, often to forage in openings at edges of woodlands. Nests are found in dense, even-aged, single-layered forest canopy. The sharp-shinned hawk is the least common breeding *Accipiter* species in California (Zeiner et al. 1988–1990).

Sharp-shinned hawk was observed flying over the site in December 2017. Since sharp-shinned hawk's special status is associated with nesting, it is not analyzed further in this report, except as part of the raptor foraging discussion.

Golden Eagle (*Aquila chrysaetos*), BCC/Fully Protected, WL/County Group 1

Golden eagle is a BCC, WL, fully protected, and County Group 1 species. In addition, golden eagle is protected under the federal Bald and Golden Eagle Protection Act.

Golden eagle is a year-round, diurnally active species that is a permanent resident and migrant throughout California. Golden eagle is more common in northeast California and the Coast Ranges than in Southern California and the deserts. In Southern California, the species tends to occupy mountain, foothill, and desert habitats. Foraging habitat for this species includes open habitats with

scrub, grasslands, desert communities, and agricultural areas. This species nests on cliffs within canyons and escarpments and in large trees (generally occurring in open habitats), and occurs primarily in rugged, topographically complex landscapes (Garrett and Dunn 1981; Johnsgard 1990). Most nests are located on cliffs or trees near forest edges, in trees within woodland savannas, or in small stands near open habitats (Kochert et al. 2002). Nest locations tend to be more closely associated with topographic heterogeneity than with a particular vegetation type (Call 1978).

Nest building can occur almost any time during the year. This species nests on cliffs, rock outcrops, large trees, and artificial structures such as electrical transmission towers, generally near open habitats used for foraging (Garrett and Dunn 1981; Johnsgard 1990; Kochert et al. 2002; Scott 1985). Golden eagle commonly builds, maintains, and variably uses multiple alternative nest sites in its breeding territory, routinely refurbishing and reusing individual nests over many years. Generally, the nests are large platforms composed of sticks, twigs, and greenery that are often 10 feet across and 3 feet high (Zeiner et al. 1990a). Pairs may build more than one nest and tend multiple nests prior to laying eggs (Kochert et al. 2002). Each pair can have up to a dozen nests, especially in cliff-nesting habitat where nests persist for longer than they do in trees, but generally only two to three nests are used in rotation from one year to the next. Some pairs use the same nest each year, but others use alternative nests more regularly. Succeeding generations of eagles may even use the same nest (Terres 1980, as cited in CPUC and BLM 2011).

In California, golden eagle breeds January through August, with peak breeding activity occurring February through July. Breeding typically begins in January with courtship and nest building, and egg laying typically occurs in February and March (Brown 1976; CPUC and BLM 2011; WRI 2010). Golden eagles typically lay one to three eggs, which they incubate for 43 to 45 days (Beebe 1974). Hatching and then the feeding of nestlings takes place March through June. After their young fledge, the adult eagles may continue to feed the young birds for several months (CPUC and BLM 2011; WRI 2010). In the prey-rich oak woodland and savannah habitats of the California Coast Ranges, established golden eagle breeding pairs typically nest in most years (Hunt and Hunt 2006; Hunt et al. 1999); however, the long breeding cycle may contribute to some pairs breeding only every-other-year, even when food is abundant (CPUC and BLM 2011; WRI 2010). In other situations, where overall ecosystem productivity is lower or more variable from year to year, pairs need to range farther in search of food and may not nest every year because of the energetic demands of securing dispersed prey (Kochert et al. 2002).

Lagomorphs (rabbits and hares) and ground squirrels are of primary importance in the diet of most golden eagles, including in San Diego County, but their diet may include a wide variety of other mammals, reptiles, and birds, and frequently includes carrion, especially during winter (Johnsgard 1990; Kochert et al. 2002; Olendorff 1976).

Based on the review of the Boulder Brush Corridor, there are no suitable large trees or cliffs present for nesting within the Boulder Brush Corridor; therefore, this species is not expected to nest on site. Unitt (2004) states that "golden eagle is absent from some surprisingly large yet little disturbed areas of San Diego County, such as Cuyamaca Mountains and the Campo Plateau between Lake Morena and Jacumba." The historical breeding distribution map and general occurrence maps in Unitt (2004) also present a pocket of unoccupied habitat in the Project Vicinity. All-day eagle surveys were conducted on site between May and June 2018, and October through November 2018; 30-minute point counts were performed between September 2017 and September 2019. No golden eagles were observed during these focused surveys, indicating that this species does not occur in the Boulder Brush Corridor with much frequency. One golden eagle was observed flying adjacent to the Boulder Brush Corridor during the focused Quino checkerspot butterfly surveys in April 2018.

The USGS has been tagging eagles with affixing telemetry transmitters that minimally collect data every 15 minutes and up to every 30 seconds in San Diego County, and collecting 100,000s of datapoints since 2014 (Tracy et al. 2016, 2017). This data is the most comprehensive data set available, and includes real-time and continual data on each individual. The Figure 4-3 series depicts the data for each individual that occurred within a 10-mile radius of the Boulder Brush Corridor; the data for each is summarized below by individual. Tabular data for each data point captured within the 10-mile zone is provided in Attachment J, 2015 and 2016 Golden Eagle Biotelemetry Data.

Although there are data points of golden eagle within the 10-mile zone and occurrences of the species flying over the Boulder Brush Boundary, these are very minor when compared to eagle overall use areas and geographic range. As shown in the figures; in Table 4-3, Biotelemetry Data for Golden Eagles Within 10 Miles of the Boulder Brush Boundary; and in the discussion above, the Boulder Brush Boundary appears to be at the very fringe of individual eagle territories or use areas, and likely mostly represent brief exploratory searches.

Table 4-3
Biotelemetry Data for Golden Eagles Within 10 Miles of the Boulder Brush Boundary

Eagle ID	Date Captured	Capture Location	Primary Use Areas (Tracey et al. 2016, 2017)	Activity On/Near Boulder Brush Boundary (10-Mile Buffer)
GOEA-SD-F004	12/27/2014	Marron Valley	Biotelemetry data shows this individual traveling from southeast San Diego County north through the Peninsular Ranges into the San Jacinto and San	The data show a flight path through the southern portion of the Boulder Brush Boundary on April 11, 2015. Within the 10-mile buffer, the data show flight paths west and southwest of the Boulder Brush Boundary on April 10, 2015, and October 22, 2015, as well

Table 4-3
Biotelemetry Data for Golden Eagles Within 10 Miles of the Boulder Brush Boundary

Eagle ID	Date Captured	Capture Location	Primary Use Areas (Tracey et al. 2016, 2017)	Activity On/Near Boulder Brush Boundary (10-Mile Buffer)
			Bernardino Mountains. There is limited flight activity west to the San Gabriel Mountains and back east.	as some points south, west, and northwest of the Boulder Brush Boundary in January–April, July, September, and October 2015 (Figure 4-3a, USGS Golden Eagle Bird F004 – 2015).
GOEA-SD-F006	2/2/2015	Santa Ysabel	Biotelemetry data shows this individual travelling from Baja California north into Otay, Ramona, Anza Borrego and through Palm Desert and Cathedral City.	Within the 10-mile buffer, the data show points northwest and west from May and June 2015 (Figure 4-3b, USGS Golden Eagle Bird F006 – 2015).
GOEA-SD-F007	2/23/2015	Long Potrero	Biotelemetry data shows this individual concentrated in two areas: east of Tecate, Mexico and around Barrett Lake. Flight paths also show travel to the surrounding areas as far north as Julian and farther south of Tecate, Mexico.	Within the 10-mile buffer, the data show a flight pattern from December 23, 2015. There are several points within the southwest portion of the Reservation from November 2015. There are points from November and December 2015 west of the Boulder Brush Boundary and along the western side of the buffer (Figure 4-3c, USGS Golden Eagle Bird F007 – 2015). Data from 2016 show flight paths through the western portion of the Reservation on April 2, 2016; July 15, 2016; August 10, 12, and 13, 2016; September 22 and 30, 2016; October 15, 2016; and November 8, 2016. There are also numerous point data within the western half of the buffer in 2016 (Figure 4-3d, USGS Golden Eagle Bird F007 – 2016).
GOEA-SD-F013	2/11/2016	Gregory Mountain	Biotelemetry data shows this individual travelling around the Gomez Trail and Agua Tibia Creek areas on the Pauma and Pala Reservations.	Within the 10-mile buffer, the data show a north–south flight path west of the Boulder Brush Boundary (Figure 4-3e, USGS Golden Eagle Bird F013 – 2016).
GOEA-OC-F014	2/12/2016	Fremont Canyon	Biotelemetry data shows this individual travelling throughout Southern California including Baja California, the San Joaquin Valley and from California to Wyoming and back.	The data show a flight path through the northern portion of the Boulder Brush Boundary on March 8, 2016. The transmitter recorded the eagle flying through Project Area between 11:41 a.m. and 11:56 a.m. and the individual continued flying in a southwest direction. There are also several points from March 2016 along the eastern and southeastern side of the buffer (Figure 4-3f, USGS Golden Eagle Bird F014 – 2016).

Table 4-3
Biotelemetry Data for Golden Eagles Within 10 Miles of the Boulder Brush Boundary

Eagle ID	Date Captured	Capture Location	Primary Use Areas (Tracey et al. 2016, 2017)	Activity On/Near Boulder Brush Boundary (10-Mile Buffer)
GOEA-SD-F016	3/5/2016	Barrett Lake	Biotelemetry data shows this individual concentrated around Barrett Lake and flight paths in the Cleveland National Forest area as well as into Mexico.	Within the 10-mile buffer, the data show points from March, April, June, and August 2016 west of the Boulder Brush Boundary (Figure 4-3g, USGS Golden Eagle Bird F016 – 2016).
GOEA-SD-M005	12/1/2015	Barrett Lake	Biotelemetry data shows this individual concentrated in the hills just south of Barrett Lake with some flight paths north toward Pothole Canyon and northwest toward the San Diego Country Estates.	Within the 10-mile buffer, the data show a flight path from October 1, 2015, through the very southern portion of the buffer into Mexico (Figure 4-3h, USGS Golden Eagle Bird M005 – 2015).
GOEA-SD-M007	12/9/2015	Long Valley	Biotelemetry data shows this individual concentrated around the La Jolla Reservation with flights south toward Campo and into Ensenada, Mexico.	Within the 10-mile buffer, the data show points from December 2015 along the southwestern portion of the buffer (Figure 4-3i, USGS Golden Eagle Bird M007 – 2015). In 2016, there are a couple of flight paths on the western edge of the Project Area in September and October 2016, as well as flight paths in the western half of the buffer in January, May, June, July, August, and September 2016. There are also point data within the buffer throughout most of the 2016 (Figure 4-3j, USGS Golden Eagle Bird M007 – 2016).
GOEA-SD-M010	12/17/2015	Proctor Valley	Biotelemetry data shows this individual concentrated east and south of Tijuana, Mexico with flight paths east of Tecate, Mexico and the Jamul Mountains.	There are no points from 2015 within the 10-mile buffer. Within the 10-mile buffer, the data show a flight path in the southwest from February 17, 2016; there are points from February and March 2016 south of the Boulder Brush Boundary and into Mexico (Figure 4-3k, USGS Golden Eagle Bird M010 – 2016).
GOEA-SD-M011	12/21/2015	Barrett Lake	Biotelemetry data shows this individual concentrated the Presa El Carrizo Lake southwest of Tecate, Mexico with additional concentrated flights around the Otay Lakes, Barrett Lake.	There are no points from 2015 within the 10-mile buffer. The 2016 data shows a flight path on January 25, 2016, in the southwestern portion of the buffer; there are also points from January and July 2016 southwest and north of the Boulder Brush Boundary (Figure 4-3l, USGS Golden Eagle Bird M011 – 2016).

Bell's Sage Sparrow (*Artemisiospiza belli belli*), BCC/WL/County Group 1

Bell's sparrow is a BCC, WL, and County Group 1 species. The recently designated Bell's sparrow (*Artemisiospiza belli*) consists of *A. b. belli* and *A. b. canescens*, both formerly considered subspecies of the sage sparrow (*Amphispiza belli*) and now split from sagebrush sparrow (*A. nevadensis*) (Chesser et al. 2013). The nominate form of Bell's sparrow, Bell's sage sparrow, is designated as a special-status species. This species occurs in chaparral and coastal scrub communities along the Coast Ranges of central California and in the Transverse Ranges of Southern California. This species occurs as a non-migratory resident on the western slope of the central Sierra Nevada range, and in the coastal ranges of California, southward from Marin County and Trinity County, extending into north-central Baja California, Mexico (County of Riverside 2008). The range of this species overlaps with that of at least one other subspecies of sage sparrow (County of Riverside 2008). This species occupies semi-open habitats with evenly spaced shrubs that are 3.3 to 6.6 feet high. This species is uncommon to fairly common in dry chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and lower foothills of the mountains within its range (County of Riverside 2008).

Bell's sage sparrow was observed adjacent to the Boulder Brush Corridor during wildlife surveys in 2019. This species was audibly detected during wildlife surveys in the norther portion of the Boulder Brush Corridor. Within the Boulder Brush Corridor, suitable habitat includes chaparral (granitic northern mixed chaparral, granitic chamise chaparral, red shank chaparral, and semi-desert chaparral), and sage scrub (montane buckwheat scrub and big sagebrush scrub).

Red-Shouldered Hawk (*Buteo lineatus*), County Group 1

Red-shouldered hawk is not considered special status by any state or federal agencies; however, it is a County Group 1 species. Red-shouldered hawk inhabits a broad range of North American forests, but favors mature, mixed deciduous–coniferous woodlands, especially bottomland hardwood, riparian areas, flooded deciduous swamps, oak woodlands, eucalyptus groves, and suburban areas with nearby woodlots (Dykstra et al. 2008). This species nests in riparian habitats near permanent water and forages along edges of wet meadows, swamps, and emergent wetlands (Zeiner et al. 1990a).

Red-shouldered hawks were observed adjacent to the Boulder Brush Corridor during surveys in 2018 and have potential to nest in woodland habitat on site.

Turkey Vulture (*Cathartes aura*), County Group 1

Turkey vulture is not considered special status by any state or federal agencies; however, it is considered a County Group 1 species. In California, it is common during the nesting season and is a year-round resident west of the Sierra Nevada, especially in coastal areas. Summer and year-round ranges also include the southeastern United States; portions of Texas, Mexico, Central America, and South America; and some islands in the Caribbean (Kirk and Mossman 1998).

Turkey vultures use a variety of habitats while foraging on wild and domestic carrion. They prefer open stages of most habitats. In the western United States, they tend to occur regularly in areas of hilly pastured rangeland, non-intensive agriculture, and areas with rock outcrops suitable for nesting, although they are not generally found in high-elevation mountain areas (Kirk and Mossman 1998; Zeiner et al. 1990a). Nest locations tend to be difficult to find and are usually located in a crevice among granite boulders (Unitt 2004). This species prefers hilly areas that provide deflective updrafts for flight, and generally avoids extensive areas of row-crop farmland (Kirk and Mossman 1998).

Turkey vultures were observed foraging throughout the Boulder Brush Corridor during biological surveys in 2018 and 2019, but the observations were not mapped. The Boulder Brush Corridor does not support suitable cliffs for nesting, and no nests were observed in the trees in the Boulder Brush Corridor. There is suitable foraging habitat within the Boulder Brush Corridor. Suitable foraging habitat includes most vegetation communities and undeveloped land cover.

Northern Harrier (*Circus hudsonius*), SSC/County Group 1

Northern harrier is an SSC, and County Group 1 species. Northern harriers use a wide variety of open habitats in California, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, estuaries, flood plains, and marshes. This species can also forage over coastal sage scrub or other open scrub communities. Nesting areas are associated with marshes, pastures, grasslands, prairies, croplands, desert shrub-steppe, and riparian woodland (Macwhirter and Bildstein 2011). Winter habitats similarly include a variety of open habitats dominated by herbaceous cover. Northern harrier populations are most concentrated in areas with low vegetation.

One northern harrier was observed during wildlife surveys adjacent to the southern portion of the Boulder Brush Corridor in April 2018. Although there is some potential nesting habitat in the meadow habitat along Tule Creek, this species has not been documented nesting in the region (Unitt 2004).

Loggerhead Shrike (*Lanius ludovicianus*), BCC/SSC/County Group 1

Loggerhead shrike is a BCC, SSC, and County Group 1 species. It is found in lowlands and foothills throughout California, and it remains in the southern portion of the state year-round. Preferred habitats for loggerhead shrike are open areas that include scattered shrubs, trees, posts, fences, utility lines, and other structures that provide hunting perches with views of open ground, nearby spiny vegetation or built structures (such as the top of chain-link fences or barbed wire) that provide means to skewer prey items. This species occurs most frequently in riparian areas along the woodland edge, grasslands with sufficient perch and butcher sites, scrublands, and open-canopied woodlands, although they can be quite common in agricultural and grazing areas. They can sometimes be found in mowed roadsides, cemeteries, and golf courses, although they occur rarely in heavily urbanized areas (Zeiner et al. 1990a). Loggerhead shrike builds nests in stable shrubs or trees requiring dense foliage for well-concealed nests, and likely nests in the Boulder Brush Corridor.

Loggerhead shrike was observed adjacent to the Boulder Brush Corridor during surveys in 2017 and likely nests within the Boulder Brush Corridor.

Yellow Warbler (*Setophaga petechia*), BCC/SSC/County Group 2

Yellow warbler is a BCC, SSC, and County Group 2 species. Yellow warbler inhabits riparian woodland in coastal and desert lowlands, montane chaparral, open ponderosa pine, and mixed conifer habitats (Zeiner et al. 1990a). This species breeds along the coast of California west of the Sierra Nevada and in eastern California from Lake Tahoe south to Inyo County. Yellow warbler occurs in medium-density woodlands and forests with heavy brush understory, and migrates to sparse to dense woodland and forest habitats.

Yellow warbler was observed adjacent to the Boulder Brush Corridor during the riparian bird surveys conducted in 2018 within riparian habitat in the Boulder Brush Corridor and during wildlife surveys in 2019. There is a potential for this species to nest within suitable habitat.

Mammals

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*), SSC/County Group 2

San Diego black-tailed jackrabbit is a SSC, and County Group 2 species. It is confined to coastal Southern California, with marginal eastern records in Mount Piños, Arroyo Seco, Pasadena, San Felipe Valley, and Jacumba (Hall 1981). It is found in many diverse habitats, but primarily in arid regions supporting short-grass habitats. Jackrabbits typically are not found in high grass or dense

brush where it is difficult for them to move quickly, and the openness of open scrub habitat likely is preferred over dense chaparral. Jackrabbits are common in grasslands that are overgrazed by cattle, and they are well adapted to using low-intensity agricultural habitats (Hall 1981). This species was regularly observed throughout the Boulder Brush Corridor in 2018 and 2019.

San Diego Desert Woodrat (*Neotoma lepida intermedia*), SSC/County Group 2

San Diego desert woodrat is a SSC and County Group 2 species. This species is found in coastal Southern California into Baja California, Mexico (Reid 2006). Marginal eastern records for San Diego desert woodrat in the United States include San Luis Obispo, San Fernando in Los Angeles County, the San Bernardino Mountains and Redlands in San Bernardino County, and Julian in San Diego County (Hall 1981). Desert woodrat is found in a variety of shrub and desert habitats, and are primarily associated with rock outcroppings, boulders, cacti, and areas of dense undergrowth.

San Diego desert woodrat middens were observed during biological surveys in 2018 and 2019. Within the Boulder Brush Corridor, suitable habitat includes chaparral (granitic northern mixed chaparral, granitic chamise chaparral, red shank chaparral, and semi-desert chaparral).

Invertebrates

Peninsular Metalmark (*Apodemia virgulti peninsularis*), County Group 1

Peninsular metalmark is a County Group 1 species. This species is common within mountain meadows usually near the edges of woods, Great Basin sagebrush, and montane buckwheat scrub (Faulkner and Klein 2012). Peninsular metalmark is found in the San Jacinto, Palomar, and Laguna Mountains (Butterflies of North America 2018; Faulkner and Klein 2012) and in areas where its host plant, *Eriogonum wrightii* ssp. *membranaceum*, occurs.

Peninsular metalmark was potentially observed within the Boulder Brush Corridor. Behr's metalmark (*Apodemia virgulti*), which is very similar in appearance to Peninsular metalmark, was observed frequently in the Boulder Brush Corridor. The host plant occurs within the Boulder Brush Corridor and therefore, this species could have been observed during the Project surveys.

Quino Checkerspot Butterfly (*Euphydryas editha quino*), FE/County Group 1

In response to comments received on the Notice of Preparation, additional information regarding the potential for Quino checkerspot butterfly to occur within the Boulder Brush Corridor is being provided. Quino checkerspot butterfly was listed as endangered on January 16, 1997 (62 FR 2313–2322). A recovery plan was published for the species on September 17, 2003 (USFWS 2003).

Critical habitat was first designated on April 15, 2008 (67 FR 18356–18395), later revised on June 17, 2009 (74 FR 28776–28862). The Draft Recovery Plan Revisions for Quino checkerspot butterfly is currently undergoing revisions, with draft revisions released in March 2019 (USFWS 2019d), public comment through September 5, 2019, and final revisions to be prepared thereafter.

Quino checkerspot butterfly is found only in western Riverside County, southern San Diego County, and northern Baja California, Mexico (USFWS 2003). This species is found on sparsely vegetated hilltops, on ridgelines, and occasionally on rocky outcrops in open chaparral and coastal sage scrub habitat (typically at less than 3,000 feet above mean sea level). This species requires host plants within these vegetation communities for feeding and reproduction. The primary larval host plant is dotseed plantain; however, several other species have been documented as important larval host plants, including desert plantain, sometimes called woolly plantain (*Plantago patagonica*); thread-leaved bird's beak (*Cordylanthus rigidus*); white snapdragon (*Antirrhinum coulterianum*); owl's clover (*Castilleja exserta*); and Chinese houses (*Collinsia* spp.) (USFWS 2003).

Focused surveys for Quino checkerspot butterfly were conducted in 2011, 2018, and 2019. The 2011 surveys did not cover the full extent of the Boulder Brush Corridor but the 2018 and 2019 surveys did, with the exception of 27.1 acres added to the Boulder Brush Corridor in June 2019 that were not surveyed. These areas consist of 12 extended polygons ranging from less than 0.01 acres to 4.6 acres. During the first two years of surveys in 2011 and 2018, no Quino checkerspot butterfly individuals were observed within the Boulder Brush Corridor. However, there is suitable habitat within the Boulder Brush Corridor. No Quino larval host plants were observed within the 2018 Quino survey area during the habitat assessment or focused surveys. Surveyors did observe some dead *Cordylanthus rigidus* remaining from the previous year's rainfall; however, since only live host plants are mapped during this effort, these locations were not recorded. No host plants were observed within the Boulder Brush Boundary during the 2011 protocol surveys. The nearest Quino observation is approximately 1.5 miles (almost 2.5 kilometers) east of the Boulder Brush Corridor within the Reservation Boundary.

A total of five Quino checkerspot butterfly individuals were observed during the 2019 focused surveys by Ms. Erin Bergman on April 10, 2019 (Figure 4-1 series) (Attachment B-2). The Quino checkerspot butterfly individuals were observed in an area with open decomposed granite soils, hilltops, ridges, numerous granitic rock outcrops, and various nectar sources. No host plants were observed anywhere within the immediate survey area. Quino checkerspot butterfly individuals spent much of the observation time nectaring on Clearwater cryptantha (*Cryptantha intermedia* var. *intermedia*) and pointed cryptantha (*Cryptantha muricata* var. *jonesii*) for short periods of time (a few seconds), landing on bare ground (a few seconds) and performing hill topping behaviors the majority of the time. These

Quino checkerspot butterfly individuals were only observed during this one survey week on this one day. No other Quino checkerspot butterfly individuals were observed during the protocol surveys.

Quino Checkerspot Butterfly Modeled Habitat

Potentially occupied habitat was modeled based on Quino checkerspot butterfly records and host plants observed in 2019, hilltops, and ridgelines. The habitat model is created from the following parameters based on general industry guidance from USFWS for other projects:

- 200-meter buffer around Quino checkerspot butterfly locations
- 200-meter buffer around "significant" plant populations (i.e., >20 individuals)
- Hilltops
- Ridgelines (centerline with 100-foot (31.2-meter) buffer

Plant population buffers, hilltops, and ridgelines were added to the primary Quino checkerspot butterfly detection polygon or each other as they would connect. If the link was broken by distance or unsuitable habitat, then the potentially occupied patch would end.

The 2019 Quino checkerspot butterfly exclusion areas were removed from the model since those areas were determined to be unsuitable for this species. This model resulted in approximately 121.8 acres of potentially occupied habitat mapped within the Boulder Brush Corridor, a portion of which was considered occupied in 2019 based on the Quino checkerspot butterfly observation on April 10, 2019. Figure 4-6 shows the model and estimated occupied habitat.

4.6.1.2 County Group 2 Species

County Group 2 species that have been observed or have high potential to occur in the Boulder Brush Corridor are described below and included in Attachment H-1. Additional species that have moderate potential to occur are described in more detail in Attachment H-1.

Reptiles

Coronado Skink (*Plestiodon skiltonianus interparietalis*), WL/County Group 2

Coronado skink is a WL and County Group 2 species. This species is common within grassland, woodlands, pine forests, chaparral, especially open sunny areas (e.g., clearings, edges of creeks), and rocky areas near streams with lots of vegetation. However, this species may also be found in

areas away from water. Coronado skink is found in inland Southern California south through the north Pacific coast region of northern Baja California (Nafis 2014).

Although Coronado skink was not detected during surveys, this species has high potential to occur within the Boulder Brush Corridor. Suitable habitat in the Boulder Brush Corridor includes chaparral (granitic northern mixed chaparral, granitic chamise chaparral, red shank chaparral, and semi-desert chaparral) and coast live oak woodland.

Rosy Boa (*Lichanura trivirgata*), County Group 2

Rosy boa is not considered special status by any state or federal agencies; however, it is a County Group 2 species. Rosy boa in California ranges from Los Angeles, eastern Kern, and southern Inyo Counties, and south through San Bernardino, Riverside, Orange, and San Diego Counties (Spiteri 1988; Stebbins 2003; Zeiner et al. 1990b). It occurs at elevations from sea level to 5,000 feet amsl in the Peninsular and Transverse Ranges. Within its range in Southern California, rosy boa is absent only from the southeastern corner of California around the Salton Sea and the western and southern portions of Imperial County (Zeiner et al. 1990b). Rosy boa inhabits rocky shrubland and desert habitats, and is attracted to oases and streams, but does not require permanent water (Stebbins 2003).

Although rosy boa was not detected during surveys, this species has high potential to occur within the Boulder Brush Corridor. Within the Boulder Brush Corridor, suitable habitat includes chaparral (granitic northern mixed chaparral, granitic chamise chaparral, red shank chaparral, and semi-desert chaparral), sage scrub (montane buckwheat scrub and big sagebrush scrub), and coast live oak woodland.

San Diego Ringneck Snake (*Diadophis punctatus similis*), County Group 2

San Diego ringneck snake is a County Group 2 species. San Diego ringneck snake is found in San Diego County along the coast and into the Peninsular range, and in southwestern Riverside County. This species occupies moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests, and woodlands. San Diego ringneck snake is usually found under the cover of rocks, wood, and other surface debris (Nafis 2018).

Although San Diego ringneck snake was not detected during surveys, this species has high potential to occur within the Boulder Brush Corridor. Suitable habitat includes moist chaparral (granitic northern mixed chaparral, granitic chamise chaparral, red shank chaparral, and semi-desert chaparral), sage scrub (montane buckwheat scrub and big sagebrush scrub), and coast live oak woodland.

Birds

California Horned Lark (*Eremophila alpestris actia*), WL/County Group 2

California horned lark is a WL and County Group 2 species. California horned lark is a permanent resident found throughout much of the southern half of California. This species breeds and resides in the coastal region of California from Sonoma County southeast to the U.S./Mexico border, including most of the San Joaquin Valley, and eastward to the foothills of the Sierra Nevada (Beason 1995; Grinnell and Miller 1944). It is found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above the tree line. This species prefers open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, and fallow grain fields, and it nests on the ground in a hollow scrape.

This species was observed in the open scrub and grassland areas adjacent to the Boulder Brush Corridor in 2018, but its specific location was not mapped.

Merlin (*Falco columbarius*), WL/County Group 2

Merlin is a WL and County Group 2 species. Merlin occurs in San Diego County during October to March, generally. Many birds migrate through the County and some winter, typically more along the coastal lowlands and less towards the desert (Unitt 2004). This winter visitor to San Diego County is not well-documented in southeast San Diego (Unitt 2004). It is often seen in grassland, though it occurs occasionally in any habitat except dense woodland.

One merlin was observed in October 2018 during bird count surveys. Because only one merlin has been observed throughout the bird count and eagle surveys in the fall/winter months (October – December), it likely is not regularly using the site for wintering. However, it could use the site for foraging in the limited grassland or other open habitat types on site.

Barn Owl (*Tyto alba*), County Group 2

Barn owl is a not considered special status by any state or federal agencies; however, it is a County Group 2 species. It is common throughout its range throughout most continents; in the Americas, it occurs in much of continental United States, south through Central and South America, to Tierra del Fuego (Marti et al. 2005). In San Diego County, it is an uncommon permanent resident and occurs in urban settings, roosting in buildings, palm leaves, and nest boxes.

Barn owls do not seem to use specific habitat affinities, provided there are ample sites for nesting opportunities and adequate ground for hunting small mammals (Taylor 1994). Habitat types that

are commonly used include open habitats such as grassland, chaparral, riparian, and other wetland types from sea level to 5,512 feet amsl (Zeiner et al. 1990a).

This species was observed in the oak woodland in the Boulder Brush Corridor in 2018 and 2019, but its specific location was not mapped.

Western Bluebird (*Sialia mexicana*), County Group 2

Western bluebird is a County Group 2 species. It is a common resident bird in San Diego County, where it prefers montane coniferous and oak woodlands (Unitt 2004). It nests in old-growth red fir, mixed conifer, and lodegpole pine habitats near wet meadows used for foraging. Because this species is not considered special status by state or federal agencies, it is not tracked in the California Natural Diversity Database.

Western bluebirds were observed during surveys in the oak woodland adjacent to the Boulder Brush Corridor in 2018 and 2019, but its specific locations were not mapped as it is expected to utilize all oak woodlands.

Mammals

Mule Deer (*Odocoileus hemionus*), County Group 2

Mule deer is a County Group 2 species. It is a common species with a widespread distribution throughout the western United States and Canada, and south into mainland and Baja California, Mexico (Hall 1981). It occurs throughout most of California, except in deserts and intensively farmed areas without cover (Zeiner et al. 1990b). Throughout its range, mule deer uses coniferous and deciduous forests, riparian habitats, desert shrub, coastal scrub, chaparral, and grasslands with shrubs. It is often associated with successional vegetation, especially near agricultural lands (NatureServe 2014). It uses forested cover for protection from the elements and open areas for feeding (Wilson and Ruff 1999). Mule deer fawn in a variety of habitats that have available water and abundant forage, including moderately dense shrubs and forests, dense herbaceous stands, and higher-elevation riparian and mountain shrub vegetation.

Mule deer or their sign were observed during biological surveys in the Boulder Brush Corridor in 2018 and 2019, but the locations were not mapped due to the high mobility of this species. Mule deer were flushed from upland habitats several times during surveys and are likely to use most of the Boulder Brush Corridor.

Cougar (*Puma concolor*), County Group 2

Cougar is a County Group 2 species and is a Specially Protected Mammal under California Fish and Game Code Section 4800. Its range throughout California extends from deserts to humid forests in the Coast Ranges, and from sea level to 10,000 feet amsl. It is most abundant in habitats that support its primary prey, mule deer, and its seasonal movements tend to follow migrating deer herds.

Cougar prefers habitats that provide cover, such as thickets in brush and timber in woodland vegetation (Zeiner et al. 1990b). It also uses caves and other natural cavities for cover and breeding. It requires extensive areas of riparian vegetation and brushy stages of various habitats with interspersions of irregular terrain, rocky outcrops, and tree/brush edges. Although the Boulder Brush Corridor lacks riparian habitats, suitable rocky outcrops, irregular terrain, and good connectivity to large open spaces may serve as suitable habitat for this species.

This species has high potential to occur within the Boulder Brush Corridor, as this species was detected On-Reservation (AECOM 2012). Within the Boulder Brush Corridor, suitable habitat includes chaparral (granitic northern mixed chaparral, granitic chamise chaparral, red shank chaparral, and semi-desert chaparral), sage scrub (montane buckwheat scrub and big sagebrush scrub), southern arroyo willow riparian forest, and coast live oak woodland.

Western Small-Footed Myotis (*Myotis ciliolabrum*), Group 2

Western small-footed myotis is a County Group 2 species. Western small-footed myotis occurs in California in arid uplands, coastal Contra Costa County south to the Mexican border, west and east sites of the Sierra Nevada, and in Great Basin and desert habitats from Modoc to Kern and San Bernardino Counties (Zeiner et al. 1990b). This species occurs in arid wooded and brushy uplands near water and in open stands in forests and woodlands. Western small-footed myotis is considered locally common.

This species was detected during the acoustical bat survey conducted in 2011 and has high potential to roost within oak trees and riparian forest within the Boulder Brush Corridor. Suitable habitat includes oak and riparian woodlands. This is the only bat species that has a high potential to roost within the Boulder Brush Corridor.

4.6.2 Campo Corridor

4.6.2.1 County Group 1 Species and/or Species of Special Concern

County Group 1 species and/or an SSC that have been observed in the Campo Corridor or have high potential to occur are described below and are included in Attachment H-2. Additional species that have moderate potential to occur are described in more detail in Attachment H-2. For species that occur, or have high potential to occur, in both the Boulder Brush Facilities Boulder Brush Corridor and the Campo Corridor, their life history and habitat requirements are not repeated below. Refer to Section 4.6.1 for that information.

Amphibians and Reptiles

San Diegan Tiger Whiptail (*Aspidoscelis tigris stejnegeri*), SSC/County Group 2

San Diegan tiger whiptail was observed several times during surveys in 2018.

San Diego Banded Gecko (*Coleonyx variegatus abbotti*), SSC/County Group 1

This species has high potential to occur within the Campo Corridor. Suitable habitat within the Campo Corridor includes chaparral and sage scrub.

Blainville's Horned Lizard (*Phrynosoma blainvillii*), SSC/County Group 2

Blainville's horned lizard was observed numerous times during Project surveys in 2018.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgultea*), SSC/Group 2

This species has high potential to occur within the Campo Corridor. The Campo Corridor is within the species' range (Nafis 2018). Within the Campo Corridor, suitable habitat includes chaparral and sage scrub.

Western spadefoot (*Spea hammondii*), SSC/County Group 2

Western spadefoot is an SSC and County Group 2 species. It is endemic to California and northern Baja California, Mexico. Spadefoot ranges from the north end of California's Central Valley near Redding, south, west of the Sierras and the deserts, and into northwest Baja California, Mexico (Jennings and Hayes 1994; Stebbins 2003). Although this species primarily occurs in lowlands, it also occupies foothill and mountain habitats. Within its range, western spadefoot occurs from sea level to 4,000 feet amsl, but mostly at elevations below 3,000 feet amsl (Stebbins 2003).

Western spadefoot is almost completely terrestrial, entering temporary pools and drainages only to breed. The species aestivates in upland habitats near potential breeding sites in burrows approximately 3 feet in depth (Stebbins 1972). The species prefers open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Holland and Goodman 1998; Stebbins 2003). However, the species is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas (Holland and Goodman 1998).

This species was recorded on site (AECOM 2012). There are several areas with ponded water where spadefoot could breed within the Campo Corridor: the small freshwater marsh in the northeastern portion of the Campo Corridor and the emergent wetlands in the central portion of the Campo Corridor just west of Church Road where ponded water was observed.

Birds

Cooper's Hawk (*Accipiter cooperii*), WL/County Group 1

Cooper's hawk was observed foraging and nesting on site during 2010 and 2011 surveys (AECOM 2012) and 2017 and 2018 surveys.

Golden Eagle (*Aquila chrysaetos*), BCC/Fully Protected, WL/County Group 1

There are no suitable large trees and cliffs present for nesting; therefore, this species is not expected to nest on site. Unitt (2004) states that "The golden eagle is absent from some surprisingly large yet little disturbed areas of San Diego County, such as Cuyamaca Mountains and the Campo Plateau between Lake Morena and Jacumba." The historical breeding distribution map and general occurrence maps in Unitt (2004) also present a pocket of unoccupied habitat near the Project Area Weekly focused eagle surveys in support of eventual USFWS and CDFW coordination regarding the need for an eagle take permit have been conducted on site in 2017 through 2019. Nine golden eagles were observed flying over the Reservation Boundary during the 2017 through 2019 surveys (Figure 12, Results of Eagle Count Surveys). During the 30-minute point-count surveys, only one juvenile golden eagle was detected on April 11, 2019, for 2 minutes. Single juvenile golden eagles were also detected during the all-day eagle surveys on October 6 and October 8, 2018. Additionally, eight golden eagles were detected between November 2017 and October 2018 on seven occasions for a total of 13 minutes (Table 4-4). In total, as of September 2019, eagles were observed flying over the Reservation Boundary site for approximately 15 of more than 131,600 minutes during the 2017–2019 all-day eagle surveys and avian 30-minute point-count surveys.

Table 4-4
Golden Eagle Detection Data

Survey Type	Date	Number/Age	Minutes of Detection	Distance from Observer (Meters)	Flight Height Range (Meters)
Fall Migration All-Day	11/21/2017	1 adult	1	270	67–152
Fall Migration All-Day	11/21/2017	1 adult	1	900	101–171
Fall Migration All-Day	5/16/2018	1 adult	1	1,300	110–198
Fall Migration All-Day	10/6/2018	1 adult	3	3,000	762–914
Fall Migration All-Day	10/6/2018	1 juvenile	3	150	0–30
Fall Migration All-Day	10/8/2018	1 juvenile	3	—	305–677
Fall Migration All-Day	10/16/2018	2 adults	1	1,600	244–853
30-Minute Point Count	4/11/2019	1 juvenile	2	—	121–213

Table 4-5 shows the level of survey effort applied for 30-minute point-count surveys and fall migration eagle surveys.

Table 4-5
Point Count and Eagle Survey Effort

Survey	Survey Date Range	Total Sites Visited	Survey Length	Total Survey Minutes	Total Survey Hours
30-Minute Point Count	09/08/2017–09/26//2019	1,510	30 minutes	45,300[1]	684.00
Eagle Survey	10/02–12/01/2017 and 10/02–11/28/2018	206.00	Varies	86,316.00	1,438.60

Note:
[1] Includes 82 visits to site A, which overlaps with the Campo Wind Corridor.

Additionally, USGS has been capturing eagles, affixing telemetry transmitters that minimally collect data either 15-minute, 30-second, or 6-second intervals, depending on the equipment and golden eagle behavior, and collecting hundreds of thousands data points since 2014 (Tracy et al. 2016, 2017, 2018). As of February 23, 2016, USGS has 15 eagles with active transmitters (Tracey et al. 2016), and from February 2016 to February 2017 there were 18 eagles with active transmitters (Tracey et al. 2017). This dataset is the most-comprehensive dataset available and includes real-time and continual data on each individual. The Figure 4-4 series depicts the data for each individual that occurred within the 10-mile Project Area over this period; the data for each is summarized below by individual. Tabular data for each data point captured within the 10-mile buffer is provided in the *Campo Wind Project Biological Technical Report* (Appendix H to the Campo EIS).

This detailed data, combined with the extensive surveys and past surveys on site and in the vicinity, results in a comprehensive dataset from which to develop conclusions. Although there are data points of golden eagles within the 10-mile buffer from the Project Area and the data shows golden eagles traveling in a straight line instead of their actual flight path, including a few brief incursions over the Campo Corridor, these are very minor when compared to their overall use areas and geographic range. Therefore, line paths created from the telemetry data are considered to be substantial analysis for the Reservation Boundary. As shown in the figures, Table 4-6, and the discussion below, the Campo Corridor appears to be at the very fringe of their individual territories or use areas, and likely mostly represent brief exploratory searches. Figure 4-4 series shows this information.

Table 4-6
Biotelemetry Data for Golden Eagles within 10 Miles of the Reservation Boundary

Eagle ID	Date Captured	Capture Location	Primary Use Areas (Tracey et al. 2016, 2017)	Activity on/near Project Site (10-Mile Buffer)
F004	12/27/2014	Marron Valley	Biotelemetry data show this individual traveling from southeast San Diego County north through the Peninsular Ranges into the San Jacinto and San Bernardino Mountains. There is limited flight activity west to the San Gabriel Mountains and back east.	The data show a flight path through the northern portion of the Reservation Boundary on April 10 and 11, 2015, and through the southern portion of the Reservation Boundary on October 22, 2015 (Figure 4-4a, USGS Golden Eagle Bird F004 – 2015). Within the 10-mile buffer, the data show a couple of points northwest of the Reservation Boundary in January 2016 (Figure 4-4b, USGS Golden Eagle Bird F004 – 2016).
F006	2/2/2015	Santa Ysabel	Biotelemetry data show this individual travelling from Baja California north into Otay, Ramona, and Anza Borrego, and through Palm Desert and Cathedral City.	Within the 10-mile buffer, the data show points west and southwest from May 2015 and a few points north of the Reservation Boundary in June 2015 (Figure 4-4c, USGS Golden Eagle Bird F006 – 2015).

Table 4-6
Biotelemetry Data for Golden Eagles within 10 Miles of the Reservation Boundary

Eagle ID	Date Captured	Capture Location	Primary Use Areas (Tracey et al. 2016, 2017)	Activity on/near Project Site (10-Mile Buffer)
F007	2/23/2015	Long Potrero	Biotelemetry data show this individual concentrated in two areas: east of Tecate, Mexico, and around Barrett Lake. Flight paths also show travel to the surrounding areas as far north as Julian and farther south of Tecate, Mexico.	Within the 10-mile buffer, the data show a flight pattern from December 23, 2015. There are several points within the southwest portion of the Reservation Boundary from November 2015. There are points from March, April, November, and December 2015 west and southwest of the Reservation Boundary and along the western side of the buffer (Figure 4-4d, USGS Golden Eagle Bird F007 – 2015). Data from 2016 show flight paths through the western portion of the Reservation Boundary on April 2, 2016; July 15, 2016; August 10, 12, and 13, 2016; September 22 and 30, 2016; October 15, 2016; and November 8, 2016. There are also numerous point data within the western half of the buffer in 2016 (Figure 4-4e, USGS Golden Eagle Bird F007 – 2016). In 2017, data show points from January and February within the southwest portion of the buffer (Figure 4-4f, USGS Golden Eagle Bird F007 – 2017).
F008	3/14/2015	Pamo Valley	Biotelemetry data show this individual primarily concentrated around the Ramona and Santa Ysabel areas and east of Cuyamaca Reservoir in the Cleveland National Forest.	Within the 10-mile buffer, the data show points from May, June, and July 2015 west of the Reservation Boundary (Figure 4-4g, USGS Golden Eagle Bird F008 – 2015).
F013	2/11/2016	Gregory Mountain	Biotelemetry data show this individual traveling around the Gomez Trail and Agua Tibia Creek areas on the Pauma and Pala Reservations.	Within the 10-mile buffer, the data show a north-– south flight path through the middle of the Reservation Boundary; and there are several points from November 2016 southwest and northwest along the western side of the buffer of the Reservation Boundary (Figure 4-4h, USGS Golden Eagle Bird F013 – 2016).
F014	2/12/2016	Fremont Canyon	Biotelemetry data show this individual traveling throughout Southern California including Baja California, the San Joaquin Valley and from California to Wyoming and back.	The data show a flight path through the central portion of the Reservation Boundary on March 8, 2016. The transmitter recorded the eagle flying through the Reservation Boundary between 11:41 a.m. and 11:56 a.m. and the individual continued flying in a southwest direction. There are also several points from March 2016 along the eastern side of the buffer (Figure 4-4i, USGS Golden Eagle Bird F014 – 2016).

Table 4-6
Biotelemetry Data for Golden Eagles within 10 Miles of the Reservation Boundary

Eagle ID	Date Captured	Capture Location	Primary Use Areas (Tracey et al. 2016, 2017)	Activity on/near Project Site (10-Mile Buffer)
F016	3/5/2016	Barrett Lake	Biotelemetry data shows this individual concentrated around Barrett Lake and flight paths in the Cleveland National Forest area as well as into Mexico.	Within the 10-mile buffer, the data show a couple of points from June and Augustpoints from March, April, and June-–November 2016 west of the Reservation Boundary in Mexico (Figure 4-4j, USGS Golden Eagle Bird F016 – 2016). There are a couple of points from January 2017 west of the Project Area (Figure 4-4k, USGS Golden Eagle Bird F016 – 2017).
M002	1/8/2015	Marron Valley	Biotelemetry data show this individual primarily concentrated around the San Ysidro Mountains and in the mountains south of the Tijuana area.	Within the 10-miile buffer, the data show just two points from February 2015 along the very western edge of the buffer (Figure 4-4l, USGS Golden Eagle Bird M002 – 2015).
M005	12/1/2015	Barrett Lake	Biotelemetry data show this individual concentrated in the hills just south of Barrett Lake with some flight paths north toward Pothole Canyon and northwest toward the San Diego Country Estates.	Within the 10-mile buffer, the data show a flight path from October 1, 2015, through the very southern portion of the Reservation Boundary and into Mexico. There are also points from March, April, June, August, and September 2015 along the western portion of the buffer (Figure 4-4m, USGS Golden Eagle Bird M005 – 2015). Data from 2016 show points along the western portion of the buffer from February, April, July, and September–November (Figure 4-4n, USGS Golden Eagle Bird M005 – 2016). Within the 10-miile buffer, the data show just three points from February 2017 along the very western edge of the buffer (Figure 4-4o, USGS Golden Eagle Bird M005 – 2017).
M007	12/9/2015	Long Valley	Biotelemetry data show this individual concentrated around the La Jolla Reservation with flights south toward Campo and into Ensenada, Mexico.	Within the 10-mile buffer, the data show points from December 2015 along the western half of the buffer (Figure 4-4p, USGS Golden Eagle Bird M007 – 2015). In 2016, there are flight paths through the Reservation Boundary on January 14, 2016; January 17, 2016; May 13, 2016; May 23, 2016; June 19 and 29, 2016; July 28, 2016; August 1 and 24, 2016; September 9 and 11, 2016; and October 2, 2016. There are also point data within the buffer throughout most of the 2016 (Figure 4-4q, USGS Golden Eagle Bird M007 – 2016).

Table 4-6
Biotelemetry Data for Golden Eagles within 10 Miles of the Reservation Boundary

Eagle ID	Date Captured	Capture Location	Primary Use Areas (Tracey et al. 2016, 2017)	Activity on/near Project Site (10-Mile Buffer)
M010	12/17/2015	Proctor Valley	Biotelemetry data show this individual concentrated east and south of Tijuana, Mexico with flight paths east of Tecate, Mexico, and the Jamul Mountains.	Within the 10-mile buffer, the data show a flight path from February 17, 2016; there are points from February and March 2016 south of the Reservation Boundary and into Mexico (Figure 4-4r, USGS Golden Eagle Bird M010 – 2016).
M011	12/21/2015	Barrett Lake	Biotelemetry data show this individual concentrated the Presa El Carrizo Lake southwest of Tecate, Mexico, with additional concentrated flights around the Otay Lakes, Barrett Lake.	There are no points from 2015 within the 10-mile buffer, but data show points west of the buffer (Figure 4-4s, USGS Golden Eagle Bird M011 – 2015). The 2016 data shows a flight path on January 25, 2016, in the western and southern portion of the Reservation Boundary; there are also points from January–March 2016 in the Reservation and western portion of the buffer and from July 2016 north of the Reservation Boundary (Figure 4-4t, USGS Golden Eagle Bird M011 – 2016).

Bell's Sage Sparrow (*Artemisiospiza belli belli*), BCC/WL/County Group 1

This species has high potential to occur within the Campo Corridor. Within the Campo Corridor, suitable habitat includes chaparral and sage scrub.

Long-eared owl (*Asio otus*), SSC/County Group 1

Long-eared owl is an SSC and County Group 1 species. It is an uncommon year-round resident throughout most of the state, with the exception of the Central Valley and Southern California desert regions, where is it generally a winter visitor (Zeiner et al. 1990a). Along the coastline of Southern California, long-eared owl may be a resident breeder (Bloom 1994; Marks et al. 1994) or a rare winter visitor (Garrett and Dunn 1981).

Long-eared owl primarily uses riparian habitat for roosting and nesting, but can also use live oak thickets and other dense stands of trees (Zeiner et al. 1990a). It appears to be more associated with forest edge habitat than with open habitat or forest habitat (Holt 1997). The species usually does not hunt in the woodlands where it nests, but in open areas such as fields, rangelands, and clearings. At higher elevations, the species is found in conifer stands that are usually adjacent to more open grasslands and shrublands (Marks et al. 1994). In California, long-eared owl also nests in dense or brushy vegetation amid open habitat (Bloom 1994).

Long-eared owl has also been known to nest in caves, cracks in rock canyons, and in artificial wicker basket nests (Garner and Milne 1998; Marks et al. 1994).

This species was documented nesting on site in 2011 (AECOM 2012). There is potential for this species to nest or winter in the oak woodland habitat on site.

Red-Shouldered Hawk (*Buteo lineatus*), County Group 1

Red-shouldered hawks were observed nesting on site (AECOM 2012) and observed during the 2017, 2018 and 2019 surveys.

Turkey Vulture (*Cathartes aura*), County Group 1

Turkey vultures were observed foraging throughout the Campo Corridor during biological surveys in 2017 and 2018, but the observations were not mapped. Turkey vulture was documented nesting on the Reservation (AECOM 2012).

Northern Harrier (*Circus hudsonius*), SSC/County Group 1

Northern harrier was observed in 2018 within the Campo Corridor. Although there is some potential nesting habitat in the meadow habitat on site, this species has not been documented nesting in the region (Unitt 2004).

Prairie Falcon (*Falco mexicanus*), BCC/WL, County Group 1

Prairie falcon is a USFWS BCC, WL, and County Group 1 species. The prairie falcon is a permanent resident found throughout most of California. It prefers chaparral, desert grasslands, and creosote bush habitats for foraging, and nests on cliffs or bluffs near these open habitats.

High potential to nest on site in the grassland and some of the emergent wetlands as well as forage on site in the grassland and open scrub habitats. This species has been observed on site during 2010 and 2011 surveys (AECOM 2012) and 2018 surveys.

Loggerhead Shrike (*Lanius ludovicianus*), BCC/SSC/County Group 1

Loggerhead shrike was observed on site in 2017 and 2018, and likely nests within the Campo Corridor.

Yellow Warbler (*Setophaga petechia*), BCC/SSC/County Group 2

Yellow warbler was observed on the Reservation (AECOM 2012) and could nest in the riparian habitat on site.

Mammals

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*), SSC/County Group 2

This species was regularly observed throughout the Campo Corridor in 2018.

San Diego Desert Woodrat (*Neotoma lepida intermedia*), SSC/County Group 2

Woodrat middens were observed during biological surveys. There is suitable desert scrub, chaparral, and rocky areas present onsite.

Invertebrates

Peninsular Metalmark (*Apodemia virgulti peninsularis*), County Group 1

Peninsular metalmark was potentially observed within the Campo Corridor. Behr's metalmark (*Apodemia virgulti*), which is very similar in appearance to Peninsular metalmark, was observed frequently in the Campo Corridor. The host plant occurs within the Campo Corridor and therefore, this species could have been observed during the wildlife surveys.

Quino Checkerspot Butterfly (*Euphydryas editha quino*), FE, County Group 1

Quino checkerspot butterfly was listed as endangered on January 16, 1997 (62 FR 2313–2322). A recovery plan was published for the species on September 17, 2003 (USFWS 2003). Critical habitat was first designated on April 15, 2008 (67 FR 18356–18395), later revised on June 17, 2009 (74 FR 28776–28862). In accordance with FESA Section 4(b)(2); EO 13175, Consultation and Coordination with Indian Tribal Governments; and Secretarial Order 3206, USFWS has excluded the Reservation from critical habitat designation for Quino checkerspot butterfly. Critical habitat designated for Quino checkerspot butterfly borders the Reservation to the west and south (Figure 2-1).

This species is found only in western Riverside County, southern San Diego County, and northern Baja California, Mexico (USFWS 2003). This species is found on sparsely vegetated hilltops, on ridgelines, and occasionally on rocky outcrops in open chaparral and coastal sage scrub habitat (typically at less than 3,000 feet above mean sea level). This species requires host plants within these

vegetation communities for feeding and reproduction. The primary larval host plant is dotseed plantain; however, several other species have been documented as important larval host plants, including desert plantain, sometimes called woolly plantain (*Plantago patagonica*); thread-leaved bird's beak (*Cordylanthus rigidus*); white snapdragon (*Antirrhinum coulterianum*); owl's clover (*Castilleja exserta*); and Chinese houses (*Collinsia* spp.) (USFWS 2003).

Twenty-seven Quino observations were documented during 2010 USFWS protocol surveys (Attachment A-2). Observations were concentrated in the southern portion of the 2010 AECOM BSA (Figure 4-5) (AECOM 2012). In 2018, updated surveys were conducted for the Campo Corridor. No occurrences of Quino were recorded during the focused surveys.

Quino Checkerspot Butterfly Modeled Habitat

Quino checkerspot butterfly populations vary yearly based on a variety of factors, including rainfall, temperature, timing of rain events, and host plant growth patterns, among others. Low rainfall and other factors can cause larva to extend diapause and delay emergence. Lack of adult Quino checkerspot butterfly observations in one year may not be considered adequate evidence that a site is unoccupied. Therefore, potentially occupied habitat was modeled based on Quino checkerspot butterfly records and host plants observed in 2010. The habitat model is created from the following parameters based on general industry guidance from USFWS for other projects:

- 200-meter buffer around Quino checkerspot butterfly locations
- 200-meter buffer around "significant" plant populations (i.e., >20 individuals)
- Hilltops
- Ridgelines (centerline with 100-foot (31.2-meter) buffer

Plant population buffers, hilltops, and ridgelines were added to the primary Quino checkerspot butterfly detection polygon or each other as they would connect. If the link was broken by distance or unsuitable habitat, then the potentially occupied patch would end.

The 2010 and 2018 Quino checkerspot butterfly exclusion areas were removed from the model since those areas were determined to be unsuitable for this species. This model resulted in approximately 674.1 acres of potentially occupied habitat mapped within the Campo Corridor, a portion of which was considered occupied based on the 2010 Quino checkerspot butterfly observations. Figure 4-6 shows the model and estimated occupied habitat.

4.6.2.2 County Group 2 Species

County Group 2 species that have been observed or have high potential to occur in the Campo Corridor are described below and included in Attachment H-2. Additional species that have moderate potential to occur are described in more detail in Attachment H-2. For species that occur or have high potential to occur in both the Boulder Brush Corridor and the Campo Corridor, their life history and habitat requirements are not repeated below. Refer to Section 4.6.1 for that information.

Reptiles

Coronado Skink (*Plestiodon skiltonianus interparietalis*), WL/County Group 2

Although Coronado skink was not detected during surveys, this species has high potential to occur within the Campo Corridor. Suitable habitat in the Campo Corridor includes chaparral and coast live oak woodland.

San Diego Ringneck Snake (*Diadophis punctatus similis*), County Group 2

This species has high potential to occur within the Campo Corridor. Suitable habitat includes moist chaparral, sage scrub, and coast live oak woodland.

Rosy Boa (*Lichanura trivirgata*), County Group 2

This species has high potential to occur within the Campo Corridor. Suitable habitat includes chaparral, sage scrub, and coast live oak woodland.

Birds

California Horned Lark (*Eremophila alpestris actia*), WL/County Group 2

This species was observed in the open scrub and grassland areas in the Campo Corridor in 2018, but its specific locations were not mapped.

Merlin (*Falco columbarius*), WL/County Group 2

Merlin was observed on site during 2010 and 2011 surveys (AECOM 2012), as well as in October and November 2018 in the central portion of the Campo Corridor. It may use the Campo Corridor occasionally for foraging in the limited grassland or other open habitat types.

Barn Owl (*Tyto alba*), County Group 2

This species was observed nesting within the Campo Corridor (AECOM 2012) and observed during 2017/2018 surveys, but its specific location was not mapped.

Western Bluebird (*Sialia mexicana*), County Group 2

Western bluebirds were observed within the Campo Corridor, but its specific locations were not mapped. The species is anticipated to utilize all oak woodlands.

Mammals

Mule Deer (*Odocoileus hemionus*), County Group 2

Mule deer or their sign were observed within the Campo Corridor in 2018, but the locations were not mapped due to the high mobility of this species. Mule deer were flushed from upland habitats several times during surveys and are likely to use most of the Campo Corridor.

Cougar (*Puma concolor*), County Group 2

This species was recorded within the Campo Corridor (AECOM 2012), but its specific location was not mapped.

Western Small-Footed Myotis (*Myotis ciliolabrum*), Group 2

This species has high potential to roost within the Campo Corridor. Suitable habitat includes oak and riparian woodlands.

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.25 2.5 Miles

FIGURE 4-3a

USGS Golden Eagle Bird F004 - 2015 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.25 2.5 Miles

FIGURE 4-3b

USGS Golden Eagle Bird F006 - 2015 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

FIGURE 4-3c

USGS Golden Eagle Bird F007 - 2015 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

DUDEK

0 1.25 2.5 Miles

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

FIGURE 4-3d

USGS Golden Eagle Bird F007 - 2016 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

DUDEK

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.25 2.5 Miles

FIGURE 4-3e

USGS Golden Eagle Bird F013 - 2016 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.25 2.5 Miles

FIGURE 4-3f

USGS Golden Eagle Bird F014 - 2016 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

FIGURE 4-3g

USGS Golden Eagle Bird F016 - 2016 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.25 2.5 Miles

FIGURE 4-3h

USGS Golden Eagle Bird M005 - 2015 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

FIGURE 4-3i

USGS Golden Eagle Bird M007 - 2015 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

DUDEK

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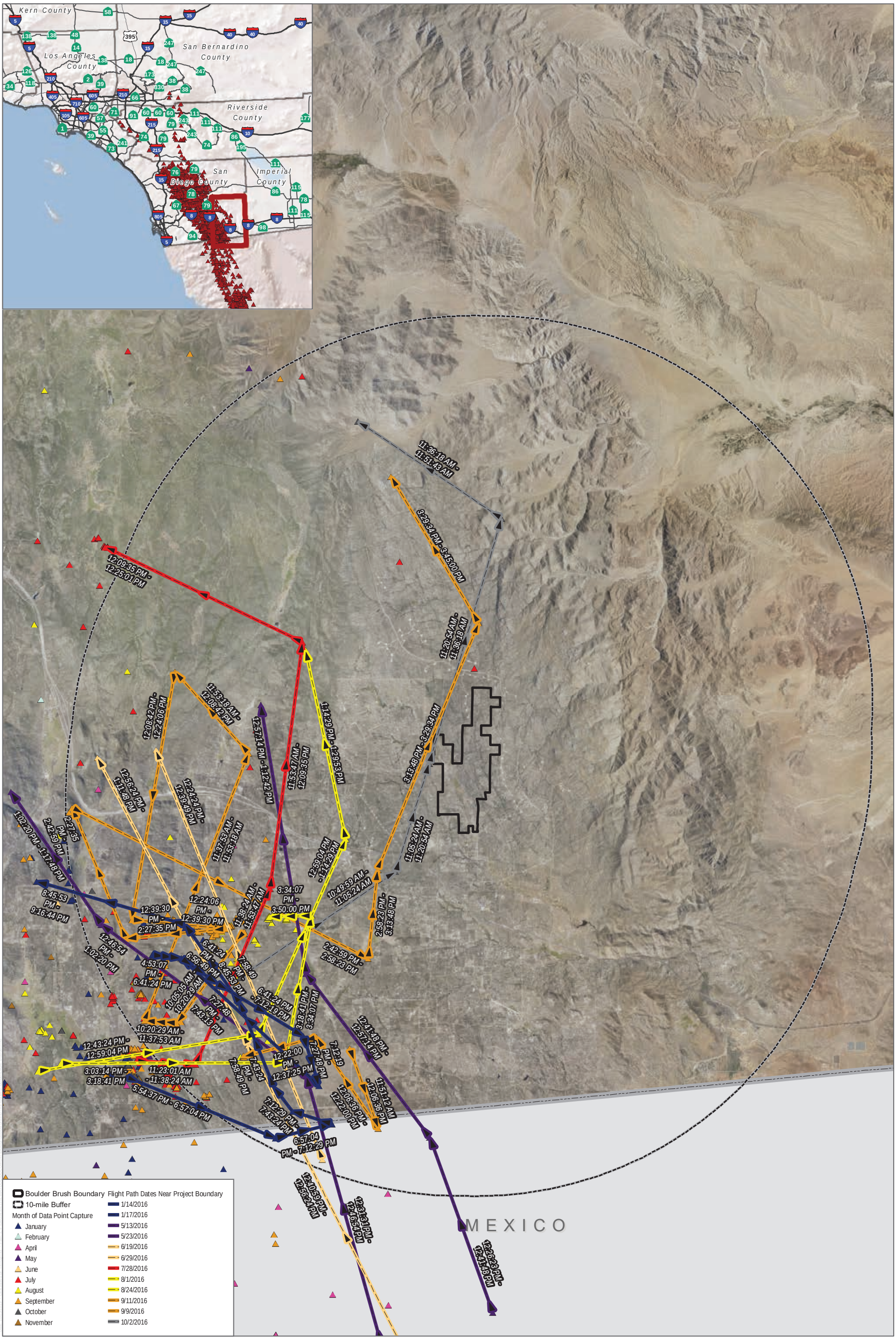

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.25 2.5 Miles

FIGURE 4-3j

USGS Golden Eagle Bird M007 - 2016 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.25 2.5 Miles

FIGURE 4-3k

USGS Golden Eagle Bird M010 - 2016 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.25 2.5 Miles

FIGURE 4-3I

USGS Golden Eagle Bird M011 - 2016 - Boulder Brush Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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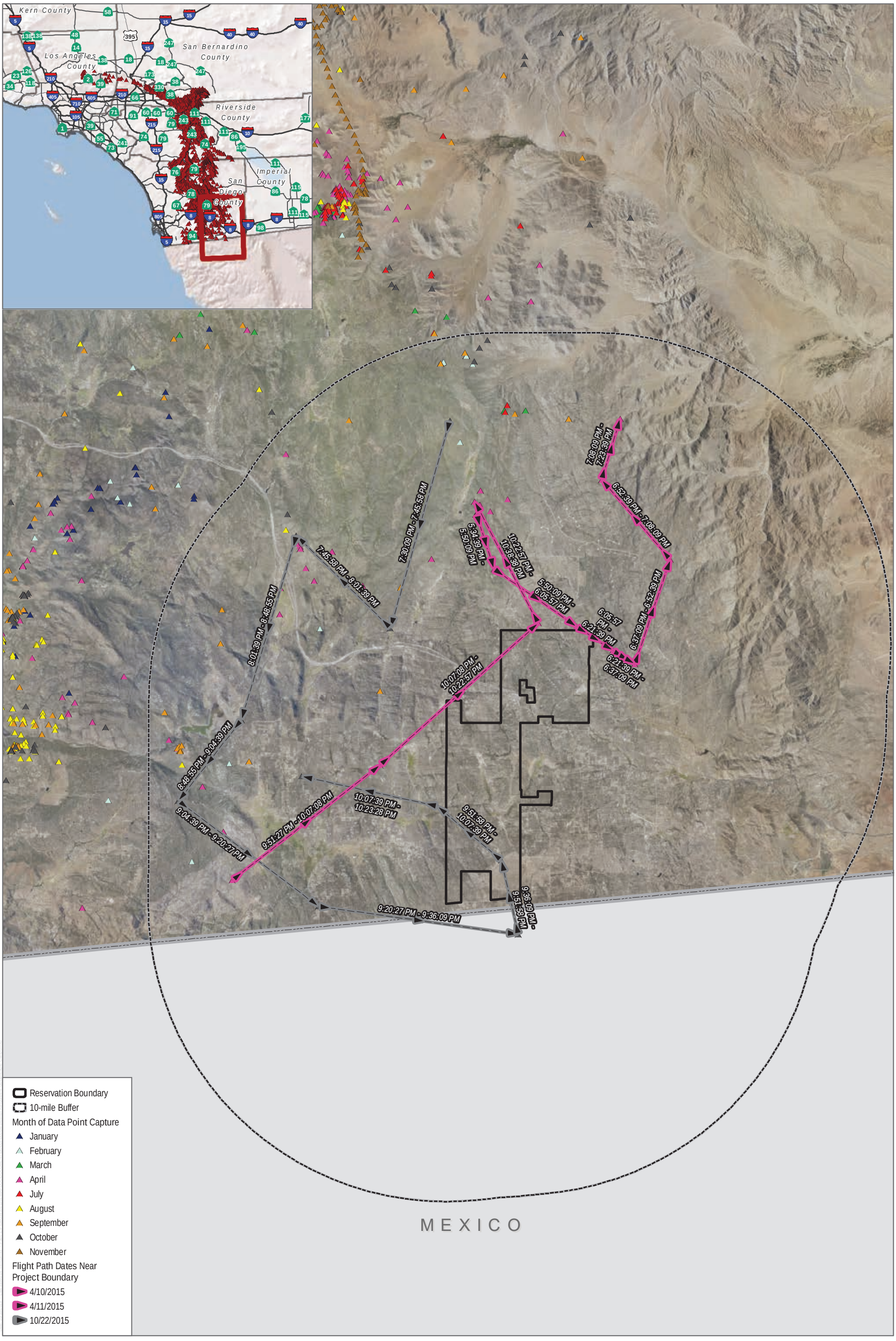

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4a

USGS Golden Eagle Bird F004 - 2015 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4b

USGS Golden Eagle Bird F004 - 2016 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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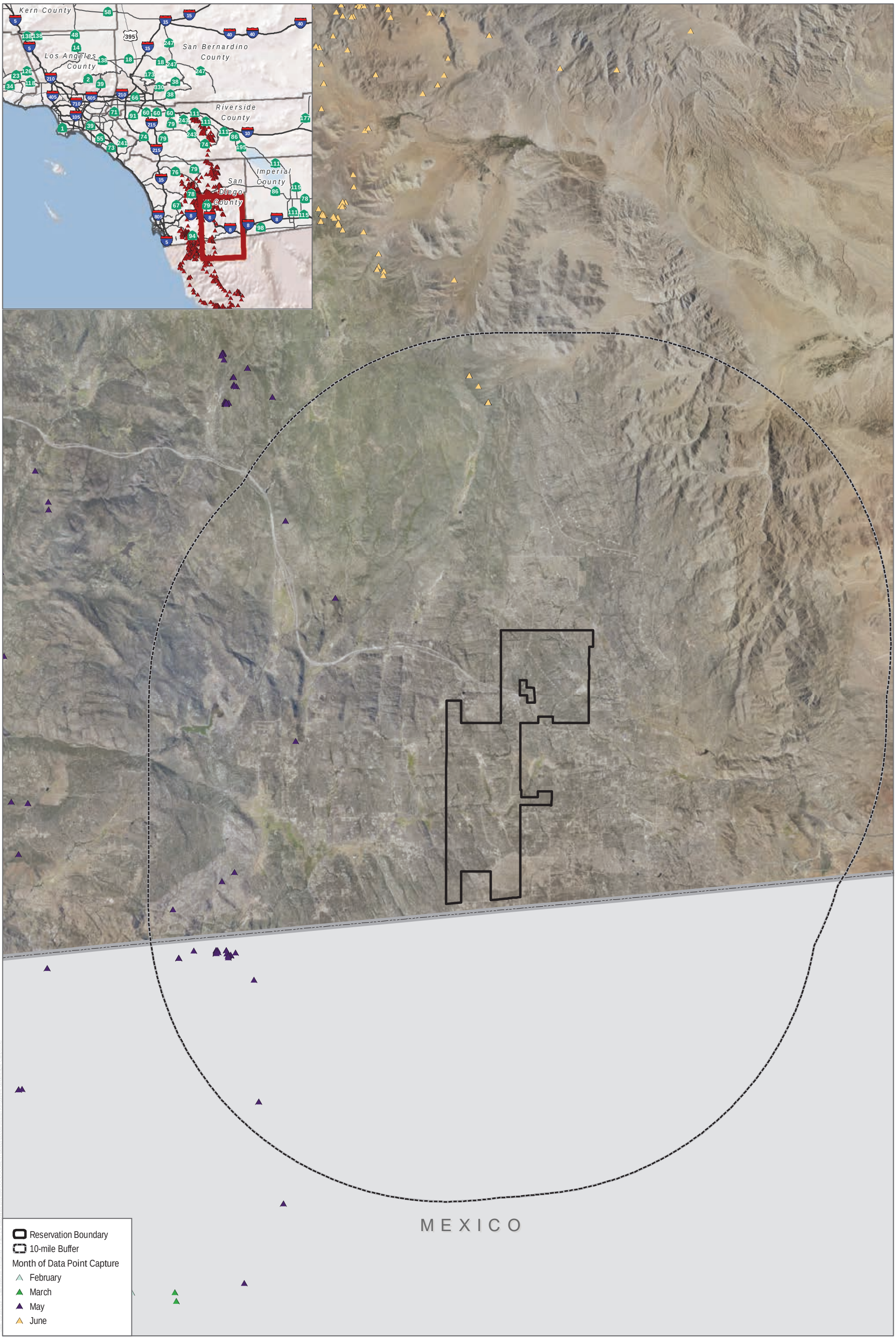

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

FIGURE 4-4c

USGS Golden Eagle Bird F006 - 2015 - Reservation Boundary

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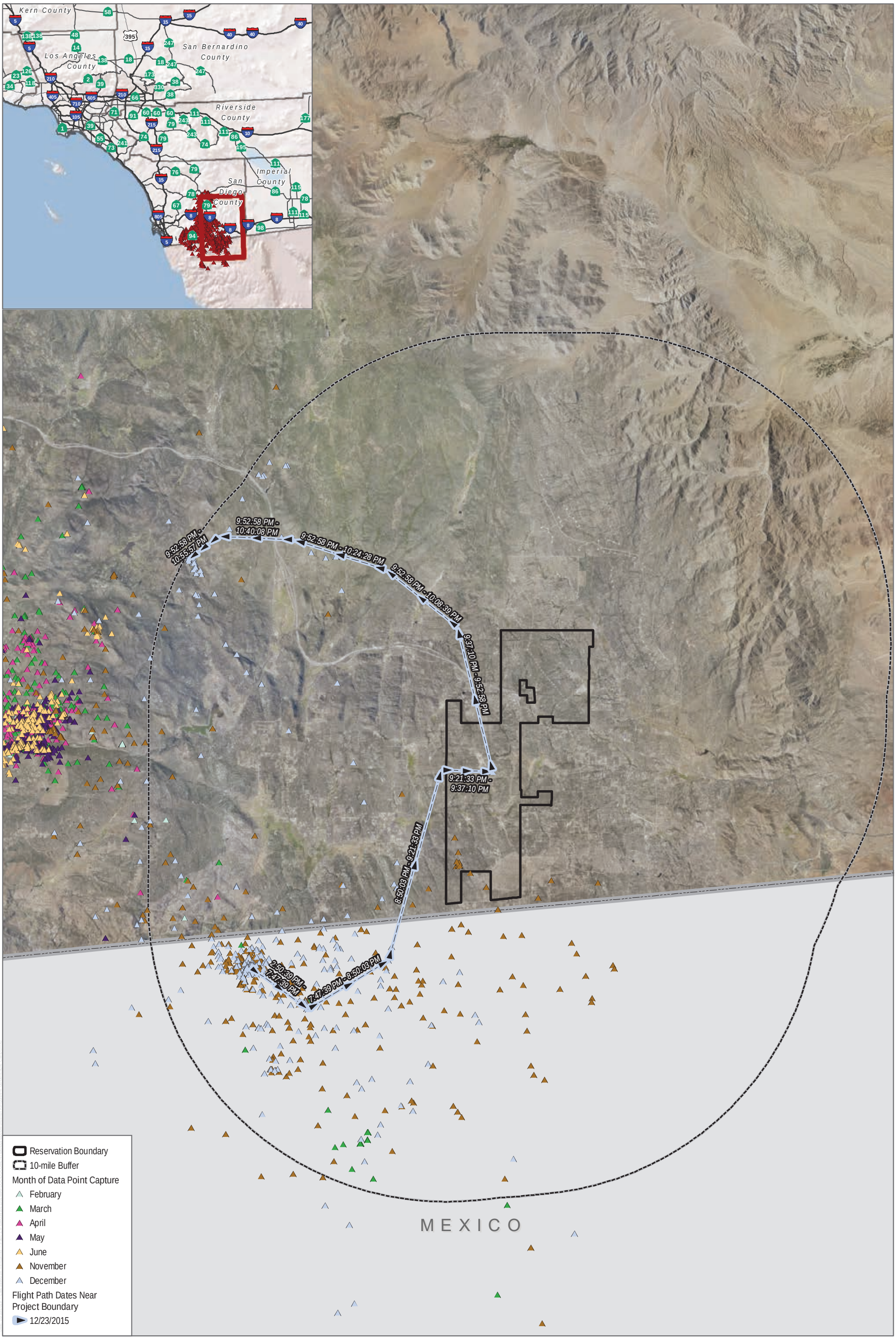

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4d

USGS Golden Eagle Bird F007 - 2015 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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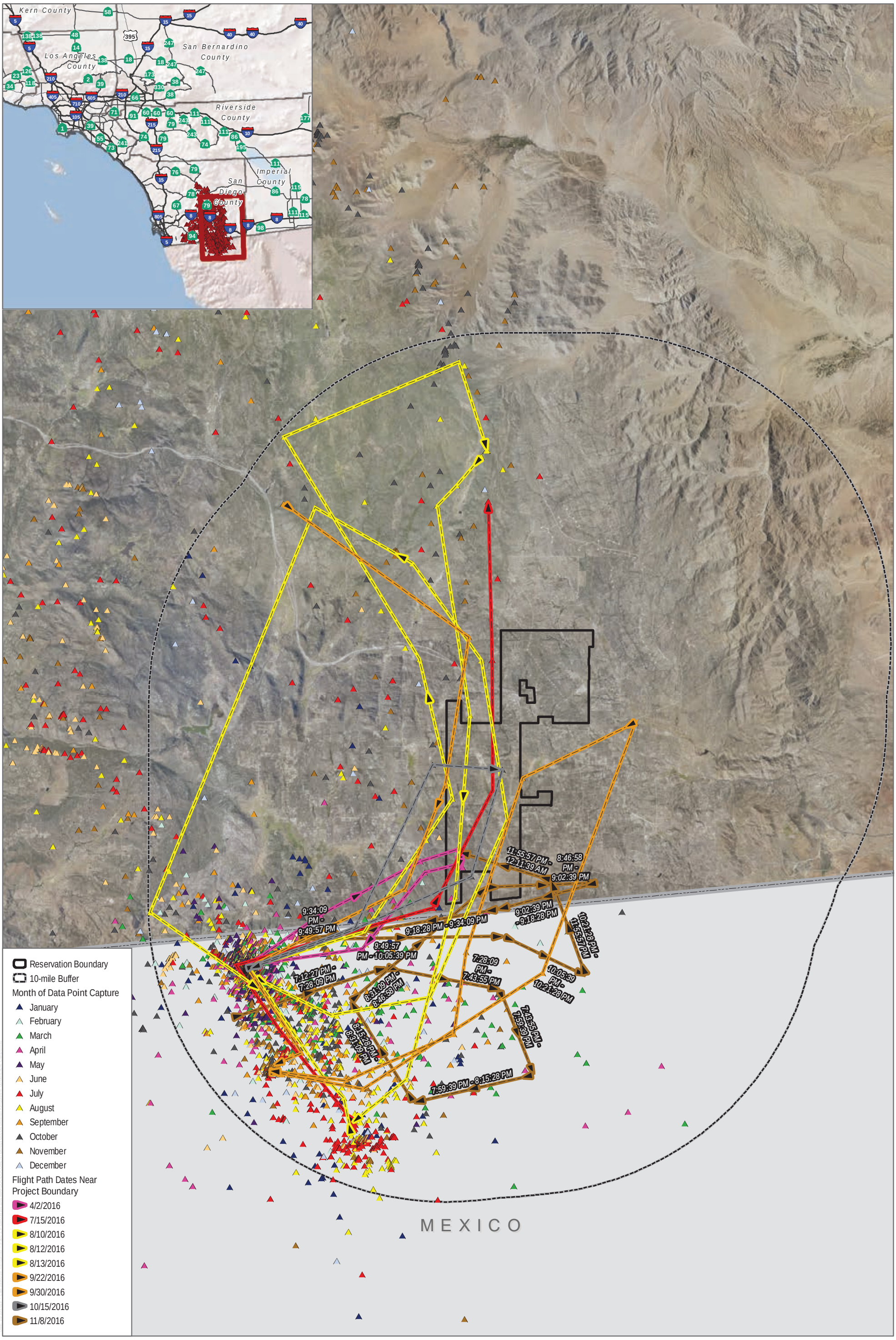

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4e

USGS Golden Eagle Bird F007 - 2016 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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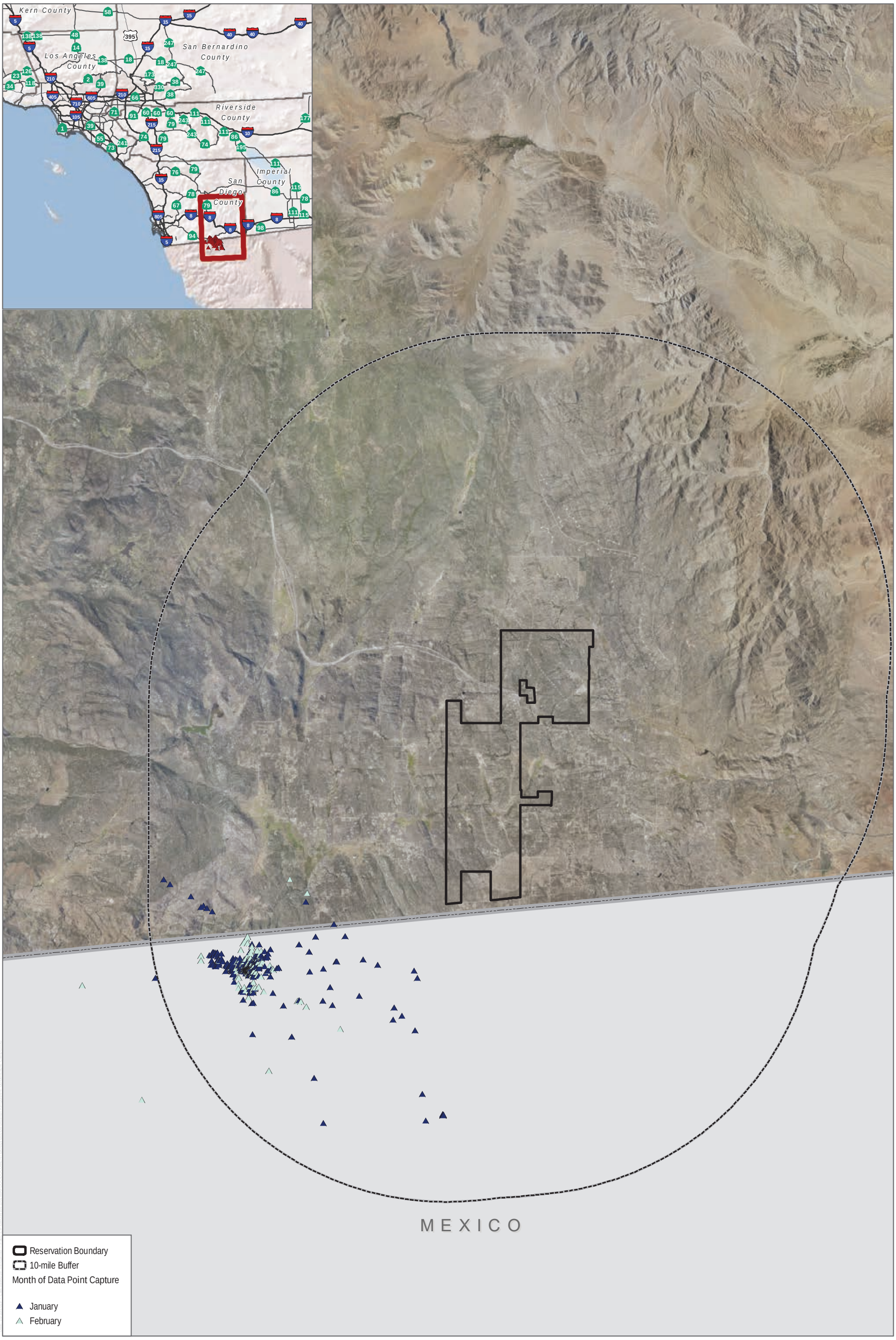

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

FIGURE 4-4f

USGS Golden Eagle Bird F007 - 2017 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4g

USGS Golden Eagle Bird F008 - 2015 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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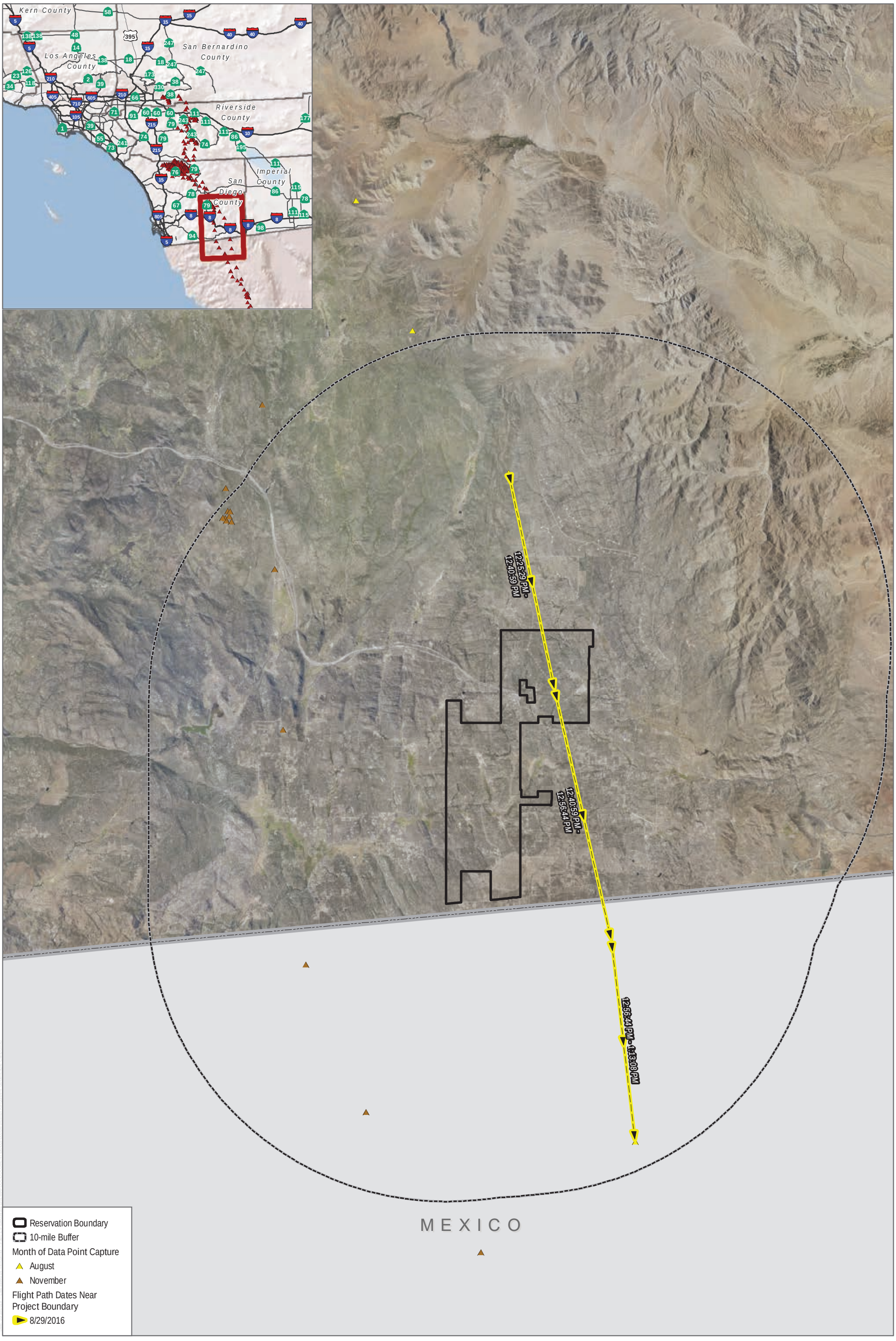

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4h

USGS Golden Eagle Bird F013 - 2016 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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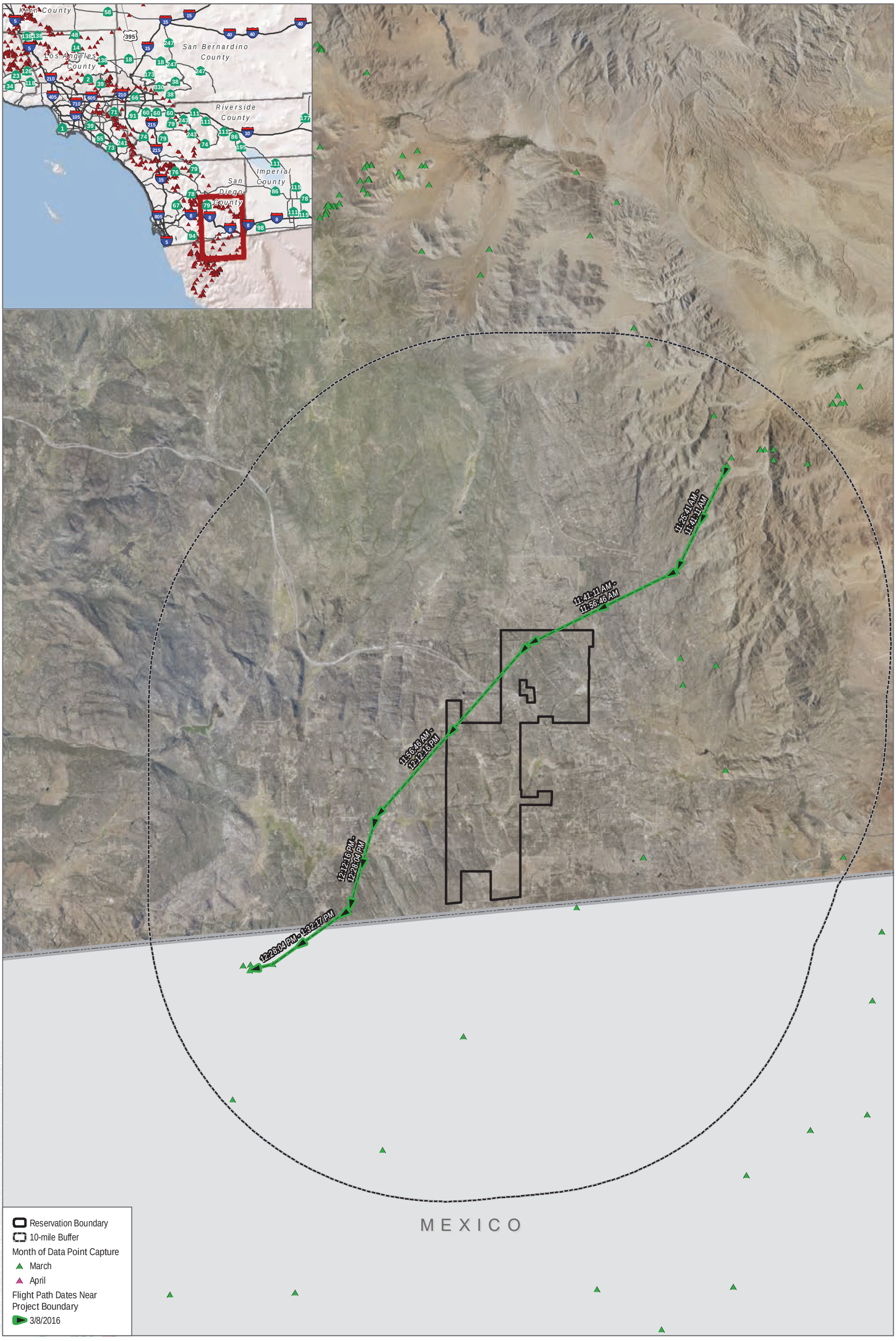

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4i

USGS Golden Eagle Bird F014 - 2016 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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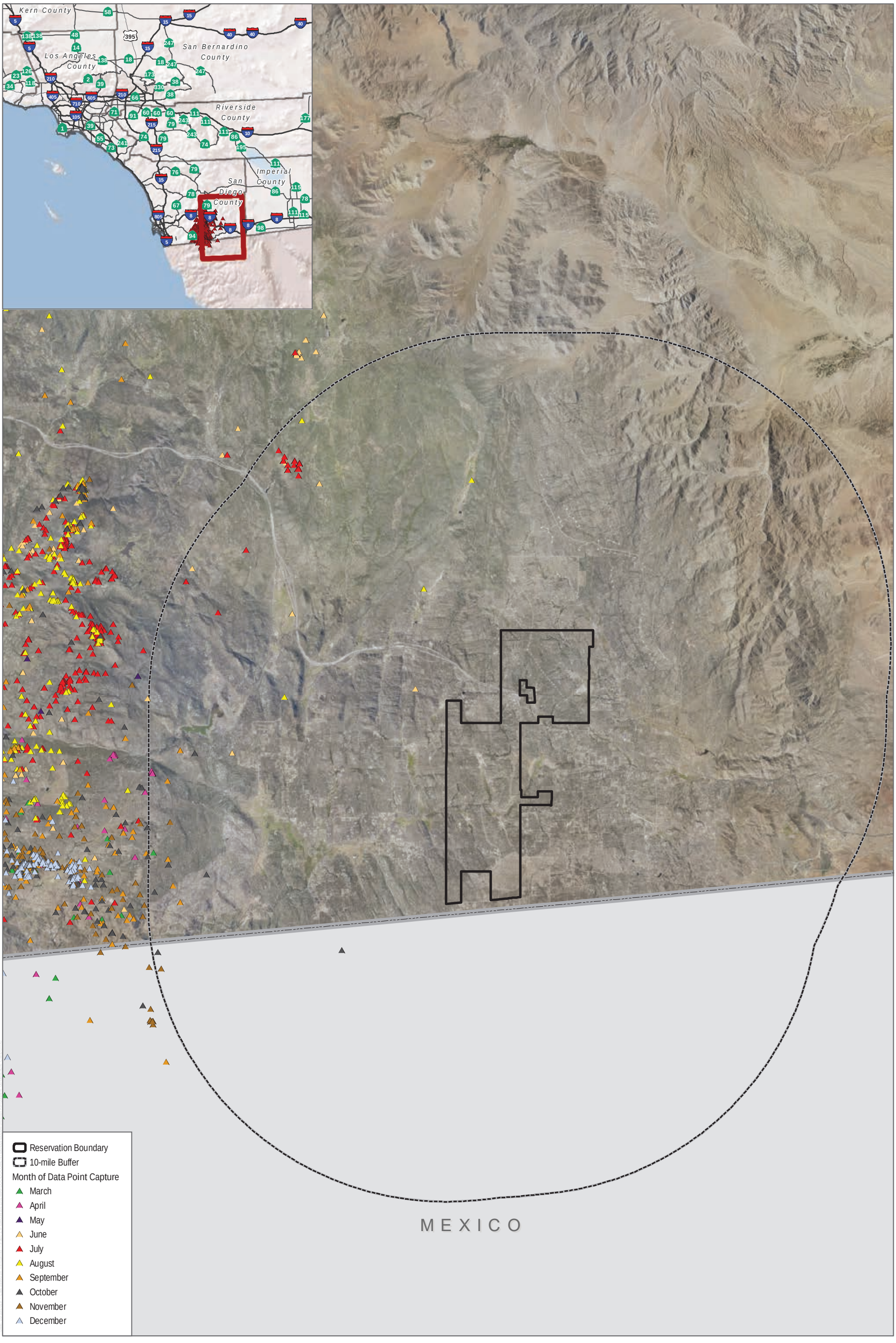

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4j

USGS Golden Eagle Bird F016 - 2016 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4k

USGS Golden Eagle Bird F016 - 2017 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4I

USGS Golden Eagle Bird M002 - 2015 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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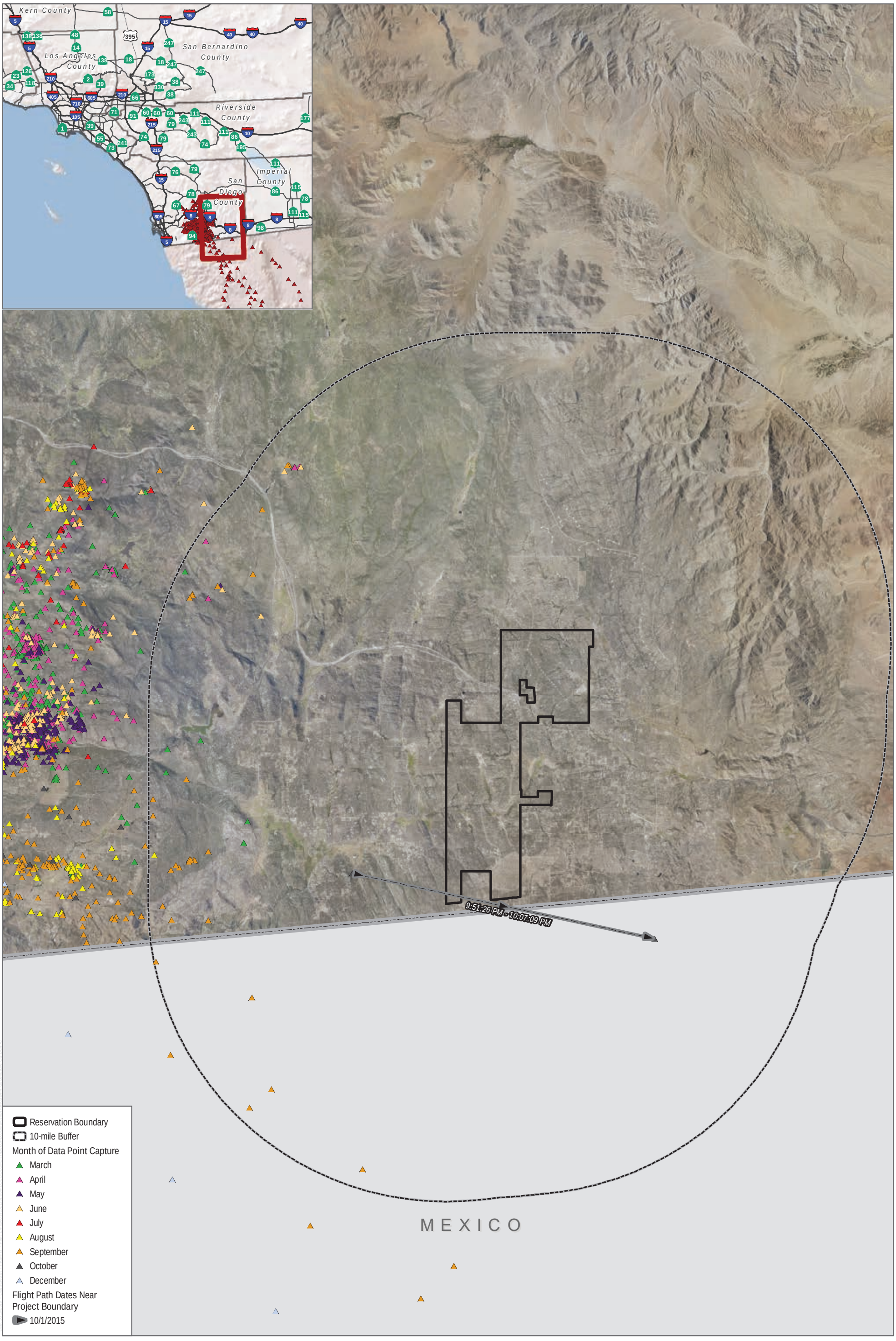

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4m

USGS Golden Eagle Bird M005 - 2015 - Reservation Boundary

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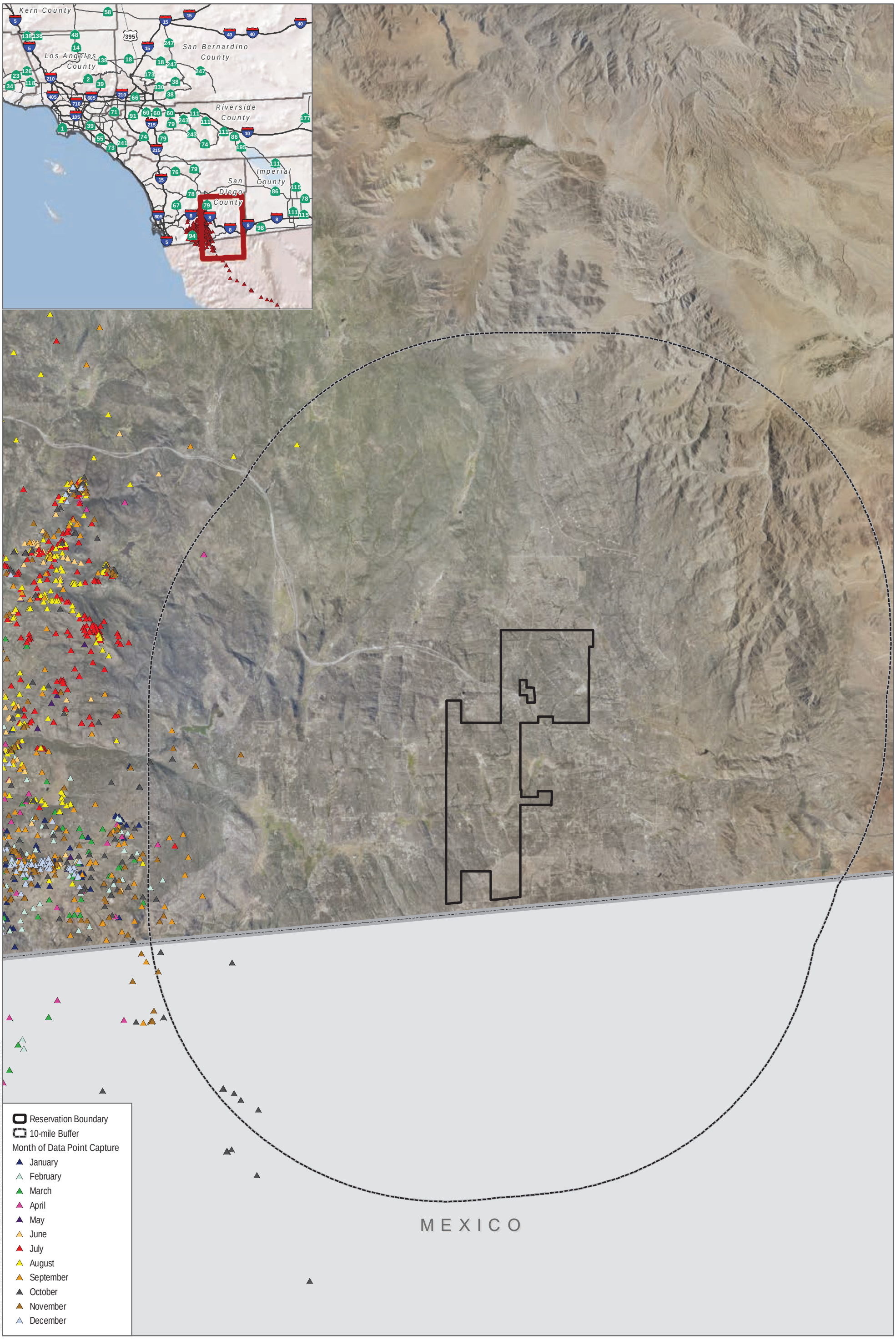

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4n

USGS Golden Eagle Bird M005 - 2016 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4o

USGS Golden Eagle Bird M005 - 2017 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4p

USGS Golden Eagle Bird M007 - 2015 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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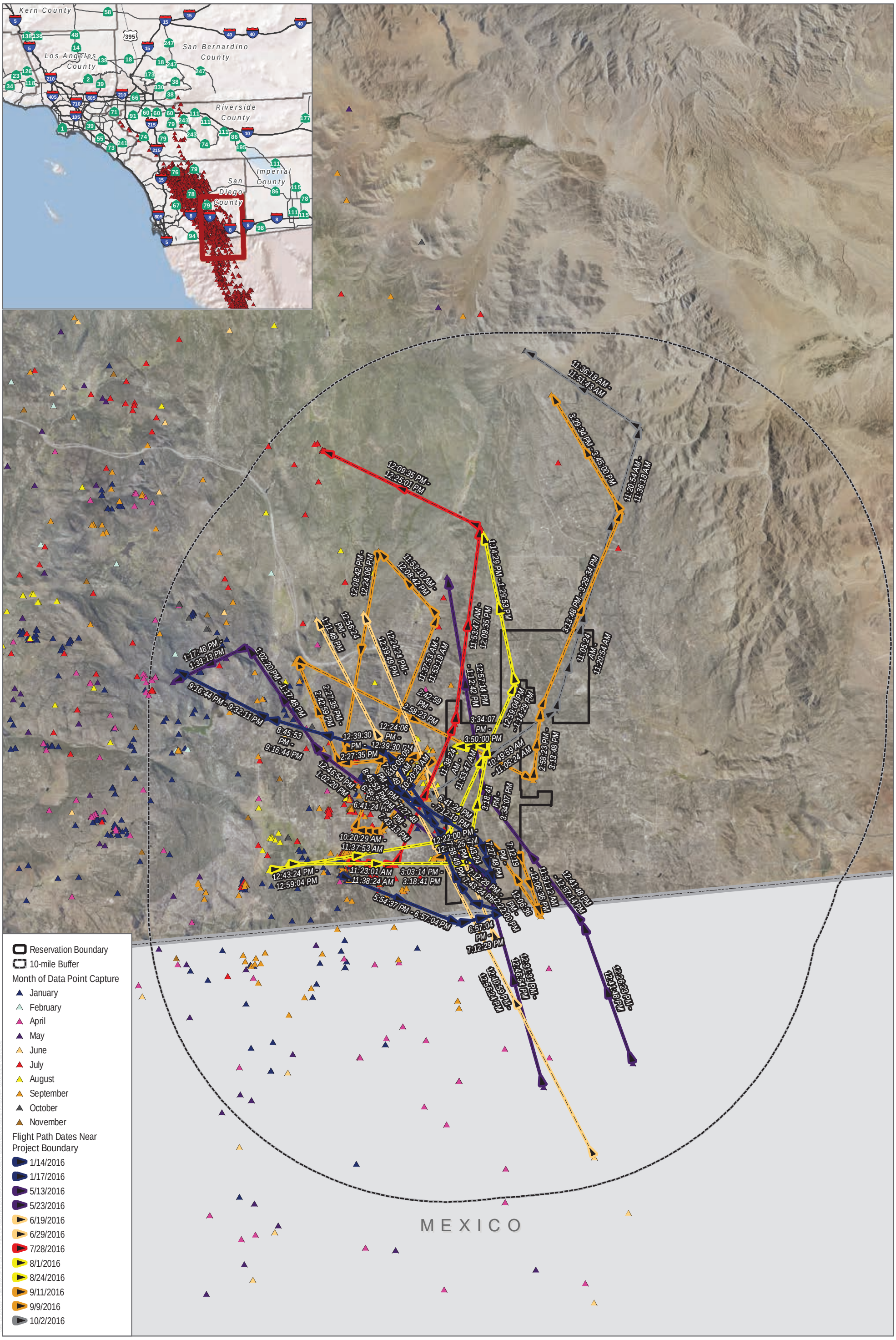

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

FIGURE 4-4q

USGS Golden Eagle Bird M007 - 2016 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

DUDEK

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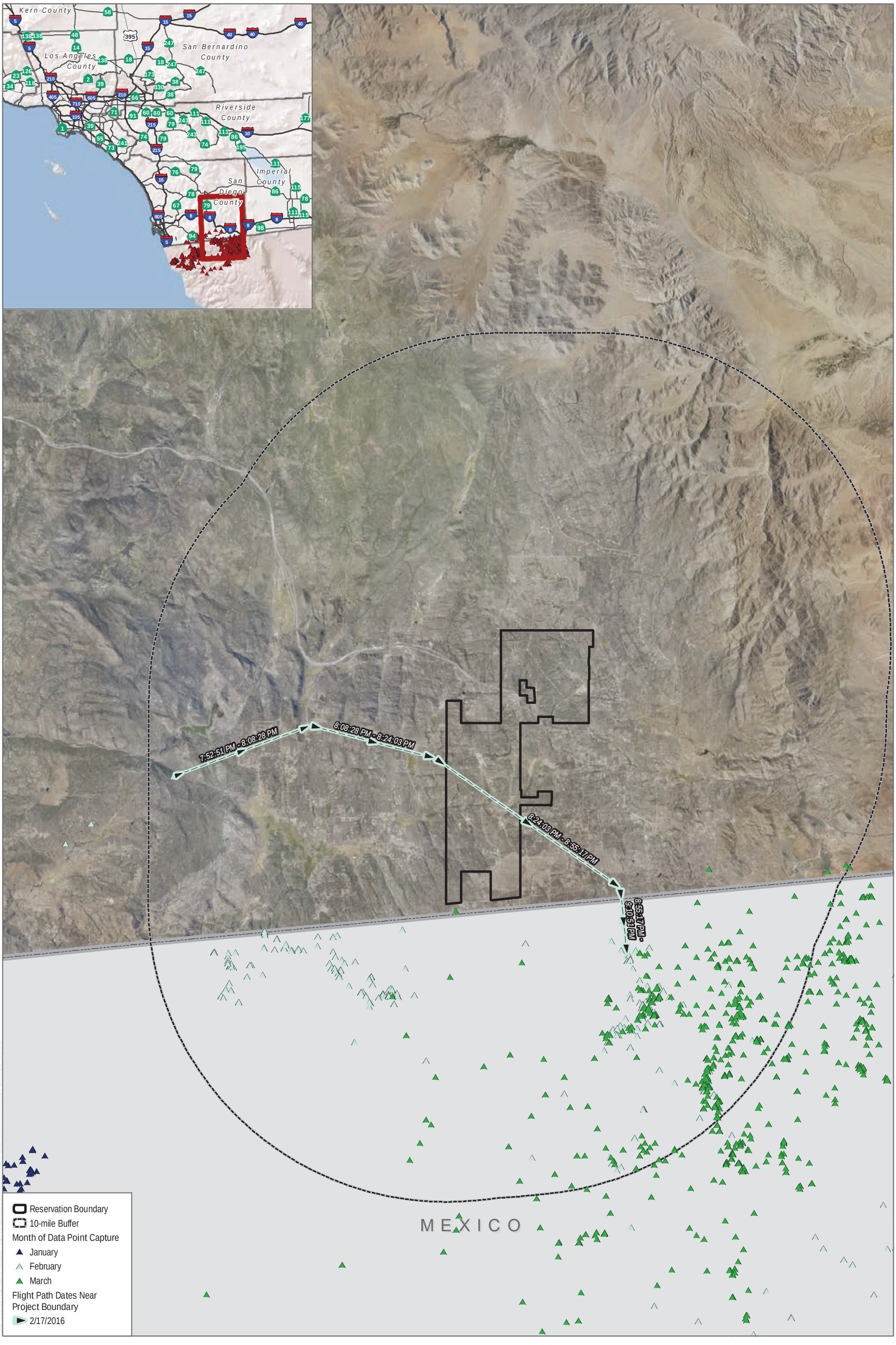

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

FIGURE 4-4r

USGS Golden Eagle Bird M010 - 2016 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

DUDEK

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SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4s

USGS Golden Eagle Bird M011 - 2015 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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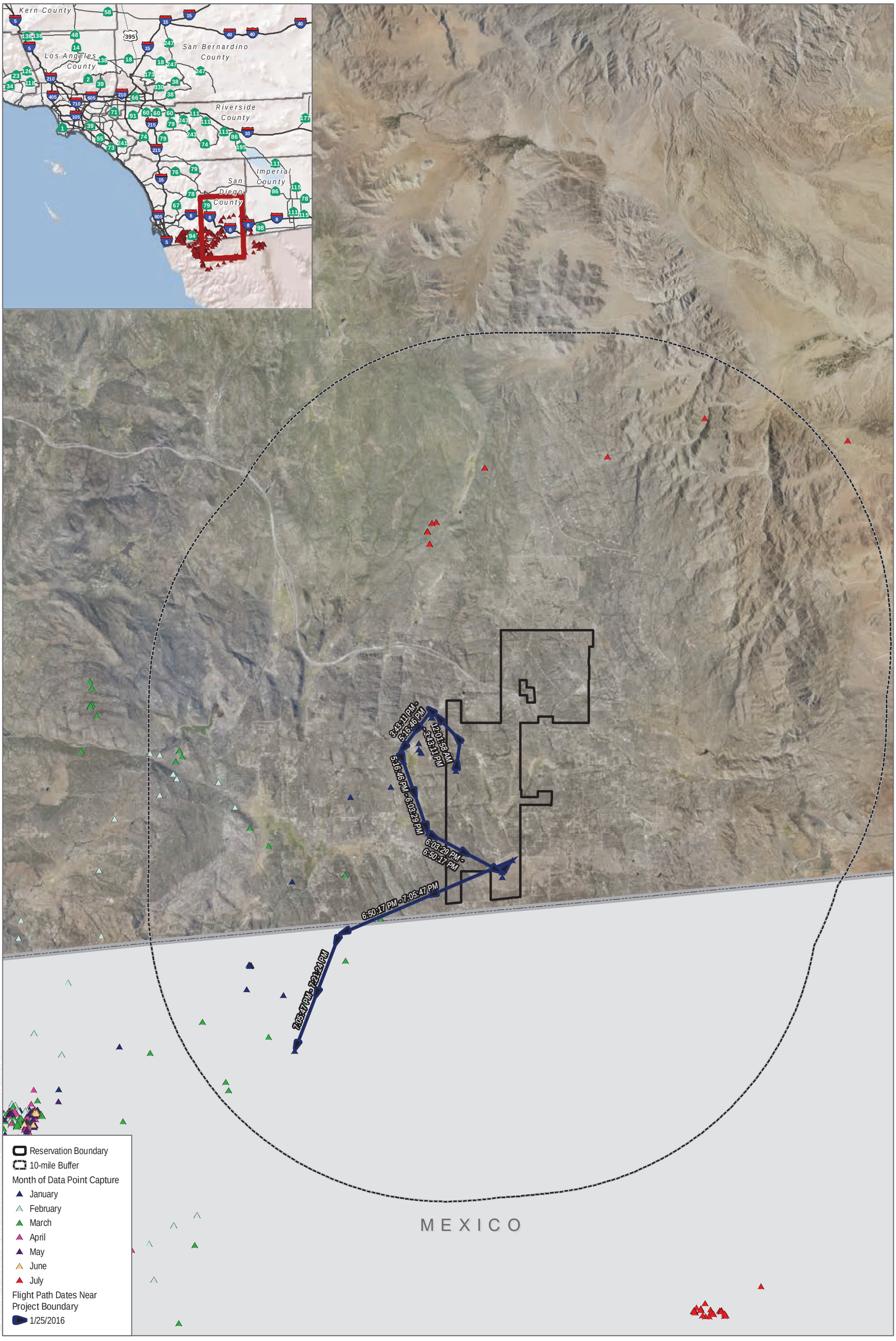

SOURCE: Tracey et al. 2016; Tracey et al. 2017; SANGIS 2017

DUDEK

0 1.5 3 Miles

FIGURE 4-4t

USGS Golden Eagle Bird M011 - 2016 - Reservation Boundary

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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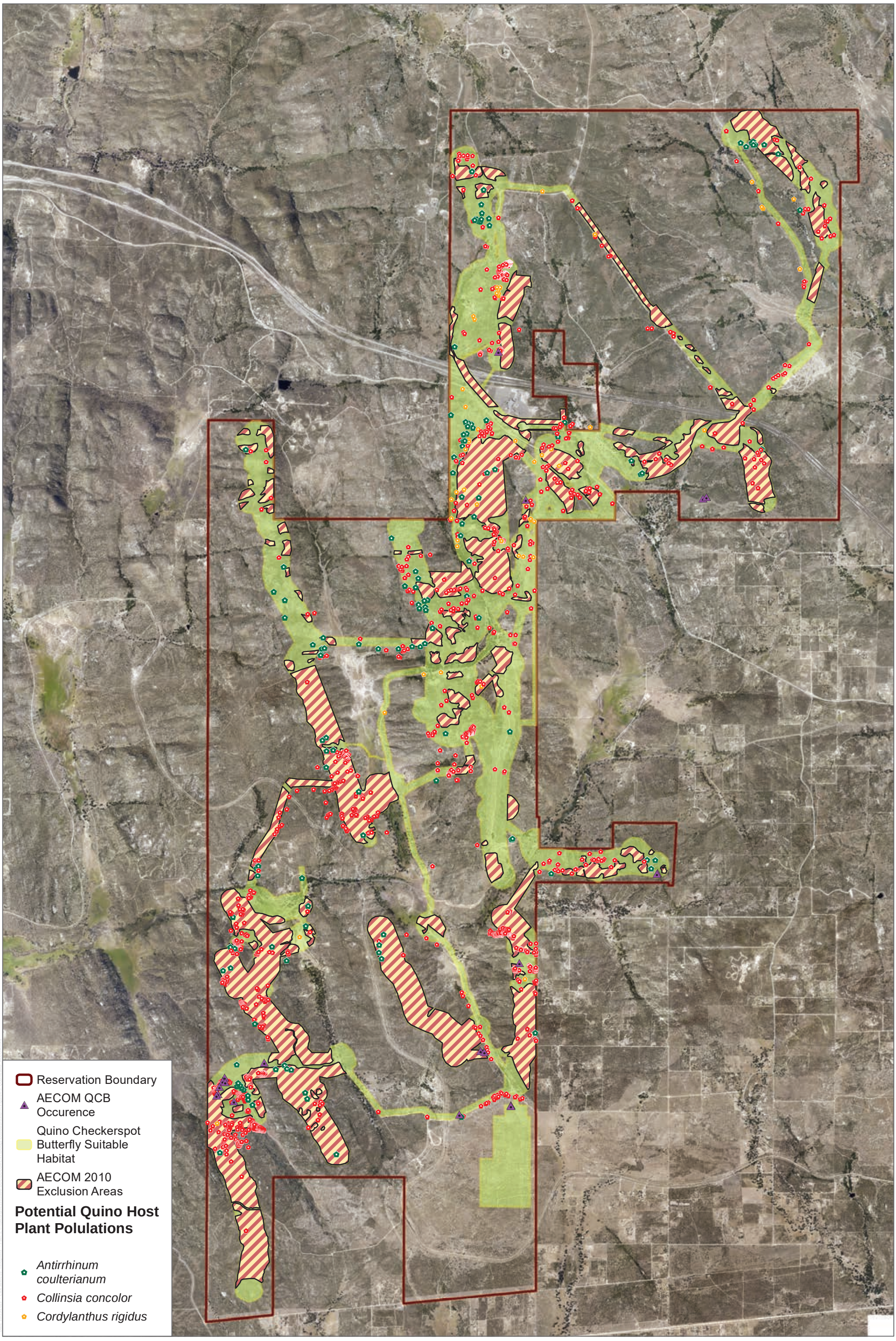

SOURCE: SANGIS 2017; AECOM 2010

DUDEK

0 1,500 3,000 Feet

FIGURE 4-5

2010 Quino Checkerspot Butterfly Survey Results

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary
Reservation Boundary
Dudek QCB Observation
USFWS QCB Occurence
AECOM QCB Occurence

QCB Host Plants

Major Plant Population (>10 Individuals)
Non-major Plant Population (<10 Individuals)
Ridgeline 40ft Buffer
Ridge 100ft Buffer
USFWS 200m Buffer
Hostplant 200m Buffer
Hilltops
Dudek 2018 Exclusion Areas
AECOM 2010 Exclusion Areas
QCB Habitat Modeling
40’ Contours

SOURCE: SANGIS 2017; AECOM 2010

DUDEK

0 2,200 4,400 Feet

FIGURE 4-6

Quino Checkerspot Butterfly Potentially Occupied Habitat Model

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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4.7 Jurisdictional Aquatic Resources

4.7.1 Boulder Brush Corridor

A formal jurisdictional delineation was conducted in June and July 2018 for the Boulder Brush Corridor. Additional delineation fieldwork was performed in September 2018 and in June 2019. The jurisdictional areas in the Boulder Brush Corridor consist of tributaries to Tule Creek, Tule Creek itself, and tributaries to Carrizo Creek (see Figure 4-1 series). The majority of the Boulder Brush Corridor is characterized by small ephemeral channels, draining runoff, and surface flow from the hillslopes and roads that drain toward Tule Creek. Many of these features do not directly connect to Tule Creek, since these surface features abate into uplands prior to a direct conveyance into Tule Creek. However, these features may have a subsurface connection to downstream receiving waters. Overall, the features in the Boulder Brush Corridor are ephemeral features, flowing during rain events as well as Tule Creek, which is considered an intermittent drainage although some of its flow appears to be subsurface.

Approximately 1.00 acres of the Boulder Brush Corridor is composed of non-wetland stream features considered jurisdictional waters of the United States and state (see Figure 4-1 series). Additionally, 4.03 acres of riparian habitat regulated by CDFW is associated with Tule Creek. Based on the jurisdictional investigation in this area, the riparian habitat did not meet the criteria for a federally defined wetland (e.g., the co-occurrence of hydrophytic vegetation, hydric soil, and wetland hydrology). However, these small riparian communities are associated with (and dependent on) ephemeral stream features and do qualify as riparian habitat regulated by CDFW. Table 4-7, Data Station Results, includes the results of the data station samples. Attachment K, Data Station Forms, includes the data station forms and Ordinary High Water Mark Datasheets representing the non-wetland waters mapped in the Boulder Brush Corridor. Table 4-8, Waters and Wetlands of the U.S., State, and County RPO Wetlands within the Boulder Brush Facilities, summarizes the acreage and linear feet of the jurisdictional features.

Table 4-7
Data Station Results

Sample Point	Hydrophytic Vegetation	Hydric Soils	Hydrology
1	No	No	Yes
2A	Yes	No	Yes
2B	No	No	Yes
2C	No	No	No
3	No	Yes	Yes
4a	Yes	No	No

Table 4-7
Data Station Results

Sample Point	Hydrophytic Vegetation	Hydric Soils	Hydrology
4b	No	No	No
4c	Yes	No	Yes
4d	Yes	No	Yes
4e	No	No	Yes
4f	No	No	No

Table 4-8
Waters and Wetlands of the U.S., State, and County RPO Wetlands within the Boulder Brush Corridor

Feature Type	Type of Habitat (Oberbauer et al. 2008)	Type of Habitat (Cowardin et al. 1979)	Acres	Linear Feet	Regulatory Authority
Non-wetland waters	Waters of the United States/unvegetated channel – ephemeral	Riverine; Unconsolidated Bottom, Sand, Ephemerally Flooded, Fresh	0.61	16,035	USACE, CDFW, RWQCB
Non-wetland waters	Waters of the United States/unvegetated channel – intermittent	Riverine; Unconsolidated Bottom, Sand, Intermittently Flooded, Fresh	0.39	2,157	USACE, CDFW, RWQCB, County RPO
Riparian habitat	Southern riparian forest	Palustrine; Scrub/Shrub Broad-leaved, Deciduous, Seasonally Flooded, Fresh	0.64	N/A	CDFW, County RPO
Emergent wetland	Emergent wetland	Riparian; emergent, lentic, riparian	3.39	N/A	CDFW, County RPO
Total Potential Jurisdictional Waters			5.03	18,192	—

Note: Totals do not sum due to rounding.

Waters of the United States

Tule Creek is located within the southern portion of the Boulder Brush Corridor. The majority of the Boulder Brush Corridor is characterized by small ephemeral channels, draining runoff, and surface flow from the hillslopes and roads that are tributary to Tule Creek. Tule Creek has a wide

floodplain with occasional low-flow channels where it receives surface flow, but the majority of the floodplain appears to be supported by subsurface flow, indicated by the patches of riparian herbs, shrubs, and trees within portions of the floodplain. There are sections within the Boulder Brush Corridor where data was collected within Tule Creek that were dominated by upland species, such as big sagebrush scrub, tall tumblemustard, and cheatgrass. The northern portion of the Boulder Brush Corridor (near the proposed switchyard) includes ephemeral non-wetlands waters that are tributary to Carrizo Creek. During site visits, it was observed that many of these ephemeral channels have been directly impacted by off-road vehicle use (predominantly motorized dirt bikes). The disturbance created by these activities often bisect the channel or the length of a channel has been impacted by dirt bike use.

Data station samples were taken within, and adjacent to, the defined channel in Tule Creek and within the overall floodplain (Figures 4-1n through 4-1p). USACE requires three parameters to qualify as a wetland (USACE 1987), and none of the data station samples resulted in positive indicators for all three criteria (see Table 4-7). Therefore, the large channel in Tule Creek and smaller channels to the north are considered an intermittent non-wetland waters of the United States.

None of the ephemeral drainages (tributaries to Tule Creek and Carrizo Creek) within the Boulder Brush Corridor supported hydrophytic vegetation; therefore, no data station samples were conducted in these areas. These features are considered ephemeral non-wetland waters of the United States.

Tule Creek receives surface and subsurface flows from headwaters originating in the Laguna Mountains northwest of the Boulder Brush Corridor. It continues draining in a downward gradient in an east and southeast orientation into Tule Lake, located approximately 4.5 miles southeast of the Boulder Brush Corridor. Water then flows into Tule Canyon, which eventually outlets into Carrizo Creek where it drains north/northeast. Carrizo Creek turns into Carrizo Wash and connects to San Felipe Wash and eventually drains into the Salton Sea to form a significant nexus to a traditional navigable water. Therefore, the waters within the Boulder Brush Corridor are considered subject to regulation by USACE.

Streambed or Riparian Habitat of the State

CDFW regulates streambeds and riparian vegetation associated with streambeds. All of the non-wetland waters of the United States are also streambeds regulated by CDFW. Additionally, the riparian vegetation (i.e., southern riparian forest and emergent wetland) associated with Tule Creek is considered riparian habitat regulated by CDFW.

Non-wetland waters are also regulated under Section 401 of the Clean Water Act and as such, any impacts to these features require a Section 401 Certification from the RWQCB.

Resource Protection Ordinance Wetland Determination

Lands having one or more of the following attributes are defined as "wetlands" in the RPO: (aa) At least periodically, the land supports a predominance of hydrophytes (plants whose habitat is water or very wet places); (bb) The substratum is predominantly undrained hydric soil; or (cc) An ephemeral or perennial stream is present, whose substratum is predominantly non-soil and such lands contribute substantially to the biological functions or values of wetlands in the drainage system (County of San Diego 2012).

RPO wetlands have been identified at three locations associated with Tule Creek within the Boulder Brush Corridor (see Figure 4-1 series).

The RPO wetland located in the central portion of the Boulder Brush Corridor is the widest portion of Tule Creek within the Boulder Brush Corridor. In this location, Tule Creek supports three intermittent stream channels and emergent wetlands. Due to the presence of wetland habitat, this entire segment is also considered RPO wetlands.

The next segment of Tule Creek to the south is bisected by an existing disturbed area. In this location, Tule Creek supports red willow, salt cedar (*Tamarix ramosissima*), mulefat (*Baccharis salicifolia* ssp. *salicifolia*), coyote brush (*Baccharis pilularis*), big sagebrush, bromes (*Bromus* spp.), and other species (Figure 4-1 series). There is a small patch of Mexican rush near the edge of the floodplain, but it was too small to map separately. Overall, the overstory of the southern arroyo willow riparian forest is composed of red willow and the understory is dominated by upland species. The intermittent channel located in the understory of the southern arroyo willow riparian forest associated with Tule Creek is also considered RPO wetlands (Figure 4-1 series).

The RPO wetland along Ribbonwood Road is an underdeveloped channel within Tule Creek, adjacent to the road that supports a small patch of southern arroyo willow riparian forest intermixed with big sagebrush (Figure 4-1 series). There is not a predominance of hydrophytic vegetation in the herb or shrub strata within either of these areas. Because the southern arroyo willow riparian forest supports red willow, salt cedar, and mulefat, these areas are considered a wetland under the RPO definition (County of San Diego 2012).

The remaining features within the Boulder Brush Corridor are ephemeral non-wetland waters or streambeds. Based on the lack of hydric soils and hydrophytic vegetation in the ephemeral drainages in the Boulder Brush Corridor, and the presence of well-drained soil, the ephemeral

drainages do not have the biological functions of a wetland, nor do they have populations of wetland dependent species, and therefore are not considered a RPO wetland.

Resource Protection Ordinance Wetland Buffer

The RPO prescribes a buffer area around wetlands to "protect the environmental and functional habitat values of the wetland," and buffers range from 50 feet to 200 feet from the edge of the wetland (County of San Diego 2012). The following examples provide guidance on determining appropriate buffer widths.

- A 50-foot wetland buffer would be appropriate for lower quality RPO wetlands where the wetland has been assessed to have low physical and chemical functions, vegetation is not dominated by hydrophytes, soils are not highly erosive and slopes do not exceed 25%.
- A wetland buffer of 50–100 feet is appropriate for moderate to high quality RPO wetlands which support a predominance of hydrophytic vegetation or wetlands within steep slope areas (greater than 25%) with highly erosive soils. Within the 50- to 100-foot range, wider buffers are appropriate where wetlands connect upstream and downstream, where the wetlands serve as a local wildlife corridor, or where the adjacent land use(s) would result in substantial edge effects that could not be mitigated.
- Wetland buffers of 100–200 feet are appropriate for RPO wetlands within regional wildlife corridors or wetlands that support significant populations of wetland-associated sensitive species or where stream meander, erosion, or other physical factors indicate a wider buffer is necessary to preserve wildlife habitat.
- Buffering of greater than 200 feet may be necessary when an RPO wetland is within a regional corridor or supports significant populations of wetland-associated sensitive species and lies adjacent to land use(s) which could result in a high degree of edge effects within the buffer. Although the RPO stipulates a maximum of 200 feet for RPO wetland buffers, actions may be subject to other laws and regulations (such as the Endangered Species Act) that require greater wetland buffer widths.

RPO wetlands have been identified at three locations associated with Tule Creek within the Boulder Brush Corridor, as discussed above. Buffers for each of the locations is discussed below.

The RPO wetland located in the central portion of the Boulder Brush Corridor is the widest portion of Tule Creek within the Boulder Brush Corridor. In this location, a 100-foot buffer is appropriate for this RPO wetland. While this area contains moderate to high quality RPO wetlands which support a predominance of hydrophytic vegetation, it is not considered a regional wildlife corridor

nor it does it support significant populations of wetland-associated sensitive species. Thus, a buffer greater than 100-feet is not necessary.

The RPO wetland surrounding the next segment of Tule Creek to the south is bisected by an existing disturbed area. In this location, Tule Creek is considered to be moderate quality based on the predominance of hydrophytic vegetation in the tree strata and general lack of hydrophytic vegetation in the herb strata. There is an existing disturbed area that bisects this RPO wetland and surface water is diverted through a culvert below the road. Adjacent land uses include off-road vehicle activities but the area is otherwise undeveloped. Based on this information, a 50-foot RPO wetland buffer is appropriate to buffer this RPO wetland against edge effects and maintain existing wildlife corridors.

The RPO wetland along Ribbonwood Road is an underdeveloped channel within Tule Creek, adjacent to the road that supports a small patch of southern arroyo willow riparian forest intermixed with big sagebrush; the understory is composed of upland shrub and herbaceous species (i.e., big sagebrush, cheat grass, seaside heliotrope, and western ragweed). Based on this information, a 50-foot RPO wetland buffer is appropriate to buffer this area against edge effects and maintain existing wildlife corridors.

4.7.2 Campo Corridor

A formal jurisdictional delineation was conducted in 2017 and 2018 for the Campo Corridor. Overall, the features in the Campo Corridor are ephemeral channels that flow during rain events; there is one small intermittent channel.

The jurisdictional aquatic resources in the Campo Corridor consist of tributaries to Campo Creek and Tule Creek. Small ephemeral channels collecting runoff and surface flow from the hillslopes and roads that drain toward Campo Creek characterize the majority of the Campo Corridor. There is an unnamed drainage with a wide floodplain bisecting the Campo Corridor in a north–south direction. This floodplain has a low-flow channel where it receives surface flow that drains into Campo Creek, but the majority of the floodplain appears to be supported by subsurface flow, indicated by the patches of riparian herbs, shrubs, and trees within portions of the floodplain; the channel is considered an intermittent non-wetland water of the United States. There are sections of the floodplain dominated by upland species, such as big sagebrush scrub, tall tumblemustard, and cheatgrass. There are also a few drainages in the northeast that appear to drain east and connect to Tule Creek. None of the ephemeral drainages (both tributaries to Campo Creek and Tule Creek) within the Campo Corridor supported hydrophytic vegetation; therefore, no data station samples were conducted. These features are considered ephemeral non-wetland waters of the United States.

Some features appear to be completely isolated from Campo Creek or Tule Creek as they completely abate into uplands and are not considered waters of the United States.

Campo Creek receives surface and subsurface flows from the surrounding hills and mountains. Campo Creek flows west through Campo Valley and into Mexico where it connects to Tecate Creek. Tecate Creek continues flowing west and northwest and eventually enters the U.S. near Marron Valley where it flows into the Tijuana River. The Tijuana River outlets into the Pacific Ocean at Imperial Beach. Therefore, the waters within the Campo Corridor are considered subject to regulation by USACE.

Tule Creek receives surface and subsurface flows from headwaters originating in the Laguna Mountains northwest of the Campo Corridor. It continues draining in a downward gradient in an east and southeast orientation into Tule Lake, located approximately 4.5 miles southeast of the Campo Corridor. Water then flows into Tule Canyon, which eventually outlets into Carrizo Creek where it drains north/northeast. Carrizo Creek turns into Carrizo Wash and connects to San Felipe Wash and eventually into the Salton Sea to form a significant nexus to a traditional navigable water. Therefore, the waters within the Campo Corridor are considered subject to regulation by USACE.

The Campo Corridor supports non-wetland stream features, wetland habitat associated with the unnamed channel and floodplain, as well as some basins and seeps/springs that are all considered jurisdictional waters of the United States (Figure 4-2 series). One seep/spring supports emergent wetland that is otherwise in a completely upland area in the northeast corner of the Campo Corridor (DS 1a–b). Another seep/spring supports a small freshwater marsh adjacent to a dirt road near Live Oak Trail (DS 2a–b, DS 3). Emergent wetland and southern willow scrub, and valley Sacaton grassland occur within the unnamed channel/floodplain and meet the definition of a three-parameter wetland (DS 5a–b, DS 6a–b, DS 7a–b, and DS 8a–d). Table 4-9 includes the results of the data station samples within the Campo Corridor. The data station forms and OHWM datasheets representing the non-wetland waters mapped in the Campo Corridor are included as an appendix to the *Campo Wind Project Biological Technical Report* (Appendix H to the Campo EIS). These features are shown on Figure 4-2 series.

Table 4-9
Data Station Results – Campo Corridor

Sample Point	Hydrophytic Vegetation	Hydric Soils	Hydrology	Wetland Vegetation
DS 1a	Yes	Yes	Yes	Emergent wetland
DS 1b	Yes	Yes	No	N/A
DS 2a	Yes	No	No	N/A
DS 2b	Yes	No	No	N/A

Table 4-9
Data Station Results – Campo Corridor

Sample Point	Hydrophytic Vegetation	Hydric Soils	Hydrology	Wetland Vegetation
DS 3	Yes	Yes	Yes	Freshwater marsh
DS 4	No	No	Yes	N/A
DS 5a	Yes	Yes	Yes	Emergent wetland
DS 5b	No	No	Yes	N/A
DS 6a	No	No	Yes	N/A
DS 6b	No	Yes	Yes	N/A
DS 7a	Yes	Yes	Yes	Emergent wetland
DS 7b	Yes	No	No	N/A
DS 8a	Yes	Yes	Yes	Emergent wetland
DS 8b	Yes	Yes	Yes	Emergent wetland
DS 8c	Yes	Yes	Yes	Southern willow scrub
DS 8d	No	Yes	Yes	N/A

4.8 Habitat Connectivity and Wildlife Corridors

Wildlife corridors are defined as areas that connect suitable wildlife habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as canyon drainages, ridgelines, or areas with vegetation cover, provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of wildlife from high-density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. The linkage represents a potential route for gene flow and long-term dispersal. Habitat linkages may serve as both habitat and avenues of gene flow for small animals such as passerine birds, small mammals, reptiles and amphibians. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as "stepping stones" for dispersal.

The Boulder Brush Corridor is located within the Peninsular Range. Jacumba Mountains are located to the east. In-Ko-Pah, Tierra Blanca, and Sawtooth Mountains are located to the north, and Laguna Mountains are located to the northwest. The Boulder Brush Boundary is located within McCain Valley, a low-lying area between these mountains that has little topographical relief with the exception of one hill located in the southwest corner of the Boulder Brush Boundary. Tule Creek runs north/south within the southern half of the Boulder Brush Boundary.

There is what appears to be a manufactured impoundment along Tule Creek just north of the western portion of the Boulder Brush Boundary.

The Campo Corridor is located just west and southwest of the Boulder Brush Corridor, with the Cleveland National Forest to the north and Baja California Mexico to the south. Habitat in the Reservation is open with occasional roads, residences and other buildings. There are a couple of wide floodplains with intermittent channels in the central portion of the Campo Corridor as well as lots of small ephemeral washes throughout the Reservation.

Wildlife corridors are considered sensitive by resource and conservation agencies. For the most part, the areas in and around the Boulder Brush Corridor have limited human disturbance and similar vegetation communities, though there is evidence of disturbance from off-road vehicles. The Boulder Brush Corridor is not readily identifiable as a corridor or linkage per se, because wildlife movement is not constrained or directed through any particular area within the Boulder Brush Corridor. The Boulder Brush Corridor is, however, still included within a Core Wildlife Area,[5] due to its size and the undeveloped land in the surrounding area (County of San Diego 2010a).

Both the Boulder Brush Corridor and Campo Corridor are located in the same general area of rural southeast San Diego County. The vicinity is generally surrounded by undeveloped landscapes to the north and east, with rural residential scattered to the south and west. I-8 is located south of the Boulder Brush Boundary and bisects the Reservation. Wildlife currently are able to traverse the Project Area and surrounding undeveloped areas in an unencumbered manner. This topography does not pose difficulties for most wildlife use. While mule deer, coyote, cougar, bobcat, and other species are readily able to scale steep slopes, this site has few steep slopes; most of the hills are gently rolling. Much of the site is comprised of scrub habitat providing cover opportunities for all sizes of wildlife, ranging from small mammals to mule deer. The oak trees provide nesting, foraging, and cover opportunities for both raptors and songbirds, while the open floodplain areas of Tule Creek provide foraging opportunities for a variety of birds, invertebrates, and small mammals. Larger mammals such as mule deer and cougars tend to take the "path of least resistance" and are as likely to utilize the off-road trails and dirt roads as the other relatively open scrub communities when traveling through the site, particularly in non-daylight hours. Further, the Project is situated adjacent to, or near, Bureau of Land Management open space, which allows for unhindered movement.

"Sensitive habitat lands" as defined by the County (County of San Diego 2012) include wildlife corridors. The Boulder Brush Corridor is not likely to be part of a regional corridor or linkage for large

[5] The County of San Diego biological guidelines (County of San Diego 2010a) define a Core Wildlife Area as a, block of habitat that is typically 500 acres or more. Smaller areas with particularly valuable resources may also be considered a core wildlife area.

mammals due to the lack of topography surrounding the site that would constrain wildlife to traverse only through the area. Wildlife can move throughout the Boulder Brush Corridor unconstrained.

While I-8 represents a significant barrier to larger mammal movement, the Reservation may serve as a portion of home ranges for larger mammals, such as mule deer and cougar.

The Project Site is located approximately 2.1 miles west of designated critical habitat for Peninsular bighorn sheep (Figure 2-1). The site is likely too removed from the eastern-sloped open mountainous terrain that bighorn sheep prefer, and the Project Site is too densely vegetated to provide suitable habitat for the species. In addition, the Project Site does not provide inter-mountain connectivity habitat between occupied mountain ranges and Peninsular bighorn sheep have not been identified in the area. There are no active water impoundments or stock ponds within the Project Site. While there are potential water sources approximately 2.5 and 3.75 miles southeast of the southeastern most corner of the Boulder Brush Boundary and the northeastern portion of the Reservation Boundary that could attract bighorn sheep to the area, they are located in areas outside of the mountain ranges and thus unlikely to attract bighorn sheep. Based on their known range, USFWS Critical Habitat, and unsuitable habitat between the Project Site and known range, this species is not expected to occur within the site nor use the site for movement. Additionally, the USFWS agreed with this assessment during the October 10, 2018, and February 21, 2019, USFWS meetings and at the County batching meeting with CDFW and USFWS.

Both the Boulder Brush Corridor and the Campo Corridors are located within the Pacific Flyway, which is a major north–south migration route for birds that travel between North and South America. This is a broad-front route that covers much landscape. In Southern California, birds typically use the coast and inland areas. The Pacific Coast route is used by gulls, ducks, and other water birds. The longest and most important route of the Pacific Flyway is that originating in northeastern Alaska. This route, which includes most waterfowl and shorebirds, passes through the interior of Alaska and then branches such that large flights continue southeast into the Central and Mississippi Flyways, or they turn in a southwesterly direction and pass through the interior valleys of California, ending or passing through the Salton Sea. The southward route of long-distance migratory land birds of the Pacific Flyway that typically overwinter south of the United States extends through the interior of California to the mouth of the Colorado River and on to their winter quarters, which may be located in western Mexico (USGS 2013b).

The Salton Sea, approximately 40 miles northeast of the Boulder Brush Corridor, is an important stopover for many birds that travel inland. The inland Pacific Flyway migration route, which is focused on a stopover at the Salton Sea, is east of the Boulder Brush and Campo Corridors. A study from 1985 to 1999 focused on shorebird migration and recorded avian use at the Salton Sea and adjacent Imperial Valley. Large numbers of shorebirds, including black-necked stilt

(*Himantopus mexicanus*), American avocet (*Recurvirostra americana*), western sandpiper (*Calidris mauri*), and dowitchers (*Limnodromus* spp.) were recorded during migration periods (Shuford et al. 2002). In addition, the study showed that birds traveling to the Salton Sea use the sea not only as a migratory stopover, but also as a wintering area for many species, including the mountain plover (*Charadrius montanus*) (Shuford et al. 2002). Migration timing varies from species to species, and for some, there is little documentation of the timing; for others, arrivals and departures have been well documented (Unitt 2004). In general, bird migration occurs March through April, and August through November. The Corridors do not support any bodies of water or wetlands that attract large migration stopovers or attractants for avian and bat species. The closest large bodies of water to the Project Site are Tule Lake, located almost 4.5 miles southeast, and Morena Reservoir, located approximately 13 miles west. Therefore, although birds likely migrate over the site and certain birds may forage on site, the Project Site is not considered a stopover for birds migrating to and from the Salton Sea, particularly with the agricultural fields and irrigation resources available in the El Centro and Brawley areas south of the Salton Sea.

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5 PROJECT IMPACTS

This section addresses direct, indirect, and cumulative significant impacts, as defined by the County's standards of significance to biological resources that would result from implementation of the Boulder Brush Facilities. A number of mitigation measures are included to avoid, minimize, and/or mitigate potential impacts to less-than-significant levels; these measures are summarized in Section 11, Summary of Project Impacts and Mitigation, of this report.

As discussed in the Introduction, this report also describes the Campo Wind Facilities, in order to support the County's review of the Project as a whole under CEQA. However, the approval of the Campo Wind Facilities On-Reservation falls under the jurisdiction of the BIA, subject to NEPA. Neither the state nor the County have the ability to regulate or mitigate impacts to biological resources that arise from development On-Reservation.

Direct impacts refer to 100% permanent loss of a biological resource. For purposes of this analysis, the permanent direct impacts associated with the Boulder Brush Facilities refers to the limits of grading (i.e., the development footprint) for installation of the poles, access roads, the switch yard and high-voltage substation. Temporary direct impacts are associated with grading for permanent roads where they require temporarily impacted areas on either side of the permanent road, a temporary construction access (shown on Figure 5-1f), a laydown yard needed for installation of the gen-tie poles, and a parking area during construction, . To provide erosion control, slope stabilization, or other necessary function, areas of temporary direct impacts would be replanted with native vegetation following construction. Areas of temporary impacts to waters would be re-contoured to pre-disturbance elevations to ensure the continued functions of these resources post-construction. However, since the Boulder Brush developer is not seeking restoration credit for impacts, all direct impacts to biological resources are considered permanent. Direct impacts were quantified by overlaying the survey data layers on GIS-located biological resources. In addition, the Boulder Brush Facilities may have direct impacts to biological resources during operations and maintenance (O&M). These impacts could include bird and/or bat electrocutions at overhead line locations. Direct impacts are shown in the Figure 5-1, Impacts to Biological Resources - Boulder Brush – Index and Figure 5-1, Impacts to Biological Resources - Boulder Brush mapbook. Decommissioning would involve activities similar to construction with no new areas of disturbance and thus would not result in additional direct impacts.

Long-term permanent direct impacts associated with the Campo Wind Facilities refers to the impacts within the limits of grading for the wind turbines, access roads, and associated components (i.e., collector substation, gen-tie line, FMZ, O&M building, parking, batch plant, meteorological towers). These direct impacts are shown in the Figure 5-2, Impacts to Biological Resources -

Reservation – Index and Figure 5-2, Impacts to Biological Resources - Reservation mapbook. There are no temporary impacts described for the Campo Wind Facilities because no temporary impact areas have been distinguished from permanent impacts within the Campo Wind Facilities at this time (i.e. all impacts are considered permanent).

Indirect impacts are reasonably foreseeable effects caused by Boulder Brush Facilities implementation on remaining or adjacent biological resources outside the direct limits of grading and indirect impacts associated with O&M of the permanent Boulder Brush Facilities components. Indirect impacts may affect areas within the defined Boulder Brush Corridor, but outside the limits of grading, including non-impacted areas and areas outside the development footprint, such as downstream effects. During construction and decommissioning of the Boulder Brush Facilities, temporary indirect impacts may include dust and noise, which could temporarily disrupt habitat and species' vitality; changes in hydrology; disruption of wildlife activity due to increased human activity; habitat fragmentation; invasive species; construction-related chemical pollutants (e.g., gas, oil and other fluids used by construction equipment); and alternation of natural fire regime. However, the Boulder Brush Facilities grading would be subject to restrictions and requirements that address erosion and runoff, including the federal Clean Water Act and the National Pollution Discharge Elimination System program, preparation of a SWPPP, and submittal of the County Standard Project Stormwater Quality Management Plan (including all applicable construction stormwater best management practices (BMPs) and post-construction source control BMPs). Projects east of the Pacific/Salton Sea Divide are subject to standard project requirements per the County BMP Design Manual and, as applicable, Post-Construction Standards of the Construction General Permit. Moreover, the Boulder Brush Facilities would be subject to the County Watershed Protection, Stormwater Management, and Discharge Control Ordinance. These programs are expected to minimize Boulder Brush Facilities impacts with respect to erosion/runoff, altered hydrology, and potential impacts from chemical pollutants. Permanent indirect impacts to adjacent open space may include intrusions by humans, noise, lighting, invasion by exotic plant and wildlife species, effects of chemical pollutants (herbicides, and other hazardous materials), runoff from developed areas, litter, habitat fragmentation, and hydrologic changes.

Cumulative impacts refer to the combined environmental effects of the Project and other past, present and probably future projects. In some cases, the impact from a single project may not be significant, but when combined with other projects, the cumulative impact may be significant. This report does not include analysis of cumulative impacts; this analysis is being prepared separately for direct inclusion in the EIR.

5.1 Riparian Habitat or Sensitive Vegetation Communities

5.1.1 Boulder Brush Facilities

The significance of these potential impacts to riparian and sensitive vegetation communities is determined through application of the County's Significance Guidelines, as described in Section 7.1, Guidelines for the Determination of Significance, of this report.

5.1.1.1 Direct Impacts to Riparian Habitat or Sensitive Vegetation Communities

Temporary Direct Impacts

Impact V-1: Temporary Direct Impacts to Riparian Habitat or Sensitive Vegetation Communities within the Boulder Brush Corridor

There are temporary direct impacts associated with the Boulder Brush Facilities development footprint, including construction impacts from road grading, gen-tie pole installation, a laydown yard needed for installation of the gen-tie poles, a parking area during construction. Areas temporarily impacted by these activities will be replanted with native vegetation following Boulder Brush Facilities construction. In addition, there will be a 12-foot wide construction access which crosses Tule Creek (see Figure 5-1f). This access will be utilized only during construction to drive a pull truck across it to string cables, and will not be a permanent access road. Vegetation in this area will be trimmed or disked and no gravel or pavement will be placed within the creek. Following Boulder Brush Facilities construction, the area will be re-contoured and replanted to restore Tule Creek to pre-Project conditions. However, for habitat mitigation purposes, these impacts are considered permanent and mitigated through habitat conservation. Additionally, construction-related temporary direct impacts to vegetation communities could result from clearing, trampling, or grading of vegetation outside of the development footprint in the absence of avoidance and mitigation measures. These potential impacts could damage vegetation communities and alter their ecosystem, creating gaps in vegetation that allow exotic, non-native plant species to become established, thus increasing soil compaction and leading to soil erosion.

The significance determination of these potential impacts is presented in Section 7.2.1 of this Report.

Permanent Direct Impacts

Impact V-2: Permanent Direct Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

Direct impacts to vegetation communities would occur as a result of grading for the installation of gen-tie poles, access roads, the switchyard and high-voltage substation, and fuel modification zones (FMZs) (i.e., the development footprint). Table 5-1 shows the acreage of direct impacts to vegetation communities in the Boulder Brush Facilities development footprint as a result of these activities (see Figure 5-1 series).

Per the County's Report Format and Content Requirements (County of San Diego 2010b), the oak root protection zone was created by establishing a 50-foot buffer around all non-impacted oak woodlands in the Boulder Brush Corridor, measured outward from the outside edge of the canopy. The oak root protection zone is shown in the Figure 5-1 series.

Table 5-1
Permanent and Temporary Impacts to Vegetation Communities and Land Cover Types within the Boulder Brush Facilities

General Vegetation Community/Land Cover Category	Vegetation Type (Holland/Oberbauer Code[a])	Permanent Impacts (Acres)	Temporary Impacts (Acres)	Total Impacts (Acres)
Disturbed and Developed Areas (10000)	Disturbed Habitat (11300)	5.5	2.4	8.0
	Developed (12000)	0.01	<0.01	0.01
	Disturbed and Developed Areas Subtotal[1]	*5.6*	*2.4*	*8.1*
Scrub and Chaparral (30000)	Montane buckwheat scrub (32800)[b]	5.7	11.3	17.0
	Big Sagebrush Scrub (35210)[b]	2.7	6.4	9.2
	Granitic Northern Mixed Chaparral (37131)[b]	9.6	23.8	33.4
	Granitic Chamise Chaparral (37210)[b]	1.1	2.5	3.6
	Red Shank Chaparral (37300)[b.]	6.9	11.4	18.3
	Semi-Desert Chaparral (37400)[b]	10.4	20.7	31.1
	Scrub and Chaparral Subtotal[c]	*36.5*	*76.1*	*112.6*
Grasslands, Vernal Pools, Meadows, and other Herb Communities (40000)	Wildflower field (42300)[b]	0.6	3.1	3.7
	Grasslands, Vernal Pools, Meadows, and other Herb Communities Subtotal[c]	*0.6*	*3.1*	*3.7*
Bog and Marsh (50000)	Emergent Wetland (52440)[b]	0	0.2	0.2
	Bog and Marsh Subtotal[c]	*0*	*0.2*	*0.2*
Riparian and Bottomland Habitat (60000)	Southern Arroyo Willow Riparian Forest (61320)[b]	0.2	0.2	0.4
	Riparian and Bottomland Habitat Subtotal[c]	*0.2*	*0.2*	*0.4*
Woodland (70000)	Coast Live Oak Woodland (71160)[b]	0.9	4.5	5.4
	Open Coast Live Oak Woodland (71161)[b]	0	0.1	0.1
	Woodland Subtotal[c]	*0.9*	*4.6*	*5.6*

Table 5-1
Permanent and Temporary Impacts to Vegetation Communities and Land Cover Types within the Boulder Brush Facilities

General Vegetation Community/Land Cover Category	Vegetation Type (Holland/Oberbauer Code[a])	Permanent Impacts (Acres)	Temporary Impacts (Acres)	Total Impacts (Acres)
Waters of the United States/State	Unvegetated Stream Channel	0.1	0.3	0.4
	Waters of the United States/State Subtotal	*0.1*	*0.3*	*0.4*
	Total[c]	43.9	87.3	130.9
	Oak Root Zone[d]	*2.0*	*5.3*	*7.3*

a Holland (1986) as modified by Oberbauer et al. (2008).
b Considered special status by the County (County of San Diego 2010a).
c Totals may not sum due to rounding.
d The Oak Root Zone is an overlay and does not count toward the overall acreage total.

The significance determination of these potential impacts is presented in Section 7.2.1 of this Report.

5.1.1.2 Indirect Impacts to Riparian Habitat or Sensitive Vegetation Communities

Temporary Indirect Impacts

Impact V-3: Temporary Indirect Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

Temporary indirect impacts to sensitive vegetation communities outside of the Boulder Brush Facilities development footprint could primarily result from construction activities (**Impact V-3**). The indirect impacts below include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, increased predation or competition from domestic animals, pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect the vegetation communities. Potential temporary indirect impacts that could affect all the sensitive vegetation communities that occur near the Boulder Brush Facilities development footprint are described in detail below.

Increased Human Access. Increased human access during construction could result in the potential for trampling of vegetation outside of the development footprint, as well as soil compaction, and could affect the viability of plant communities. Trampling can alter the ecosystem, creating gaps in vegetation and allowing exotic, non-native plant species to become established, leading to soil erosion.

Trampling may also affect the rate of rainfall interception and evapotranspiration, soil moisture, water penetration pathways, surface flows, and erosion. Increased human activity increases the risk for damage to sensitive vegetation communities.

Increased Predation or Competition from Domestic Animals. No domestic animals will be present on site related to the Boulder Brush Facilities during construction actvities; therefore, this indirect impact is not addressed in following sections of this report.

Pests or Exotic Species. Invasive plant species that thrive in edge habitats are a well-documented problem in Southern California and throughout the United States. Development could also fragment native plant populations, which may increase the likelihood of invasion by exotic plants due to the increased interface between natural habitats and developed areas. Bossard et al. (2000) list adverse effects of non-native species in natural open areas, including that exotic plants compete for light, water, and nutrients, and can create a thatch that blocks sunlight from reaching smaller native plants. Exotic plant species may alter habitats and displace native species over time, leading to extirpation of native plant species, unique vegetation communities, and subsequently suitable habitat for special-status wildlife species. The introduction of non-native, invasive animal species could negatively affect native species that may be pollinators of or seed dispersal agents for plants within sensitive vegetation communities.

Increasing Noise and/or Nighttime Lighting. Noise would not affect vegetation communities. Changes in natural light conditionscan influence the photosynthetic rate and also strongly impacts the development of defence traits in plants (Yamawo and Hada 2010). Lighting associated with possible nighttime work would be limited to vehicle deliveries and not expected to affect adjacent vegetation communities.

Altering Natural Drainage. There would be temporary impacts to non-wetland waters and riparian habitat. Construction could result in hydrologic and water-quality-related impacts adjacent to, and downstream of, the construction area. Hydrologic alterations include changes in flow rates and patterns in streams, which may affect adjacent and downstream vegetation communities. Direct impacts can also remove native vegetation and increase runoff from roads and other paved surfaces, resulting in increased erosion and transport of surface matter into vegetation communities. Altered erosion, increased surface flows, and underground seepage can allow for the establishment of non-native plants. Changed hydrologic conditions can also alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

Generation of Fugitive Dust. Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases.

Alteration of Natural Fire Regime. Shorter-than-natural fire return intervals can preclude recovery of the native vegetation between fires, weaken the ecological system, allow for invasion of exotic species, and in some cases, result in permanent transition of the vegetation to non-native communities, such as annual grassland and weedy communities (Keeley 1987; Malanson and O'Leary 1982; O'Leary et al. 1992). If the natural fire regime is suppressed, longer-than-natural fire return intervals can result in excessive buildup of fuel loads so that when fires do occur, they are catastrophic. Unnaturally long fire intervals can also result in senescence of plant communities, such as chaparral, that rely on shorter intervals for rejuvenation.

Construction is anticipated to require up to 9 months to complete. An average daily peak of 202 workers would be involved in construction of the Project. The following issues have been identified as potential risks of fire ignition associated with particular construction activities: 1) vegetation clearing for access roads, gen-tie line pole locations, and the high-voltage substation and switchyard sites; 2) off-road vehicle use could cause an ignition (e.g., catalytic converter, faulty brakes, etc.); 3) idling or parked vehicles and equipment in areas of grass and other vegetation; 4) hot work activities conducted during a Red Flag Warning[6]; 5) construction waste that has accumulated on site associated with electrical equipment could create a fire hazard and shall be contained within metal containers; and 6) operation of generators, pumps, or other equipment capable of producing sparks or exhaust heat to cause ignition.

Chemical Pollutants. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect sensitive vegetation communities. The use of chemical pollutants can decrease the number of plant pollinators, increase the existence of non-native plants, and cause damage to and destruction of native plants. No herbicides would be used during construction.

The significance determination of these potential impact is presented in Section 7.2.4 of this Report.

[6] The National Weather Service may issue Red Flag Warnings (RFW) at any time when humidity and wind conditions meet pre-determined thresholds that would promote fire ignition and spread. Because the majority of acreage burned in California occurs during RFW weather conditions, certain construction activities, such as hot work, would be limited to low fire hazard, non-hot work, until the RFW has been lifted.

Permanent Indirect Impacts

Impact V-4: Permanent Indirect Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

Permanent (operation-related) indirect impacts could result from the proximity of the Boulder Brush Facilities to sensitive vegetation communities after construction, including impacts related to operation and maintenance (**Impact V-4**). Operation and maintenance activities would occur within the development footprint. The indirect impacts below include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, increased predation or competition from domestic animals, pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect the vegetation communities. Each of these potential indirect impacts is discussed as follows.

Increased Human Access. An increased human population increases the risk for potential damage to habitat and vegetation communities. Although, implementation of the Boulder Brush Facilities would necessitate maintenance of associated roads and facilities, maintenance activities are very limited within the Boulder Brush Corridor and the potential for increased risk is low. The Boulder Brush Facilities would not provide new or additional public access roads or gates.

Increased Predation or Competition from Domestic Animals. No domestic animals are expected to be present on site related to the Boulder Brush Facilities during operations and maintenance activites; therefore, this indirect impact is not addressed in following sections of this report.

Pests or Exotic Species. Invasive plant species that thrive in edge habitats are a well-documented problem in Southern California and throughout the United States. Development could also fragment native plant populations, which may increase the likelihood of invasion by exotic plants due to the increased interface between natural habitats and developed areas. Bossard et al. (2000) list adverse effects of non-native species in natural open areas, including that exotic plants compete for light, water, and nutrients, and can create a thatch that blocks sunlight from reaching smaller native plants. Exotic plant species may alter habitats and displace native species over time, leading to extirpation of native plant species, unique vegetation communities, and subsequently suitable habitat for plant and special-status wildlife species. The introduction of non-native, invasive animal species could negatively affect native species that may be pollinators of or seed dispersal agents for plants within sensitive vegetation communities. Landscaping stock could bring in Argentine ants or other pests that could compete with native wildlife. However, landscaping is not proposed as part of the Boulder Brush Facilities.

Altering Natural Drainage. The Boulder Brush Facilities would result in permanent impacts to non-wetland waters. Hydrologic alterations include changes in flow rates and patterns in streams, which may affect adjacent and downstream vegetation communities. Water-quality impacts include erosion, increased turbidity, and excessive sedimentation. Direct impacts can also remove native vegetation and increase runoff from roads and other paved surfaces, resulting in increased erosion and transport of surface matter into vegetation communities. Altered erosion, increased surface flows, and underground seepage can allow for the establishment of non-native plants. Changed hydrologic conditions can also alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

Increasing Noise and/or Nighttime Lighting. Noise would not affect vegetation communities. Some localized security-related lighting may be required during operation. Changes in natural light conditions can influence the photosynthetic rate and also strongly impacts the development of defence traits in plants (Yamawo and Hada 2010). Lighting would conform to County of San Diego outdoor lighting requirements, and is not expected to affect adjacent vegetation communities.

Generation of Fugitive Dust. The effects of fugitive dust on sensitive vegetation communities would be the same as the temporary indirect impacts described in Section 5.1.1, Direct Impacts to Riparian Habitat or Sensitive Vegetation Communities.

Habitat Fragmentation. Habitat fragmentation and isolation of plant populations may cause extinction of local populations as a result of two processes: reduction in total habitat area, which reduces effective population sizes; and insularization of local populations, which affects dispersal rates (Wilcove et al. 1986; Wilcox and Murphy 1985). Although these effects are more readily observable in wildlife, there are potential ecological effects, such as changes in pollinator populations, which can result in altered plant community composition and thus adversely affect sensitive vegetation communities. The Boulder Brush Facilities are not anticipated to result in habitat fragmentation for plant species within the Boulder Brush Corridor.

Chemical Pollutants. The effects of chemical pollutants on sensitive vegetation communities would be the same as the temporary indirect impacts described in Section 5.1.1. During operation and maintenance, herbicides may be used to prevent vegetation from reoccurring around structures. However, weed control treatments shall include all legally permitted chemical, manual, and mechanical methods applied with the authorization of the San Diego County agriculture commissioner. Additionally, the herbicides used during operation and maintenance activities would be contained within the Boulder Brush Facilities development footprint.

Alteration of the Natural Fire Regime. Shorter-than-natural fire return intervals can preclude recovery of the native vegetation between fires, weaken the ecological system, allow for invasion of exotic species, and in some cases, result in permanent transition of the vegetation to non-native communities, such as annual grassland and weedy communities (Keeley 1987; Malanson and O'Leary 1982; O'Leary et al. 1992). If the natural fire regime is suppressed, longer-than-natural fire return intervals can result in excessive buildup of fuel loads so that when fires do occur, they are catastrophic. Unnaturally long fire intervals can also result in senescence of plant communities, such as chaparral, that rely on shorter intervals for rejuvenation.

During operation, the high-voltage substation and switchyard would be unmanned. All monitoring and control functions would be performed remotely. Routine O&M would require a single pickup truck visiting the high-voltage substation and switchyard periodically for inspections, as well as maintenance/repair trucks visiting the substation several times a year for equipment maintenance. Maintenance activities would include equipment testing, equipment monitoring and repair, and emergency and routine procedures for service continuity. Regular inspection of fuel modification zones around the perimeter of the high-voltage substation and switchyard would be conducted. One 30,000-gallon water tank is proposed for the substation. This on-site fire prevention infrastructure would provide immediate resources for firefighting.

The significance determination of these potential impacts is presented in Section 7.2.4 of this Report.

5.1.2 Campo Wind Facilities

5.1.2.1 Direct Impacts to Riparian Habitat or Sensitive Vegetation Communities

Temporary Direct Impacts

For purposes of this analysis, all impacts associated with the Campo Wind Facilities are considered permanent direct impacts.

Permanent Direct Impacts

Impact V-A: Permanent Direct Impacts to Sensitive Vegetation Communities within the Campo Corridor

There are direct impacts to vegetation communities and land covers as a result of the result of grading for the installation of turbines, access roads, the collector substation, O&M facility, and other associated Campo Wind Facilities components. Table 5-2 quantifies the impacts to the vegetation communities and land covers. Figure 5-2 series show these impacts.

The significance determination of these potential impacts is presented in Section 7.2.1 of this Report.

Table 5-2
Impacts to Vegetation Communities and Land Cover Types – Campo Corridor

General Vegetation Community/ Land Cover Category	Vegetation Type (Holland/Oberbauer Code)	Total (Acres)
Bog and Marsh (50000)	Emergent wetland	0.32
	Bog and Marsh (50000) Total	*0.32*
Disturbed and Developed Areas (10000)	Developed	3.56
	Disturbed habitat	45.24
	Disturbed and Developed Areas (10000) Total	*48.80*
Grasslands, Vernal Pools, Meadows, and other Herb Communities (40000)	Non-native grassland	21.23
	Non-native grassland broadleaf-dominated	0.20
	Valley Sacaton grassland	0.22
	Grasslands, Vernal Pools, Meadows, and other Herb Communities (40000) Total	*21.65*
Riparian and Bottomland Habitat (60000)	Mulefat scrub	0.05
	Southern coast live oak riparian forest	0.85
	Southern willow scrub	0.18
	Riparian and Bottomland Habitat (60000) Total	*1.08*
Scrub and Chaparral (30000)	Big sagebrush scrub	30.42
	Granitic chamise chaparral	458.44
	Granitic northern mixed chaparral	92.97
	Montane buckwheat scrub	47.19
	Red shank chaparral	39.51
	Scrub oak chaparral	15.48
	Upper Sonoran subshrub scrub	10.59
	Scrub and Chaparral (30000) Total	*694.59*
Woodland (70000)	Coast live oak woodland	18.79
	Dense Coast live oak woodland	1.35
	Open Coast live oak woodland	1.41
	Woodland (70000) Total	*21.55*
Unvegetated Stream Channel	Unvegetated Stream Channel	1.25
	Unvegetated Stream Channel Subtotal	*1.25*
	Total	789.25

5.1.2.2 Indirect Impacts to Riparian Habitat or Sensitive Vegetation Communities

Temporary Indirect Impacts

Impact V-B: Temporary Indirect Impacts to Sensitive Vegetation Communities within the Campo Corridor

Temporary (construction-related) indirect impacts from grading and other construction activities to vegetation communities outside of the limits of grading for Campo Wind Facilities are similar to those described above for Boulder Brush Facilities and include impacts related to or resulting from increased human access, introduction of pests or exotic species, altering natural drainage, increasing noise and/or nighttime lighting, generation of fugitive dust, the introduction of chemical pollutants (including herbicides), and alteration of the natural fire regime. The standard best management practices (BMPs) described in Table 5-3 minimize some of these potential impacts, such as keeping equipment free of leaks, using trash abatement to reduce attraction of predators, minimizing wildfires from construction-related activities, avoiding working in heavy rains, and establishing speed limits to reduce dust from equipment and vehicles.

Table 5-3
Standard Best Management Practices

Project Action	General Description
Equipment Maintenance	All equipment operating on site would be in good working condition and free of leaks.
Trash Abatement	Spoils, trash, or any construction-generated debris would be removed to an approved off-site disposal facility. A trash abatement program would be established. Trash and food items would be contained in closed containers and removed daily to reduce the attraction of opportunistic predators such as common ravens, and feral cats and dogs that may prey on sensitive species.
Wildfire Prevention	Wildfires would be prevented by exercising care when driving and by not parking vehicles where catalytic converters could ignite dry vegetation. All construction vehicles would carry water and shovels or fire extinguishers in the field, or high fire risk installations (e.g., electric lines) may need to be delayed. The use of shields, protective mats, or other fire-prevention equipment would be used during grinding and welding to prevent or minimize the potential for fire.
Erosion, Runoff, and Sedimentation Prevention	All construction activities would cease during heavy rains (i.e., rainfall over 0.2 inches) to prevent unnecessary erosion, runoff, and sedimentation and would not resume until conditions are suitable for the movement of equipment and materials.
Toxic Substances	Vehicles would carry a Hazardous Material Spill Kit for use in the event of a spill. All personnel working on site would be trained in using these kits. Spill containment materials must be on site or readily available for any equipment maintenance or refueling.
Pets and Firearms	Workers would be prohibited from bringing domestic pets and firearms to the site.
Speed Limit	Vehicle speeds on site would be restricted to 15 miles per hour (24 kilometers per hour) during all phases of the Project. Speed limit signs would be posted throughout the site to remind personnel of travel speed restrictions.

Table 5-3
Standard Best Management Practices

Project Action	General Description
Work Hours	Construction should occur during the daytime only, and no construction should take place at night.[1] "Nighttime" is defined as between 7:00 p.m. and 7:00 a.m.
Lighting	Construction activities should not include nighttime lighting. Temporary security lighting around staging areas may be required for safety during construction activities up until 7:00 p.m.

Note:
1 No construction activities will occur at night; however, due to Caltrans restriction on oversize loads during peak traffic hours, some equipment deliveries may occur after hours.

The significance determination of these potential impacts is presented in Section 7.2.4 of this Report.

Permanent Indirect Impacts

Impact V-C: Permanent Indirect Impacts to Sensitive Vegetation Communities within the Campo Corridor

Permanent (operation-related) indirect impacts for Campo Wind Facilities are similar to those described above for Boulder Brush Facilities and could result from the proximity of the Project to vegetation communities after construction, including impacts related to O&M. O&M activities would occur within the limits of grading; indirect impacts to vegetation communities could occur from increased human access, introduction of pests or exotic species, altering natural drainage, increasing noise and/or nighttime lighting, chemical pollutants if used for operation-related activities, and alteration of the natural fire regime. The standard BMPs described in Table 5-3, above, minimize some of these potential impacts, such as speed limits to reduce dust from vehicles and trash abatement to reduce attraction of predators.

The significance determination of these potential impacts is presented in Section 7.2.4 of this Report.

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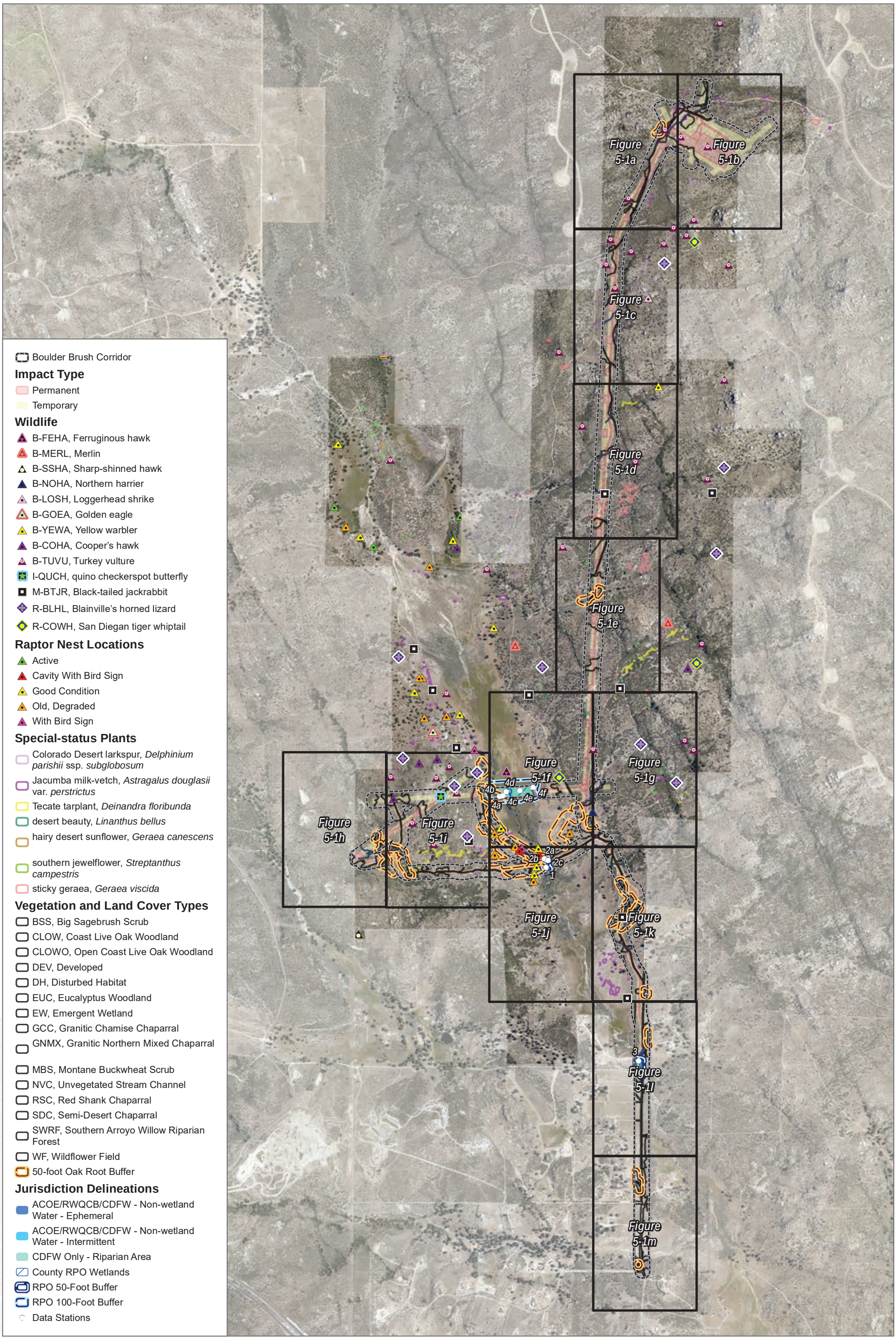

SOURCE: SANGIS 2017

DUDEK

0 850 1,700 Feet

FIGURE 5-1

Impacts to Biological Resources - Boulder Brush Corridor - Index

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary

Boulder Brush Corridor

Impact Type

Permanent

Temporary

Wildlife

B-TUVU, Turkey vulture

R-COWH, San Diegan tiger whiptail

Special-status Plants

Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*

Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*

sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub

CLOW, Coast Live Oak Woodland

DH, Disturbed Habitat

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

SDC, Semi-Desert Chaparral

50-foot Oak Root Buffer

Jurisdiction Delineations

ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 5-1a

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary

Boulder Brush Corridor

Impact Type

Permanent

Temporary

Wildlife

B-TUVU, Turkey vulture

R-COWH, San Diegan tiger whiptail

Special-status Plants

Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*

Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*

sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub

CLOW, Coast Live Oak Woodland

DH, Disturbed Habitat

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

SDC, Semi-Desert Chaparral

50-foot Oak Root Buffer

Jurisdiction Delineations

ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 200 400 Feet

FIGURE 5-1b

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary

Boulder Brush Corridor

Impact Type

Permanent

Temporary

Wildlife

B-LOSH, Loggerhead shrike

B-YEWA, Yellow warbler

B-COHA, Cooper's hawk

B-TUVU, Turkey vulture

R-BLHL, Blainville's horned lizard

R-COWH, San Diegan tiger whiptail

Special-status Plants

Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*

Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*

Tecate tarplant, *Deinandra floribunda*

sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

DH, Disturbed Habitat

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

Jurisdiction Delineations

ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1c

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary

Boulder Brush Corridor

Impact Type

Permanent

Temporary

Wildlife

B-YEWA, Yellow warbler

B-TUVU, Turkey vulture

M-BTJR, Black-tailed jackrabbit

R-BLHL, Blainville's horned lizard

Special-status Plants

Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*

Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*

Tecate tarplant, *Deinandra floribunda*

desert beauty, *Linanthus bellus*

hairy desert sunflower, *Geraea canescens*

southern jewelflower, *Streptanthus campestris*

sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

DH, Disturbed Habitat

GNMX, Granitic Northern Mixed Chaparral

MBS, Montane Buckwheat Scrub

NVC, Unvegetated Stream Channel

RSC, Red Shank Chaparral

Jurisdiction Delineations

ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1d

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary
Boulder Brush Corridor

Impact Type

Permanent
Temporary

Wildlife

B-MERL, Merlin
B-COHA, Cooper's hawk
B-TUVU, Turkey vulture
M-BTJR, Black-tailed jackrabbit
R-BLHL, Blainville's horned lizard
R-COWH, San Diegan tiger whiptail

Raptor Nest Locations

Good Condition

Special-status Plants

Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
Tecate tarplant, *Deinandra floribunda*
desert beauty, *Linanthus bellus*
hairy desert sunflower, *Geraea canescens*
southern jewelflower, *Streptanthus campestris*
sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
DH, Disturbed Habitat
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
RSC, Red Shank Chaparral
50-foot Oak Root Buffer

SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1e

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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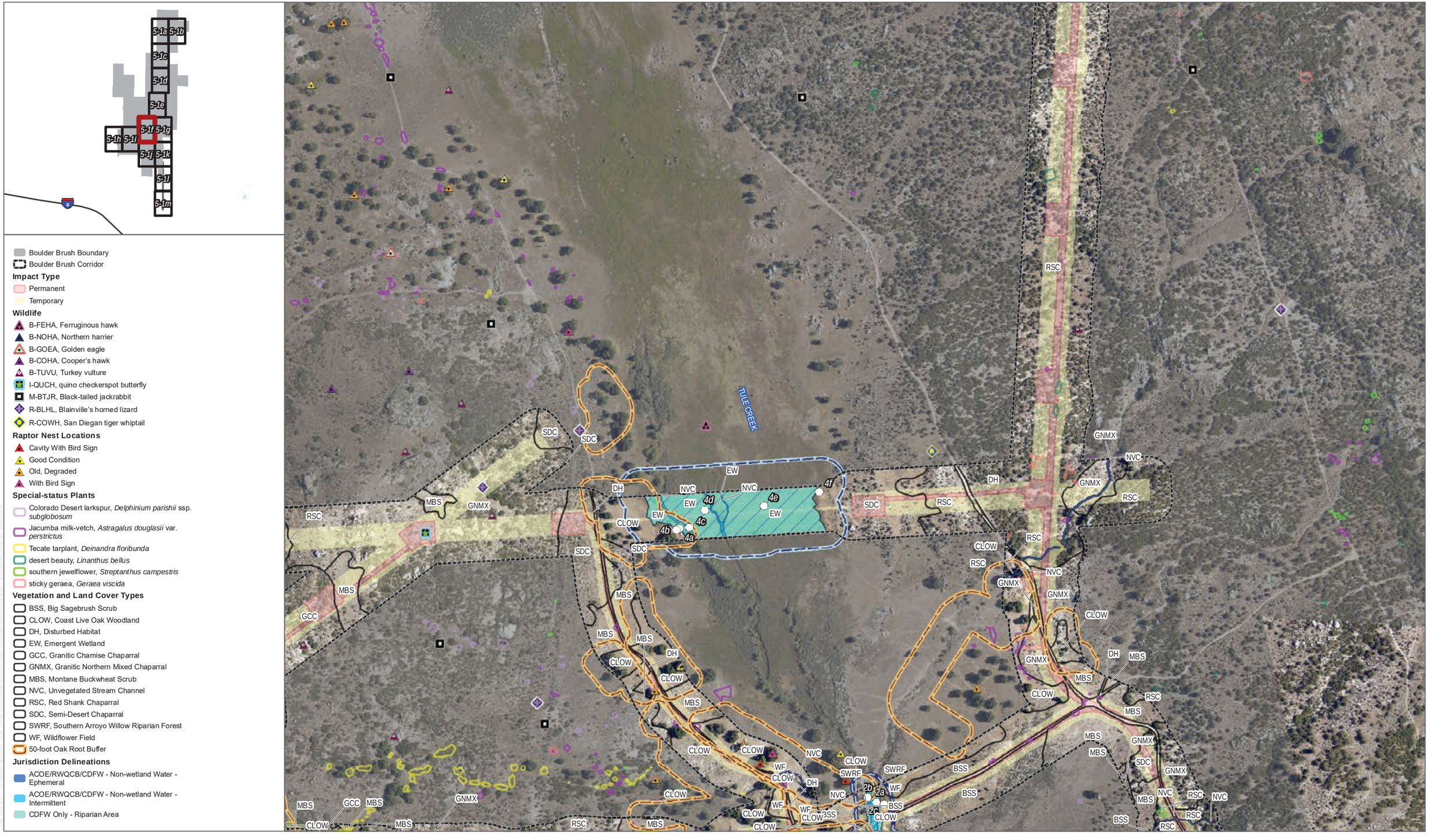

SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1f

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1g

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1h

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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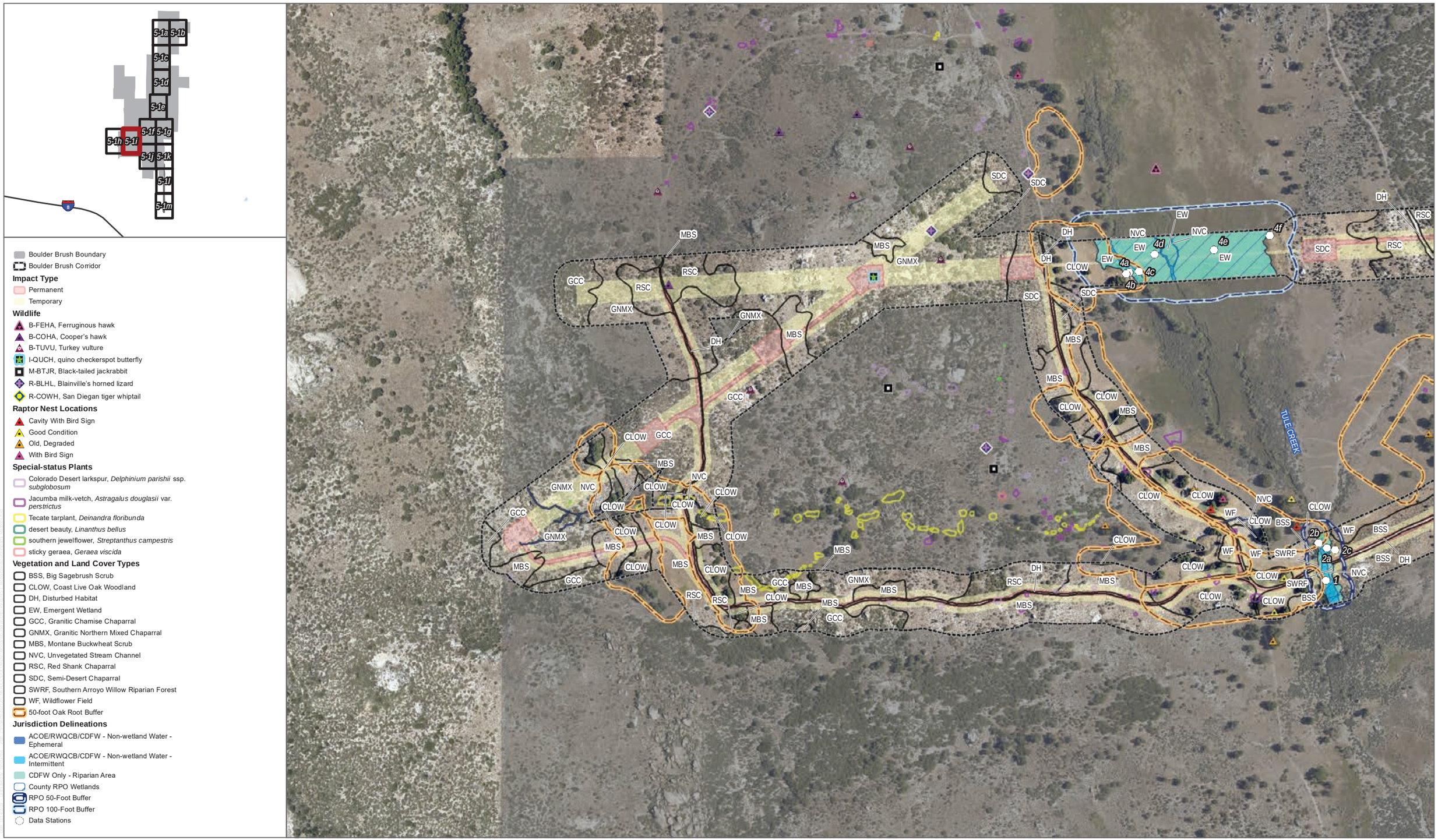

SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1i

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary
Boulder Brush Corridor

Impact Type
- Permanent
- Temporary

Wildlife
- B-TUVU, Turkey vulture
- M-BTJR, Black-tailed jackrabbit
- R-BLHL, Blainville's horned lizard

Raptor Nest Locations
- Cavity With Bird Sign
- Good Condition
- Old, Degraded
- With Bird Sign

Special-status Plants
- Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
- Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
- Tecate tarplant, *Deinandra floribunda*
- desert beauty, *Linanthus bellus*
- southern jewelflower, *Streptanthus campestris*
- sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types
- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SDC, Semi-Desert Chaparral
- SWRF, Southern Arroyo Willow Riparian Forest
- WF, Wildflower Field
- 50-foot Oak Root Buffer

Jurisdiction Delineations
- ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral
- ACOE/RWQCB/CDFW - Non-wetland Water - Intermittent
- CDFW Only - Riparian Area
- County RPO Wetlands
- RPO 50-Foot Buffer
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1j

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Boundary
Boulder Brush Corridor

Impact Type

Permanent
Temporary

Wildlife

M-BTJR, Black-tailed jackrabbit

Raptor Nest Locations

Cavity With Bird Sign
Good Condition
Old, Degraded
With Bird Sign

Special-status Plants

Colorado Desert larkspur, *Delphinium parishii* ssp. *subglobosum*
Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*
Tecate tarplant, *Deinandra floribunda*
desert beauty, *Linanthus bellus*
southern jewelflower, *Streptanthus campestris*
sticky geraea, *Geraea viscida*

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
CLOWO, Open Coast Live Oak Woodland
DH, Disturbed Habitat
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral
SDC, Semi-Desert Chaparral
SWRF, Southern Arroyo Willow Riparian Forest
WF, Wildflower Field
50-foot Oak Root Buffer

Jurisdiction Delineations

ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral
ACOE/RWQCB/CDFW - Non-wetland Water - Intermittent
CDFW Only - Riparian Area
County RPO Wetlands
RPO 50-Foot Buffer
Data Stations

SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1k

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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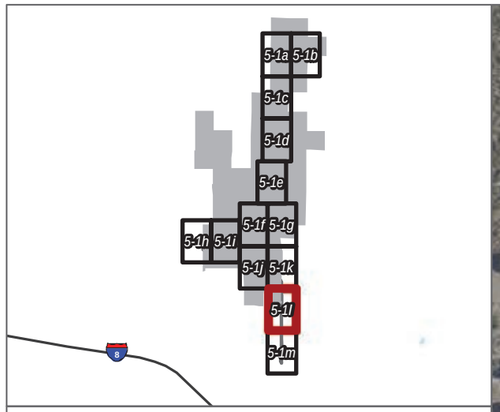

Boulder Brush Boundary
Boulder Brush Corridor

Impact Type

Permanent
Temporary

Wildlife

M-BTJR, Black-tailed jackrabbit

Special-status Plants

Jacumba milk-vetch, *Astragalus douglasii* var. *perstrictus*

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
CLOWO, Open Coast Live Oak Woodland
DH, Disturbed Habitat
EUC, Eucalyptus Woodland
NVC, Unvegetated Stream Channel
SWRF, Southern Arroyo Willow Riparian Forest
WF, Wildflower Field
50-foot Oak Root Buffer

Jurisdiction Delineations

ACOE/RWQCB/CDFW - Non-wetland Water - Ephemeral
CDFW Only - Riparian Area
County RPO Wetlands
RPO 50-Foot Buffer
Data Stations

SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1I

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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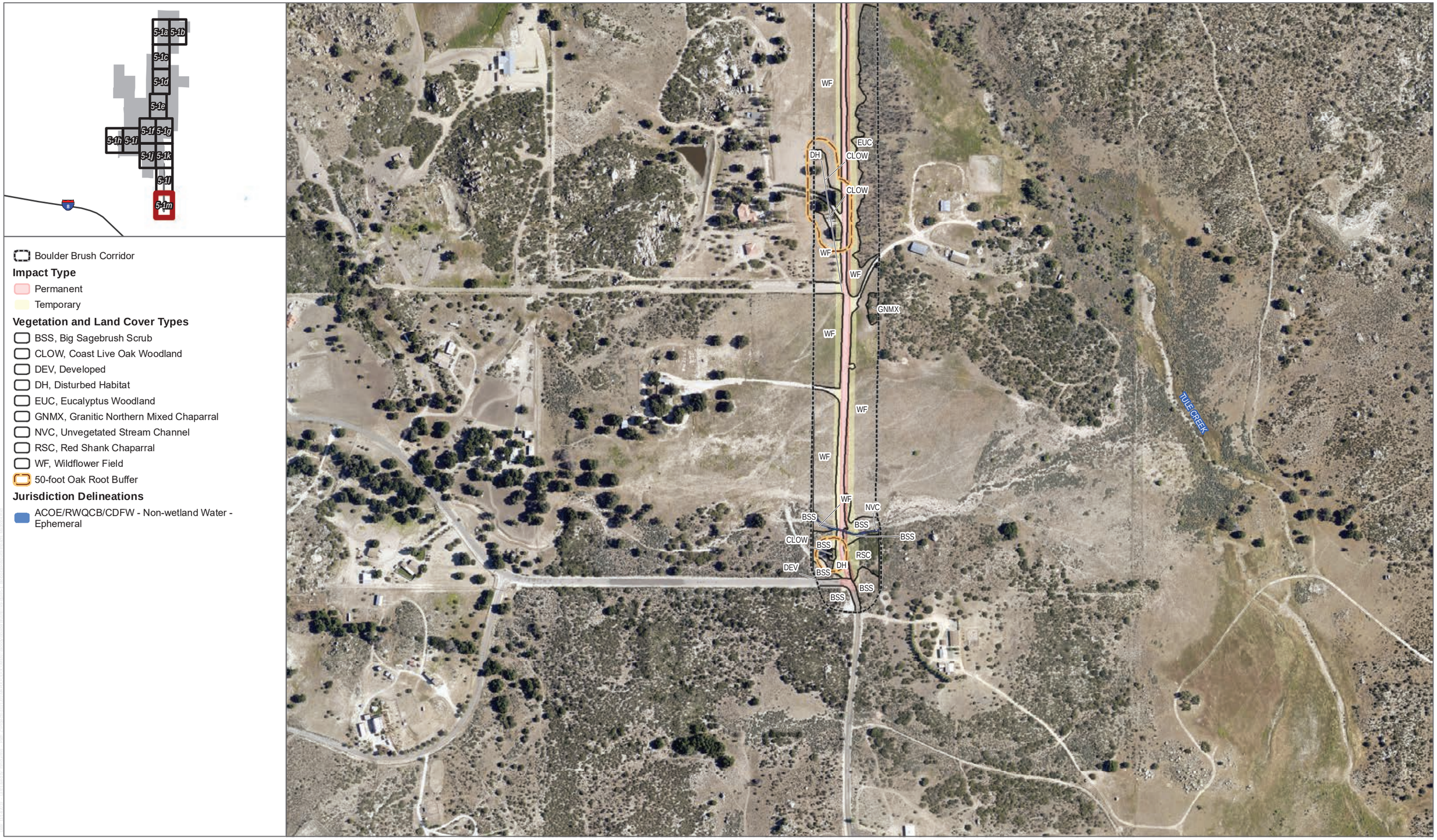

SOURCE: SANGIS 2017

DUDEK

0 205 410 Feet

FIGURE 5-1m

Impacts to Biological Resources - Boulder Brush Corridor

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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Figure 5-2a
Figure 5-2b
Figure 5-2c
Figure 5-2d
Figure 5-2e
Figure 5-2f
Figure 5-2g
Figure 5-2h
Figure 5-2i
Figure 5-2j
Figure 5-2k
Figure 5-2l
Figure 5-2m
Figure 5-2n
Figure 5-2o
Figure 5-2p
Figure 5-2q
Figure 5-2r
Figure 5-2s
Figure 5-2t
Figure 5-2u
Figure 5-2v
Figure 5-2w
Figure 5-2x
Figure 5-2y
Figure 5-2z
Figure 5-2aa
Figure 5-2ab
Figure 5-2ac
Figure 5-2ad
Figure 5-2ae
Figure 5-2af
Figure 5-2ag
Figure 5-2ah
Figure 5-2ai
Figure 5-2aj
Figure 5-2ak
Figure 5-2al
Figure 5-2am
Figure 5-2an
Figure 5-2ao
Figure 5-2ap
Figure 5-2aq
Figure 5-2ar
Figure 5-2as
Figure 5-2at
Figure 5-2au
Figure 5-2av
Figure 5-2aw
Figure 5-2ax
Figure 5-2ay
Figure 5-2az
Figure 5-2ba
Figure 5-2bb
Figure 5-2bc
Figure 5-2bd
Figure 5-2be
Figure 5-2bf
Figure 5-2bg
Figure 5-2bh
Figure 5-2bi
Figure 5-2bj
Figure 5-2bk
Figure 5-2bl
Figure 5-2bm
Figure 5-2bn
Figure 5-2bo

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-FEHA, Ferruginous hawk
- B-MERL, Merlin
- B-SSHA, Sharp-shinned hawk
- B-NOHA, Northern harrier
- B-LOSH, Loggerhead shrike
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- R-BLHL, Blainville's horned lizard
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLORF, Coast Live Oak Riparian Forest
- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- EW, Emergent Wetland
- FWM, Freshwater Marsh
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- MFS, Mulefat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral
- SWS, Southern WIllow Scrub
- SWS, Southern Willow Scrub
- USS, Upper Sonoran Subshrub Scrub
- VSG, Valley Sacaton Grassland
- dBSS, Disturbed Big Sagebrush Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Non-wetland Water - Intermittent
- Wetland or Riparian
- Data Stations
- Permanent Impacts

SOURCE: SANGIS 2017

DUDEK

0 1,750 3,500 Feet

FIGURE 5-2

Impacts to Bioloigcal Resources - Reservation - Index

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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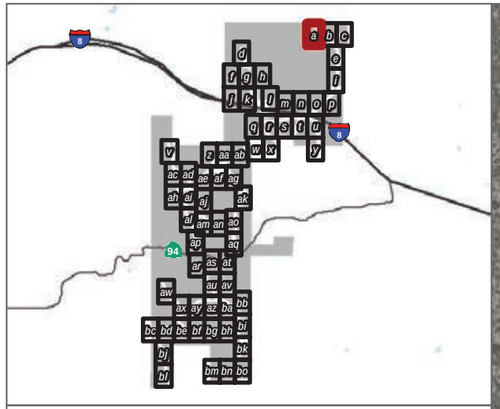

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-SSHA, Sharp-shinned hawk
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- R-BLHL, Blainville's horned lizard

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2a

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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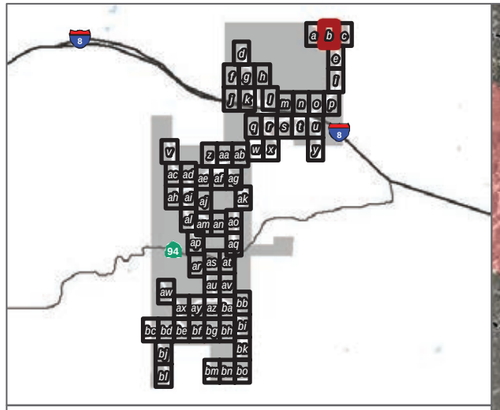

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

- B-SSHA, Sharp-shinned hawk
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- R-BLHL, Blainville's horned lizard

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2b

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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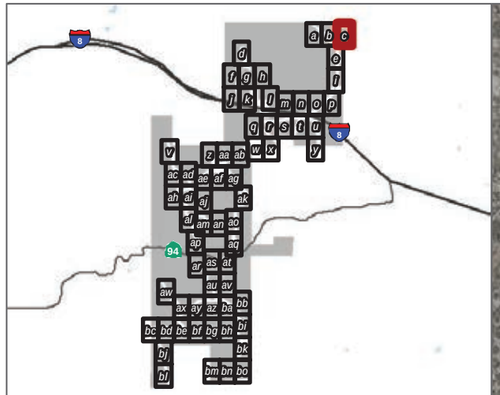

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2c

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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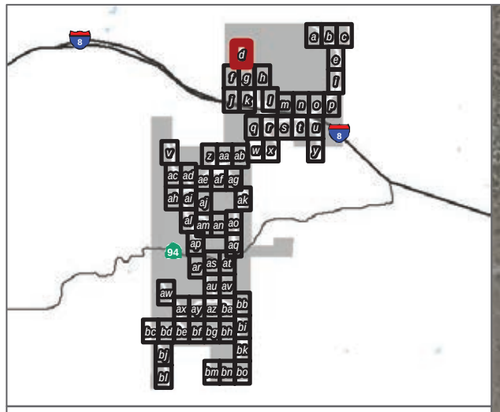

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2d

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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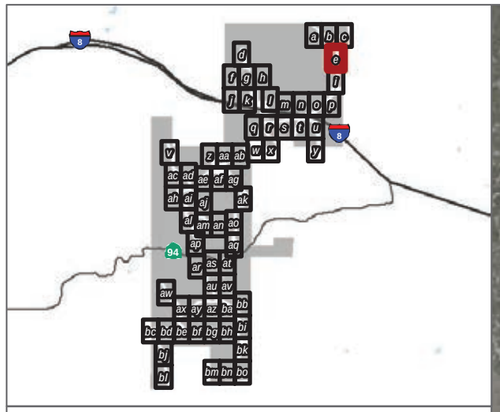

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-SSHA, Sharp-shinned hawk
B-NOHA, Northern harrier
B-TUVU, Turkey vulture

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
RSC, Red Shank Chaparral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2e

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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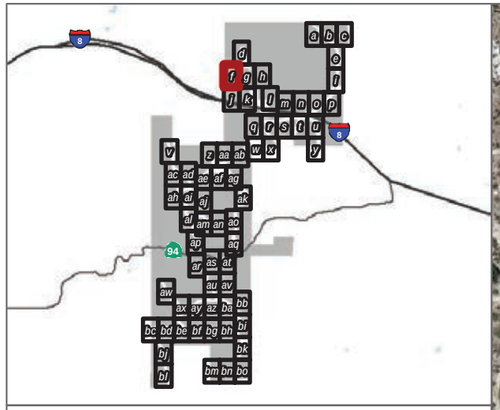

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2f

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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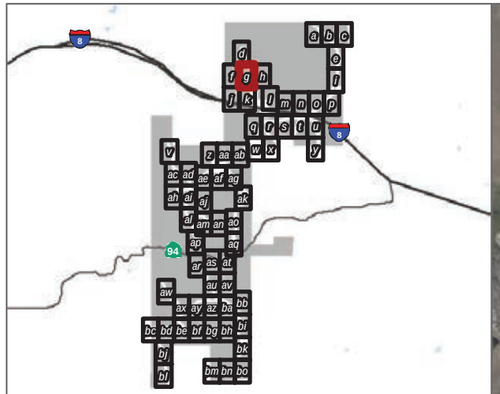

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2g

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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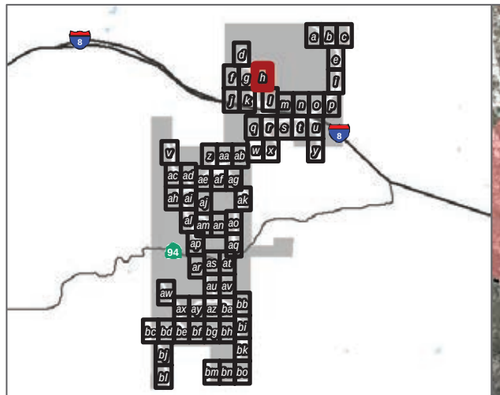

Reservation Boundary
Campo Corridor
Permanent Impacts

Vegetation and Land Cover Types

CLOW, Coast Live Oak Woodland
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral
Data Stations

GNMX
GNMX
CLOW
DH
GNMX
NVC
DS 4
CLOW
CLOW
NVC
CLOW
CLOW
NVC
CLOW
DH
GNMX
GNMX
GNMX
GCC

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2h

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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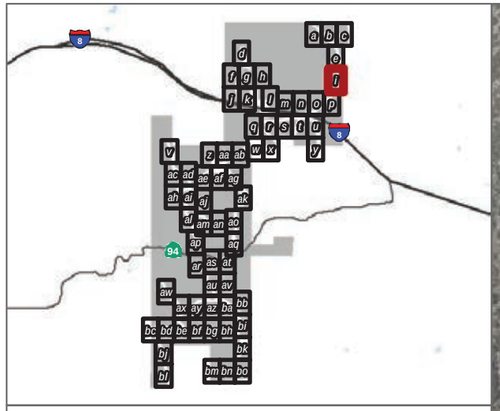


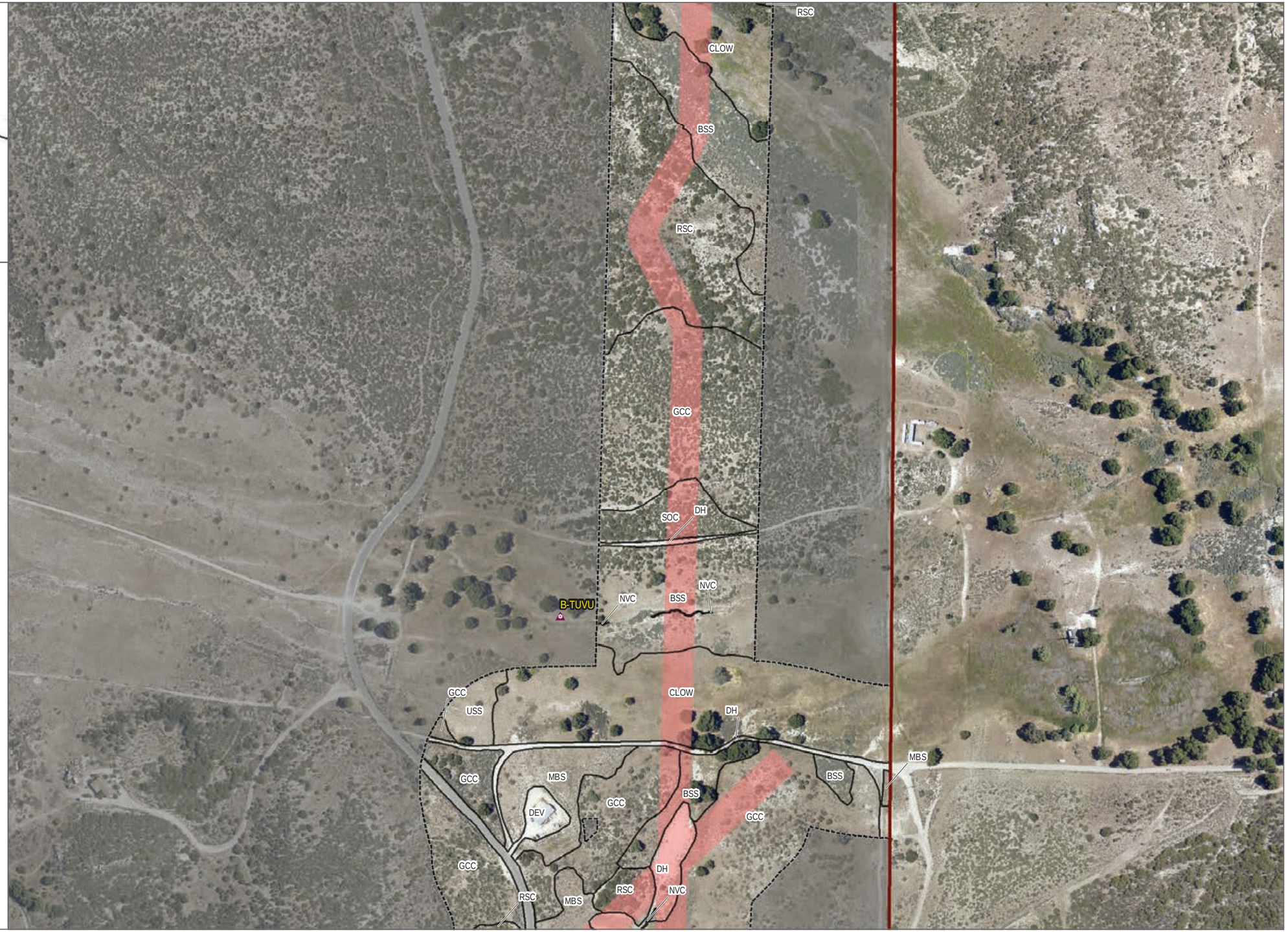
Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
DEV, Developed
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral
SOC, Scrub Oak Chaparral
USS, Upper Sonoran Subshrub Scrub



SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2i

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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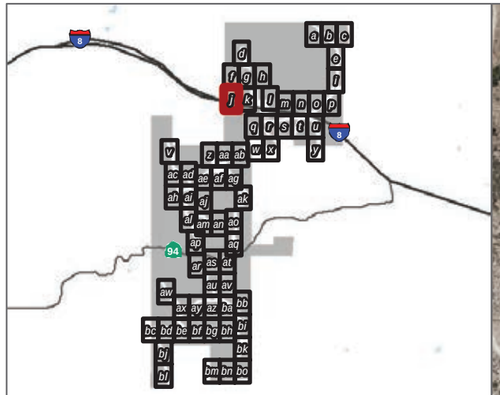

Reservation Boundary
Campo Corridor
Permanent Impacts

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
DEV, Developed
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2j

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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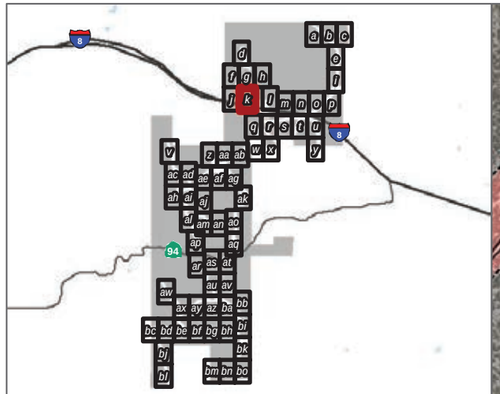

Reservation Boundary
Campo Corridor
Permanent Impacts

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2k

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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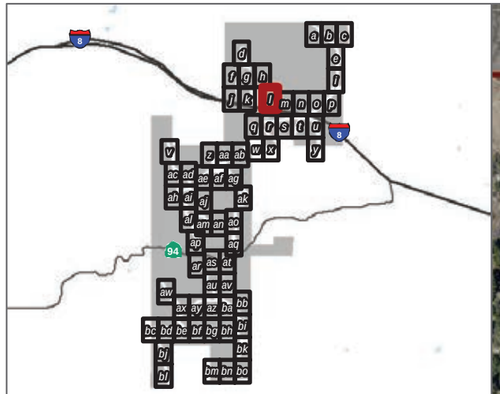

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2I

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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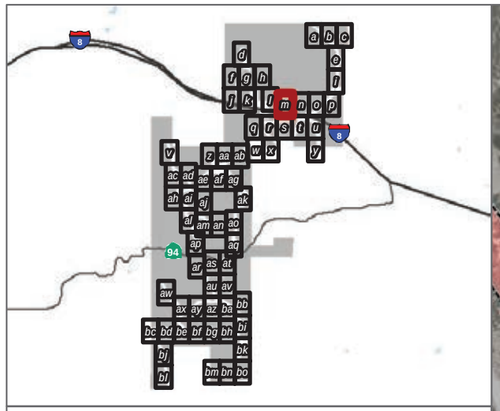

Reservation Boundary
Campo Corridor
Permanent Impacts

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral
SOC, Scrub Oak Chaparral
USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2m

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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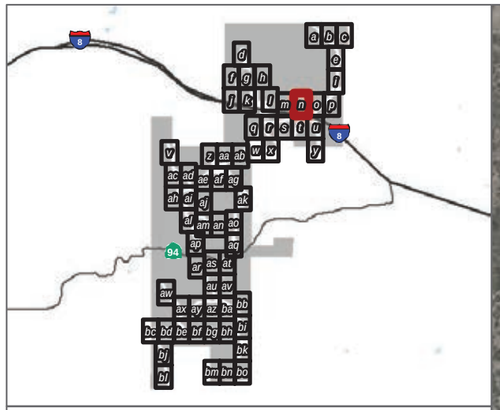

Reservation Boundary
Campo Corridor
Permanent Impacts

Vegetation and Land Cover Types

DEV, Developed
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral
SOC, Scrub Oak Chaparral
USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2n

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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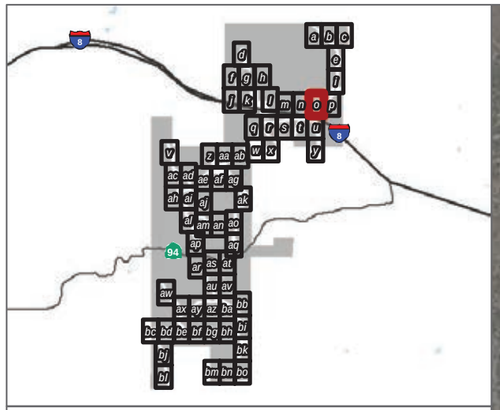

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2o

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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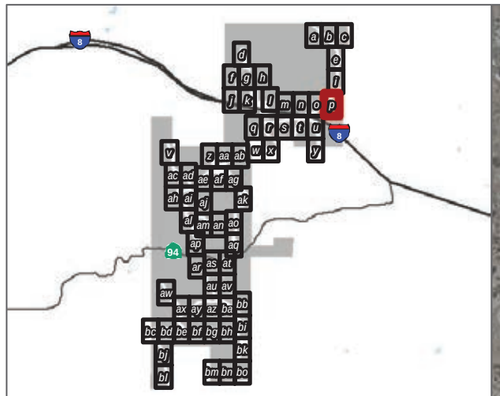

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2p

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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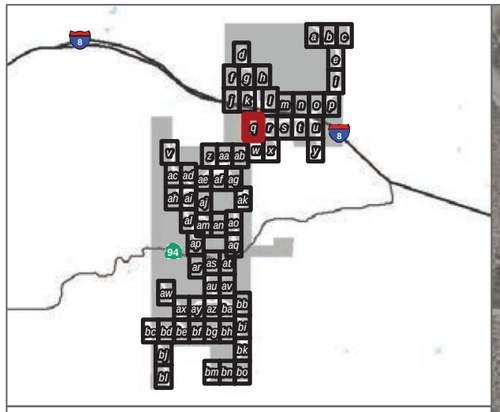

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
DEV, Developed
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NNG, Non-Native Grassland
NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2q

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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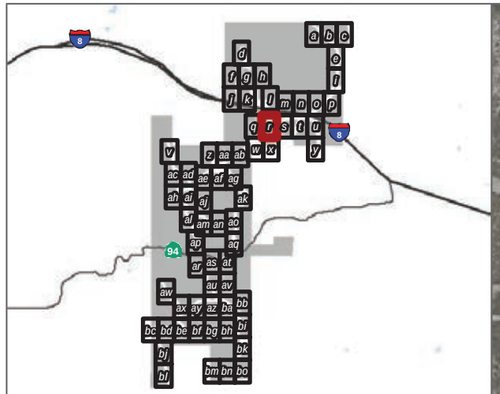

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2r

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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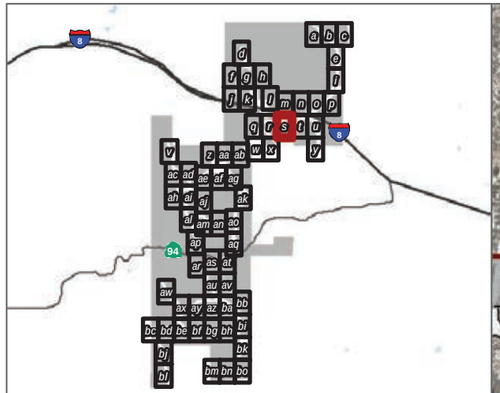

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- EW, Emergent Wetland
- FWM, Freshwater Marsh
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Wetland or Riparian
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2s

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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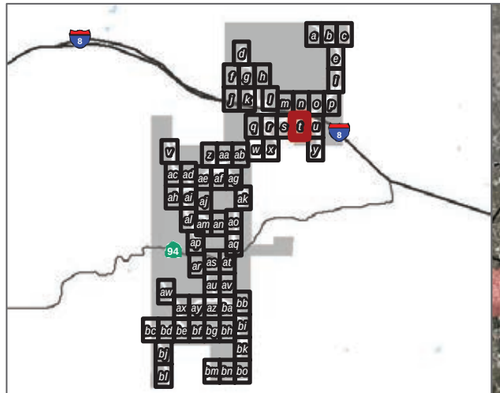

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
CLOWD, Dense Coast Live Oak Woodland
DEV, Developed
DH, Disturbed Habitat
EW, Emergent Wetland
FWM, Freshwater Marsh
GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub
NNG, Non-Native Grassland
NNGB, Non-Native Grassland Broadleaf-Dominated
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral
SOC, Scrub Oak Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral
Wetland or Riparian
Data Stations

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2t

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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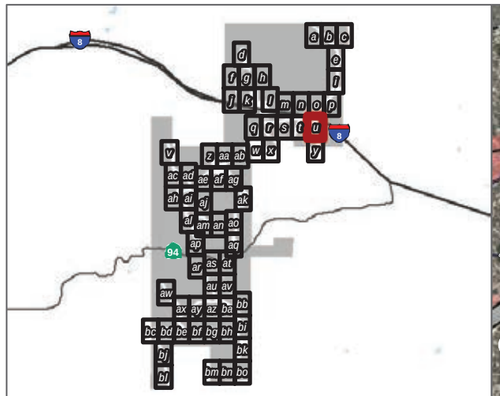

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2u

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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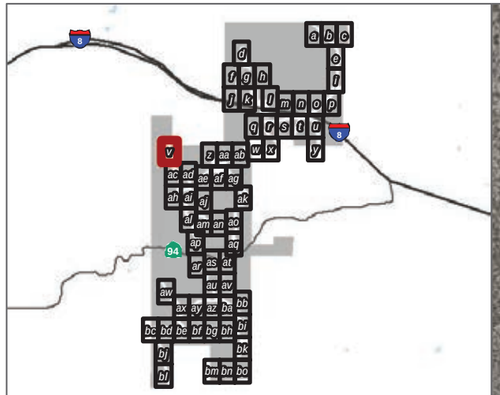

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-COHA, Cooper's hawk
B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub
USS, Upper Sonoran Subshrub Scrub

GCC
MBS
B-TUVU
MBS
B-TUVU
B-TUVU
GCC
B-TUVU
B-COHA
B-TUVU
B-TUVU
B-TUVU
B-TUVU
MBS
USS
B-TUVU
B-COHA
B-TUVU

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2v

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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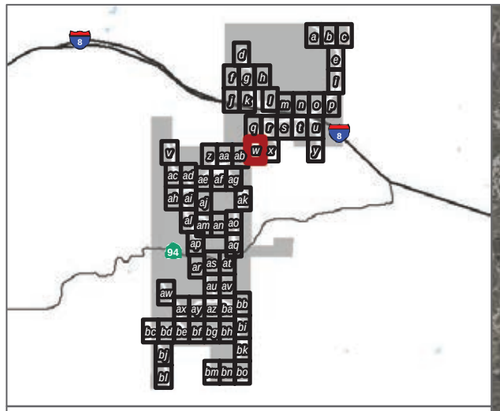

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-COHA, Cooper's hawk

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
SOC, Scrub Oak Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2w

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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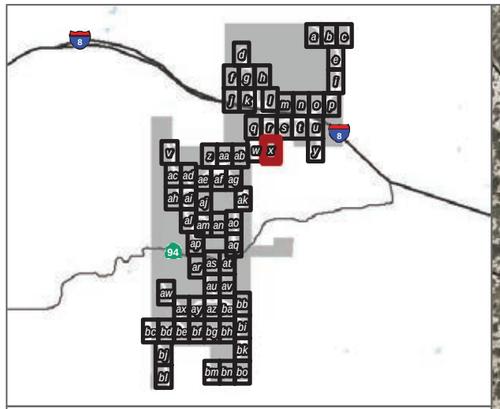

Reservation Boundary

Campo Corridor

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2x

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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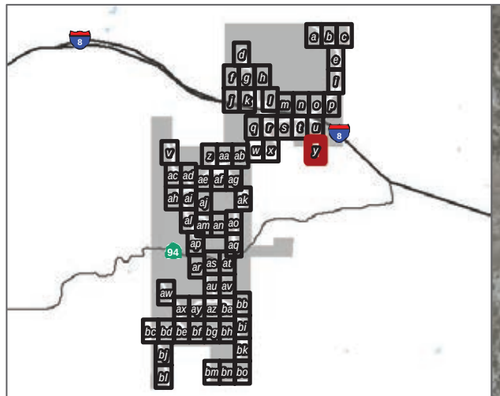

Reservation Boundary
Campo Corridor
Permanent Impacts

Vegetation and Land Cover Types

GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2y

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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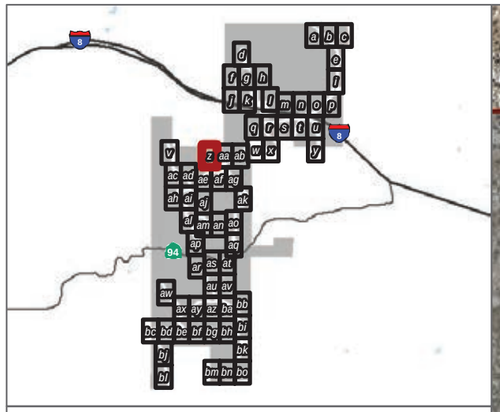

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-SSHA, Sharp-shinned hawk
B-NOHA, Northern harrier
B-COHA, Cooper's hawk
B-TUVU, Turkey vulture

Vegetation and Land Cover Types

CLOW, Coast Live Oak Woodland
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2z

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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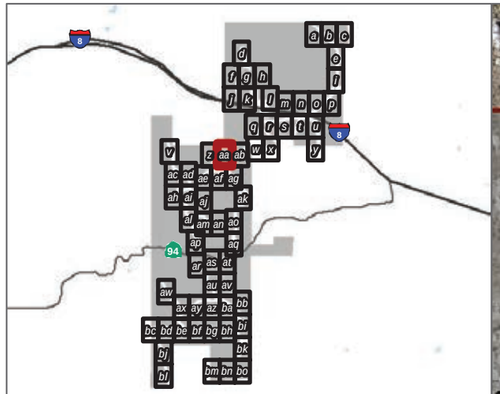

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-NOHA, Northern harrier
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

B-TUVU
B-NOHA
GCC
DH
MBS
NVC
CLOW
GNMX
RSC
DEV

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2aa

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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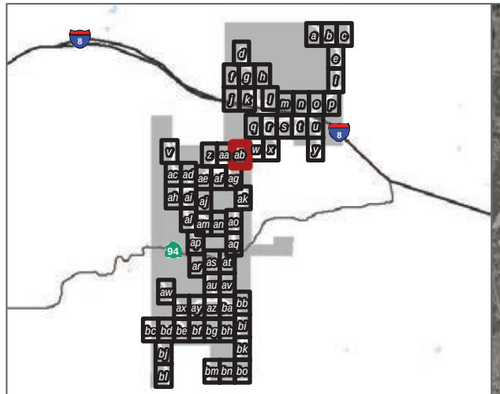

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ab

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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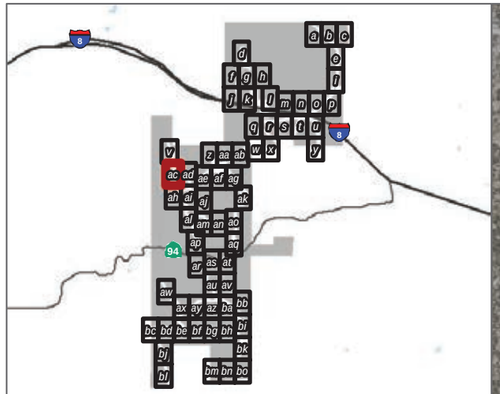

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-FEHA, Ferruginous hawk
- B-MERL, Merlin
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- USS, Upper Sonoran Subshrub Scrub

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ac

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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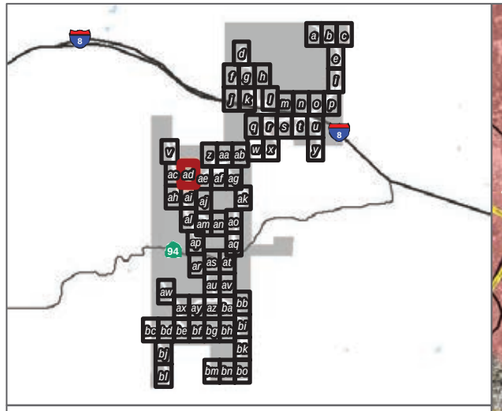

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-FEHA, Ferruginous hawk
- B-MERL, Merlin
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK 0 162.5 325 Feet

FIGURE 5-2ad

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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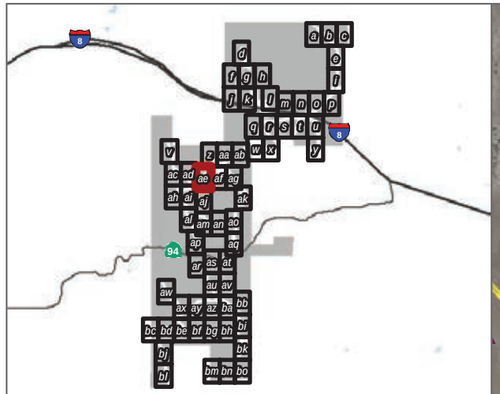

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-FEHA, Ferruginous hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ae

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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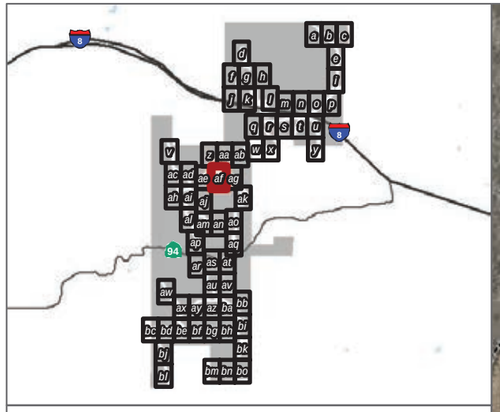

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-TUVU, Turkey vulture

Vegetation and Land Cover Types

CLORF, Coast Live Oak Riparian Forest
CLOW, Coast Live Oak Woodland
DEV, Developed
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2af

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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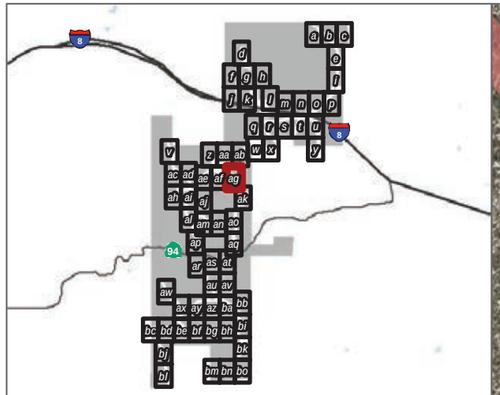

Reservation Boundary
Campo Corridor
Permanent Impacts

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLORF, Coast Live Oak Riparian Forest
CLOW, Coast Live Oak Woodland
DEV, Developed
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
GNMX, Granitic Northern Mixed Chaparral
MBS, Montane Buckwheat Scrub
NNG, Non-Native Grassland
NVC, Unvegetated Stream Channel
USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ag

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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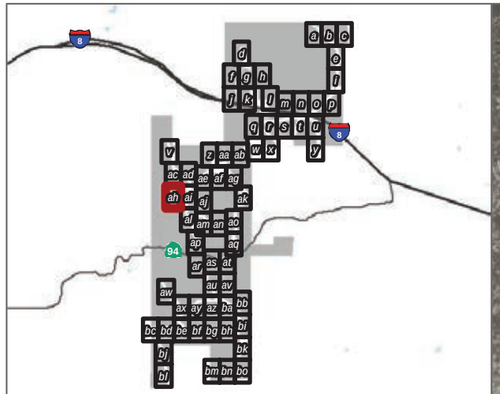

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ah

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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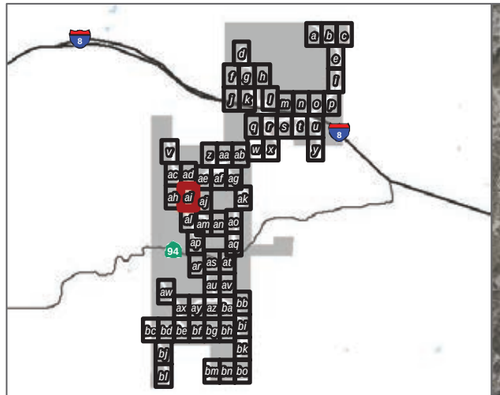

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-FEHA, Ferruginous hawk
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- R-BLHL, Blainville's horned lizard
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- DEV, Developed
- DH, Disturbed Habitat
- EW, Emergent Wetland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- MFS, Mulefat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SWS, Southern Willow Scrub
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Wetland or Riparian
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ai

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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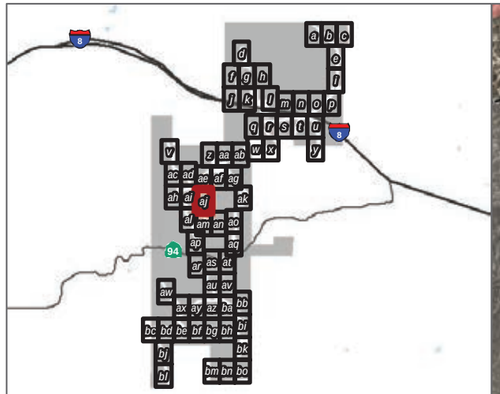

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- R-BLHL, Blainville's horned lizard
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- DEV, Developed
- DH, Disturbed Habitat
- EW, Emergent Wetland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MFS, Mulefat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SWS, Southern Willow Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Wetland or Riparian
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2aj

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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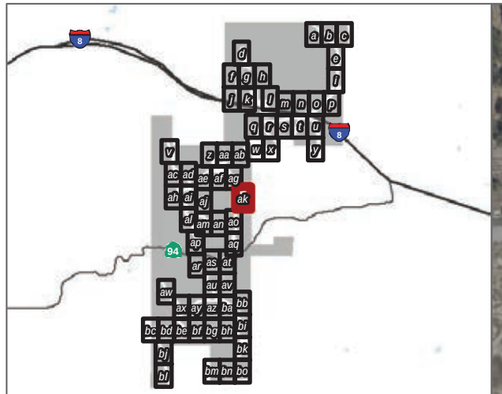

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

- B-NOHA, Northern harrier
- B-LOSH, Loggerhead shrike
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLORF, Coast Live Oak Riparian Forest
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ak

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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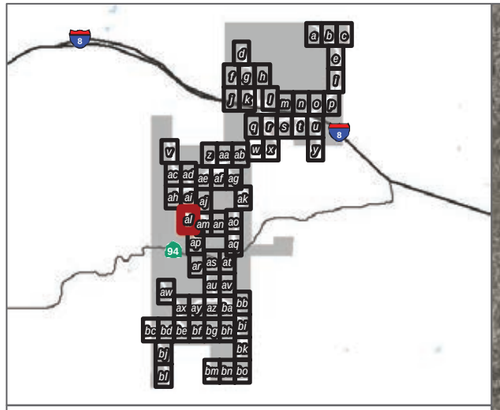

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-COHA, Cooper's hawk
B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub
NNG, Non-Native Grassland
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

B-COHA
B-TUVU
BSS
NNG
MBS
NVC
DH
RSC
GCC

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2aI

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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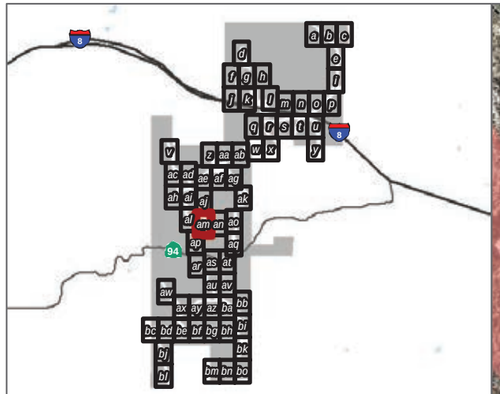

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-FEHA, Ferruginous hawk
- B-MERL, Merlin
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral
- dBSS, Disturbed Big Sagebrush Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2am

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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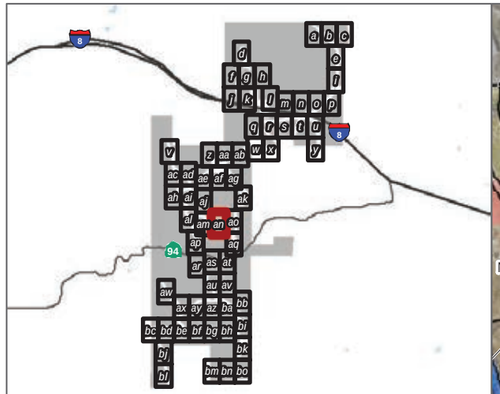

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

- B-FEHA, Ferruginous hawk
- B-MERL, Merlin
- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- dBSS, Disturbed Big Sagebrush Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2an

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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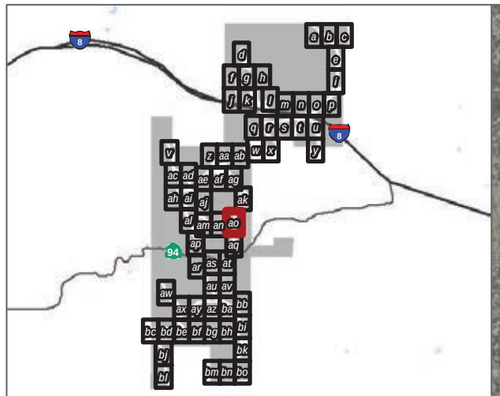

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ao

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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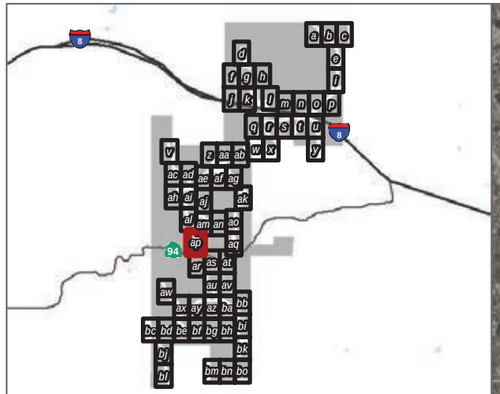


Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

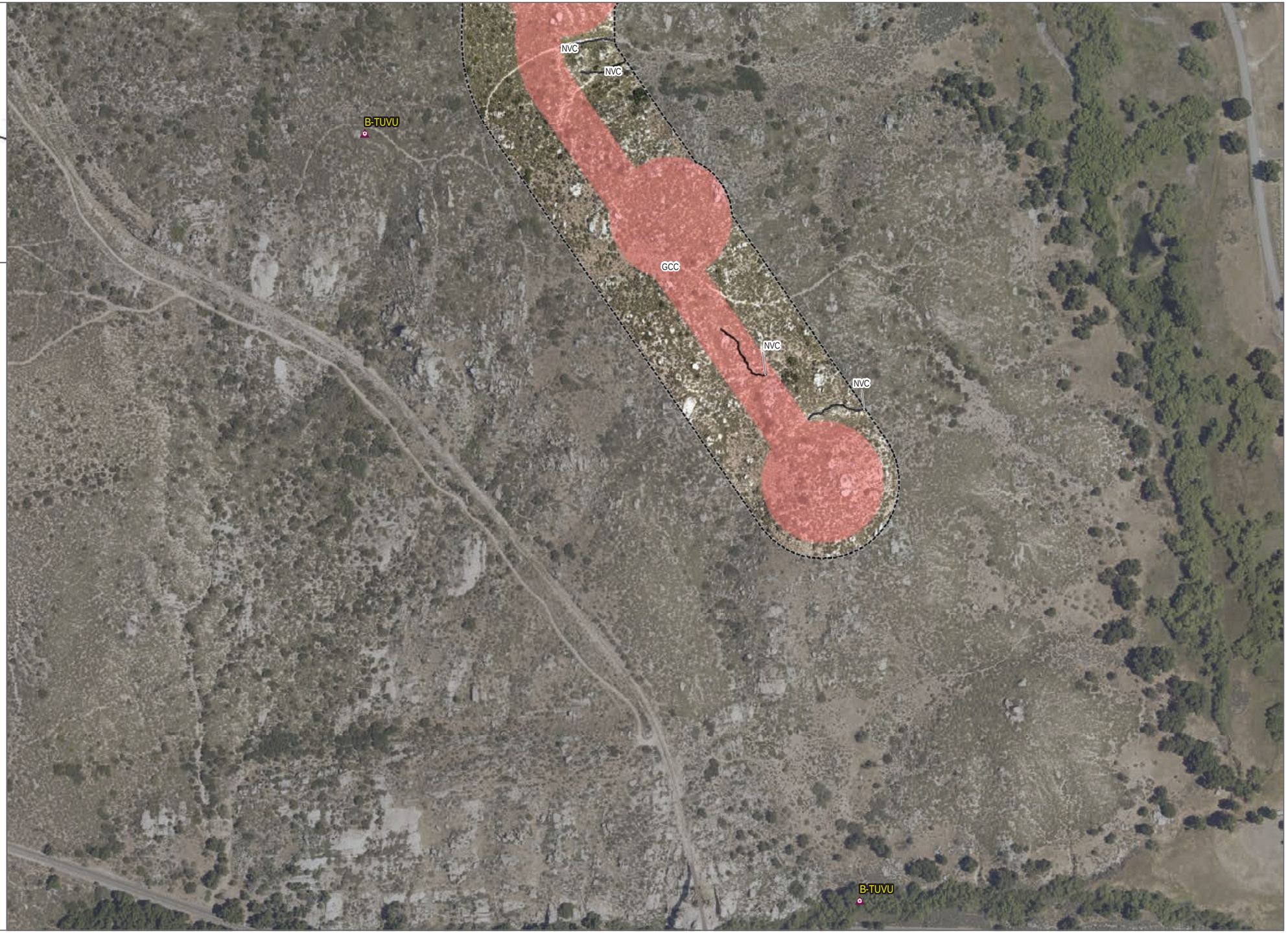
B-TUVU, Turkey vulture

Vegetation and Land Cover Types

GCC, Granitic Chamise Chaparral
NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral



SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ap

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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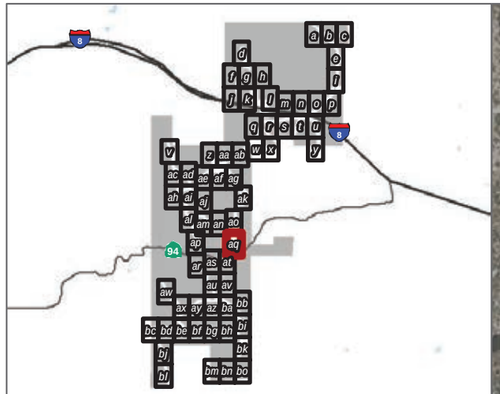

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2aq

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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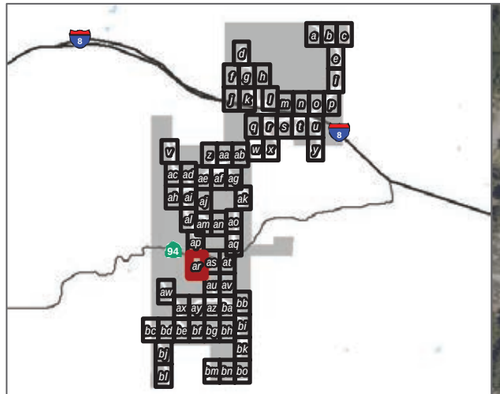

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- DH, Disturbed Habitat
- EW, Emergent Wetland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SWS, Southern WIllow Scrub
- VSG, Valley Sacaton Grassland

Jurisdiction Delineations

- Wetland or Riparian
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ar

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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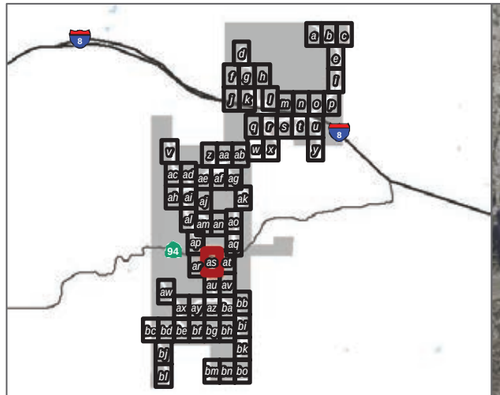

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- EW, Emergent Wetland
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- SWS, Southern WIllow Scrub
- USS, Upper Sonoran Subshrub Scrub
- VSG, Valley Sacaton Grassland

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Non-wetland Water - Intermittent
- Wetland or Riparian
- Data Stations

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2as

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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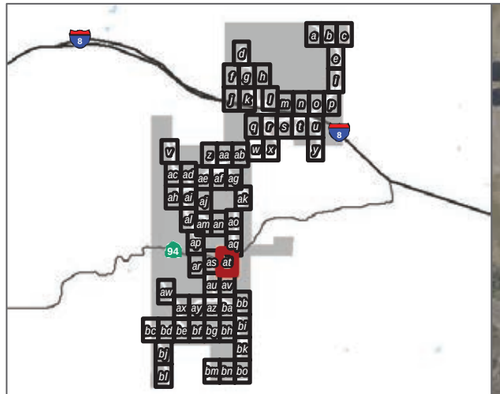

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DEV, Developed
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NNGB, Non-Native Grassland Broadleaf-Dominated
- NVC, Unvegetated Stream Channel
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral
- Non-wetland Water - Intermittent

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2at

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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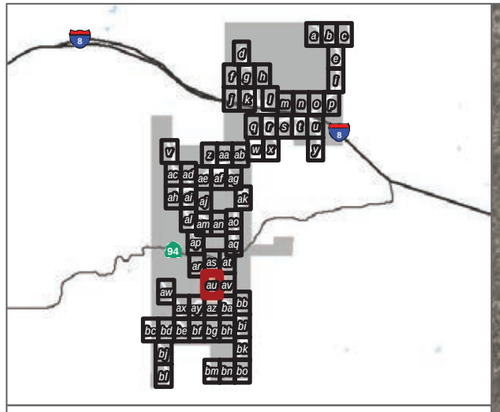

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-SSHA, Sharp-shinned hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2au

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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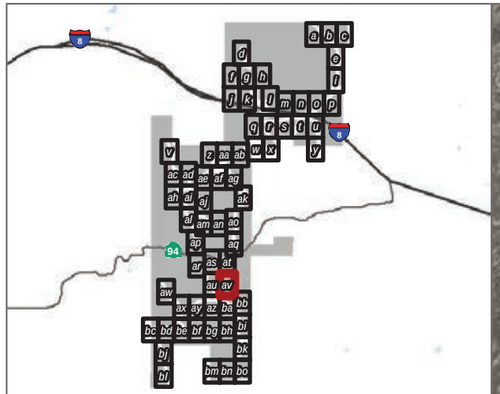

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-SSHA, Sharp-shinned hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral
- USS, Upper Sonoran Subshrub Scrub

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2av

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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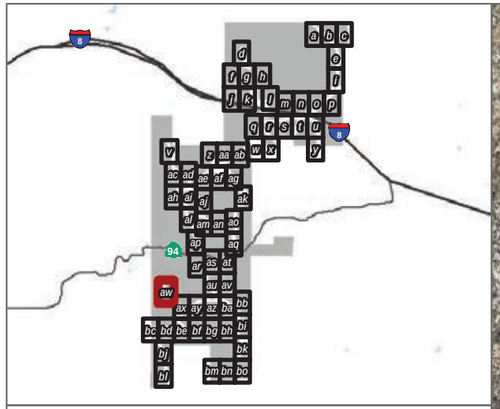

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- NVC, Unvegetated Stream Channel

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2aw

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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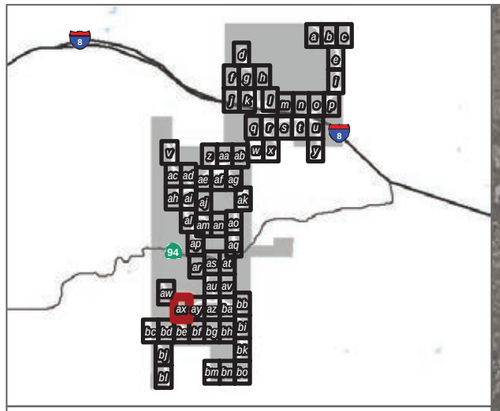

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ax

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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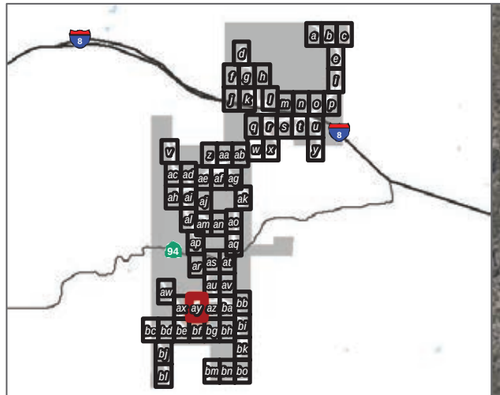

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- CLOWO, Open Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ay

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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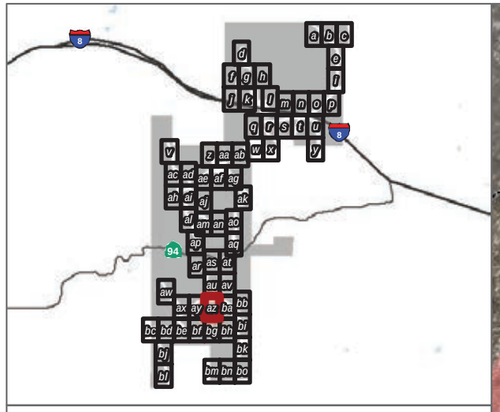

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

CLOW, Coast Live Oak Woodland
CLOWD, Dense Coast Live Oak Woodland
CLOWO, Open Coast Live Oak Woodland
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2az

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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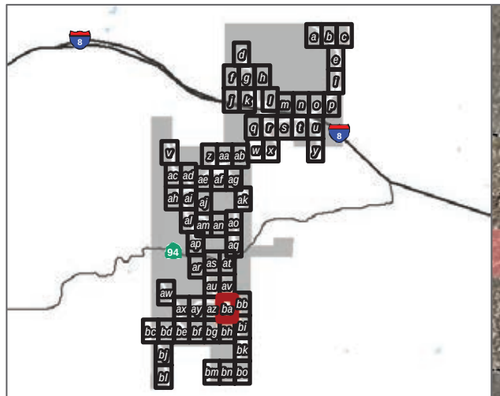

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- BSS, Big Sagebrush Scrub
- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2ba

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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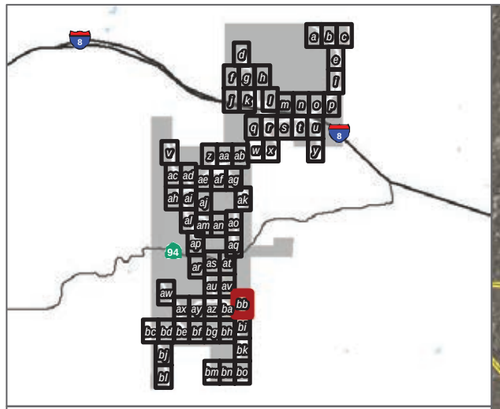

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

BSS, Big Sagebrush Scrub
CLOW, Coast Live Oak Woodland
CLOWD, Dense Coast Live Oak Woodland
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
SOC, Scrub Oak Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bb

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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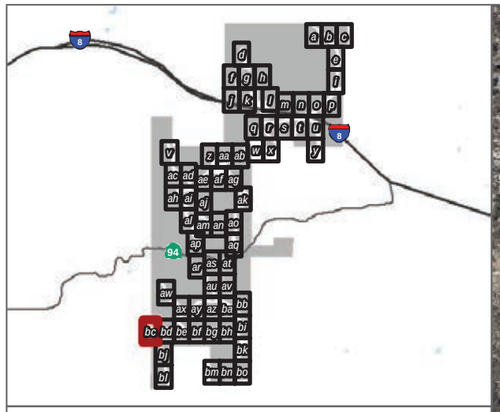


- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

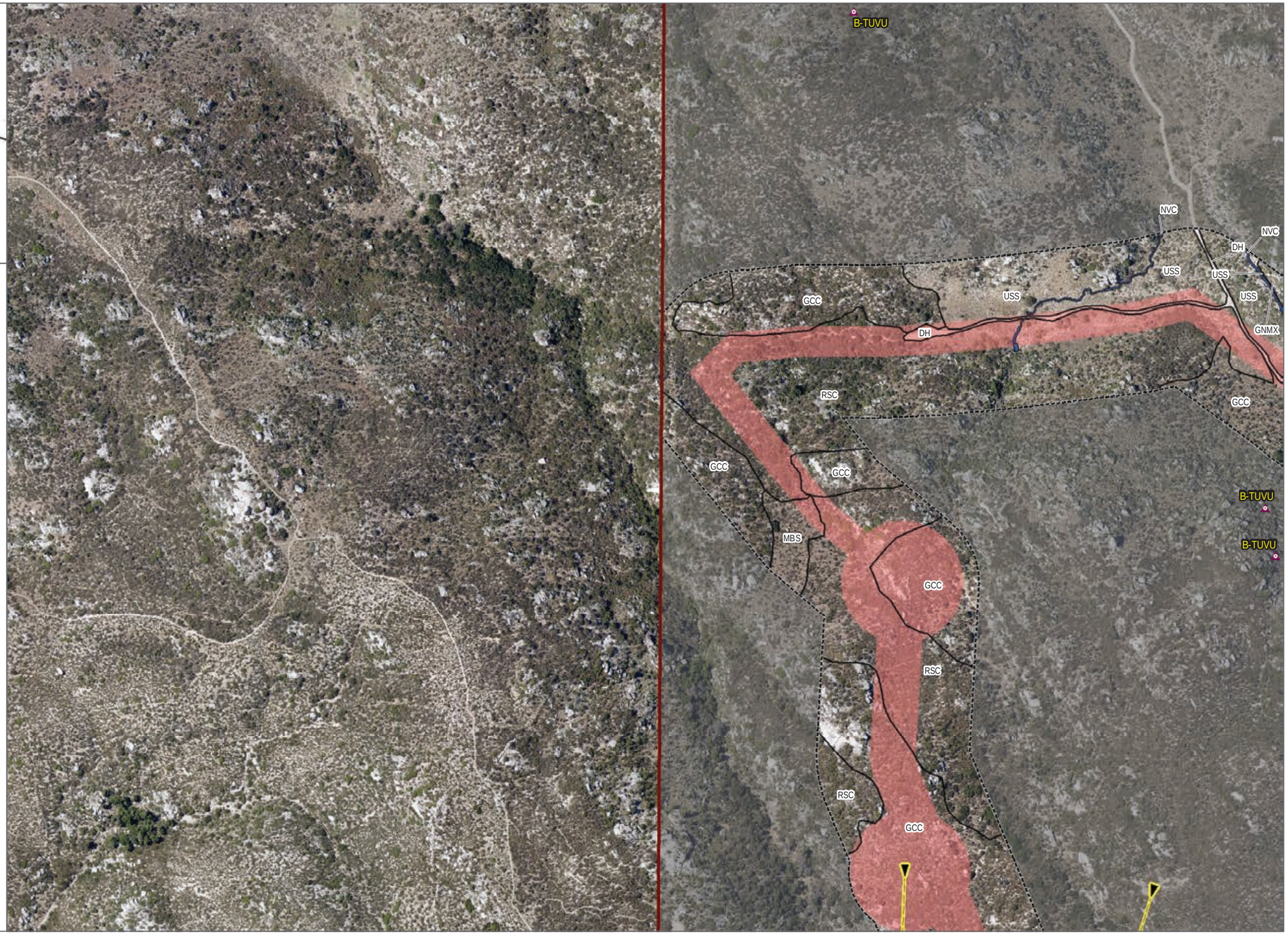
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral



SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bc

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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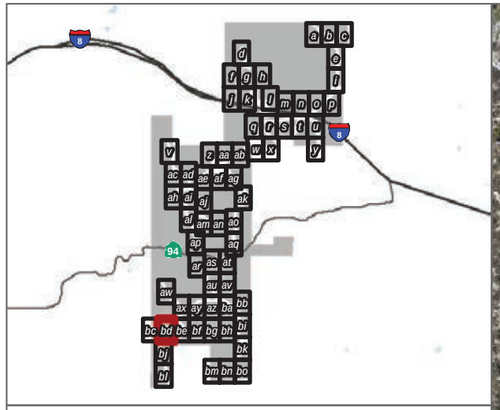

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bd

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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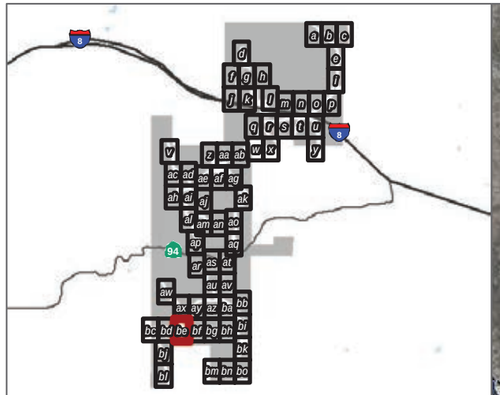

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2be

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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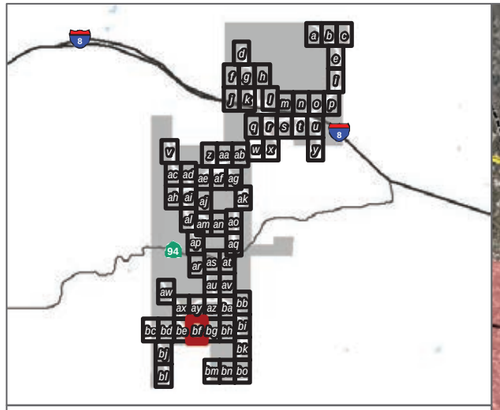

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

CLOW, Coast Live Oak Woodland
CLOWD, Dense Coast Live Oak Woodland
DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub
NNG, Non-Native Grassland
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bf

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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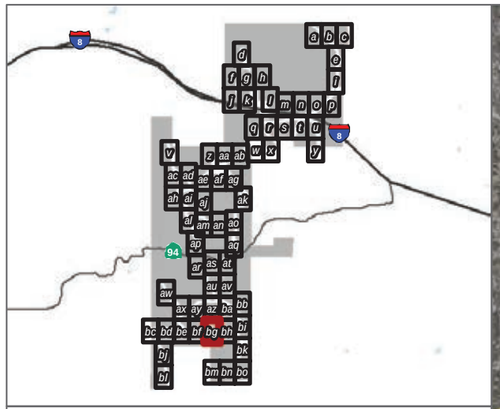

- Reservation Boundary
- Campo Corridor
- Permanent Impacts
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- CLOW, Coast Live Oak Woodland
- CLOWD, Dense Coast Live Oak Woodland
- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NNG, Non-Native Grassland
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bg

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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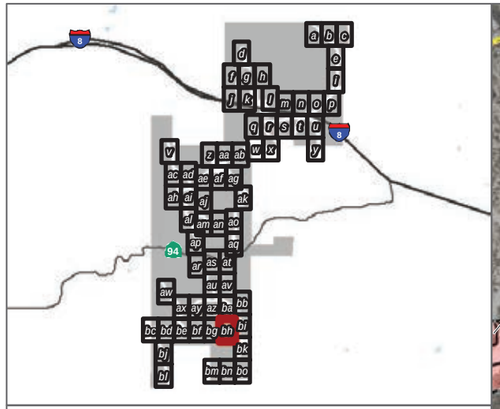

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-MERL, Merlin
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- GNMX, Granitic Northern Mixed Chaparral
- MBS, Montane Buckwheat Scrub
- NVC, Unvegetated Stream Channel
- RSC, Red Shank Chaparral
- SOC, Scrub Oak Chaparral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bh

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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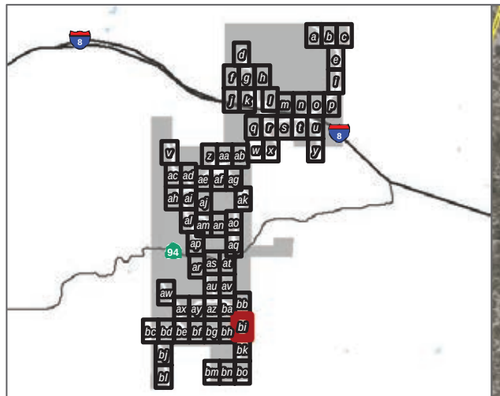

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-MERL, Merlin
B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
MBS, Montane Buckwheat Scrub
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral
SOC, Scrub Oak Chaparral

Jurisdiction Delineations

Non-wetland Water - Ephemeral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bi

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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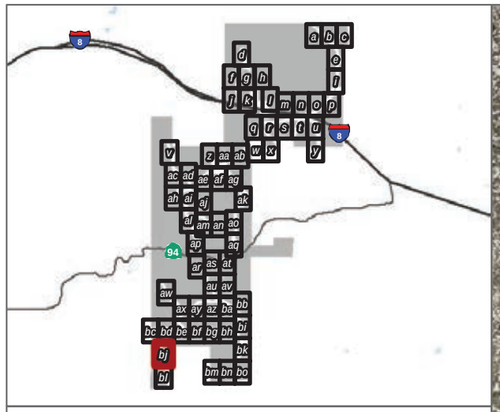

- Reservation Boundary
- Campo Corridor
- Permanent Impacts

Wildlife

- B-COHA, Cooper's hawk
- B-TUVU, Turkey vulture
- Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

- DH, Disturbed Habitat
- GCC, Granitic Chamise Chaparral
- NVC, Unvegetated Stream Channel
- USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

- Non-wetland Water - Ephemeral

B-TUVU
GCC
B-TUVU
B-TUVU
DH
B-TUVU
B-TUVU
B-COHA
NVC
GCC
GCC
NVC
NVC
B-TUVU
NVC
USS
USS
NVC

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bj

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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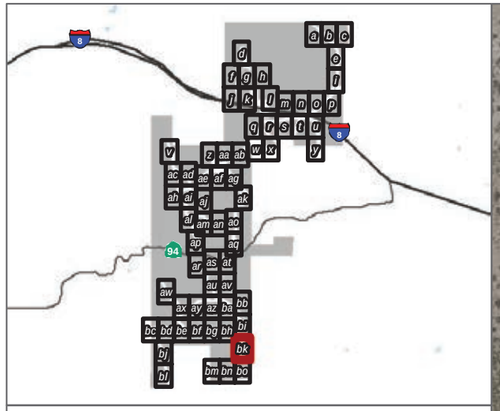

Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

B-COHA, Cooper's hawk
B-TUVU, Turkey vulture

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
NVC, Unvegetated Stream Channel
RSC, Red Shank Chaparral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bk

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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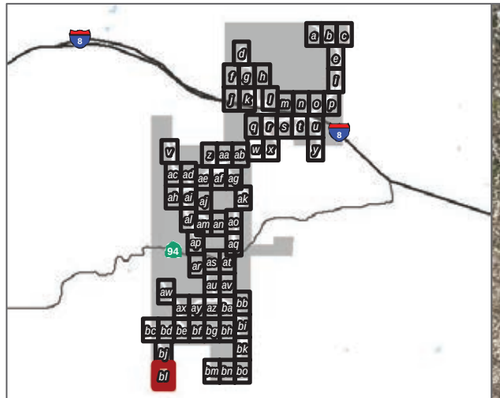


Reservation Boundary
Campo Corridor
Permanent Impacts

Wildlife

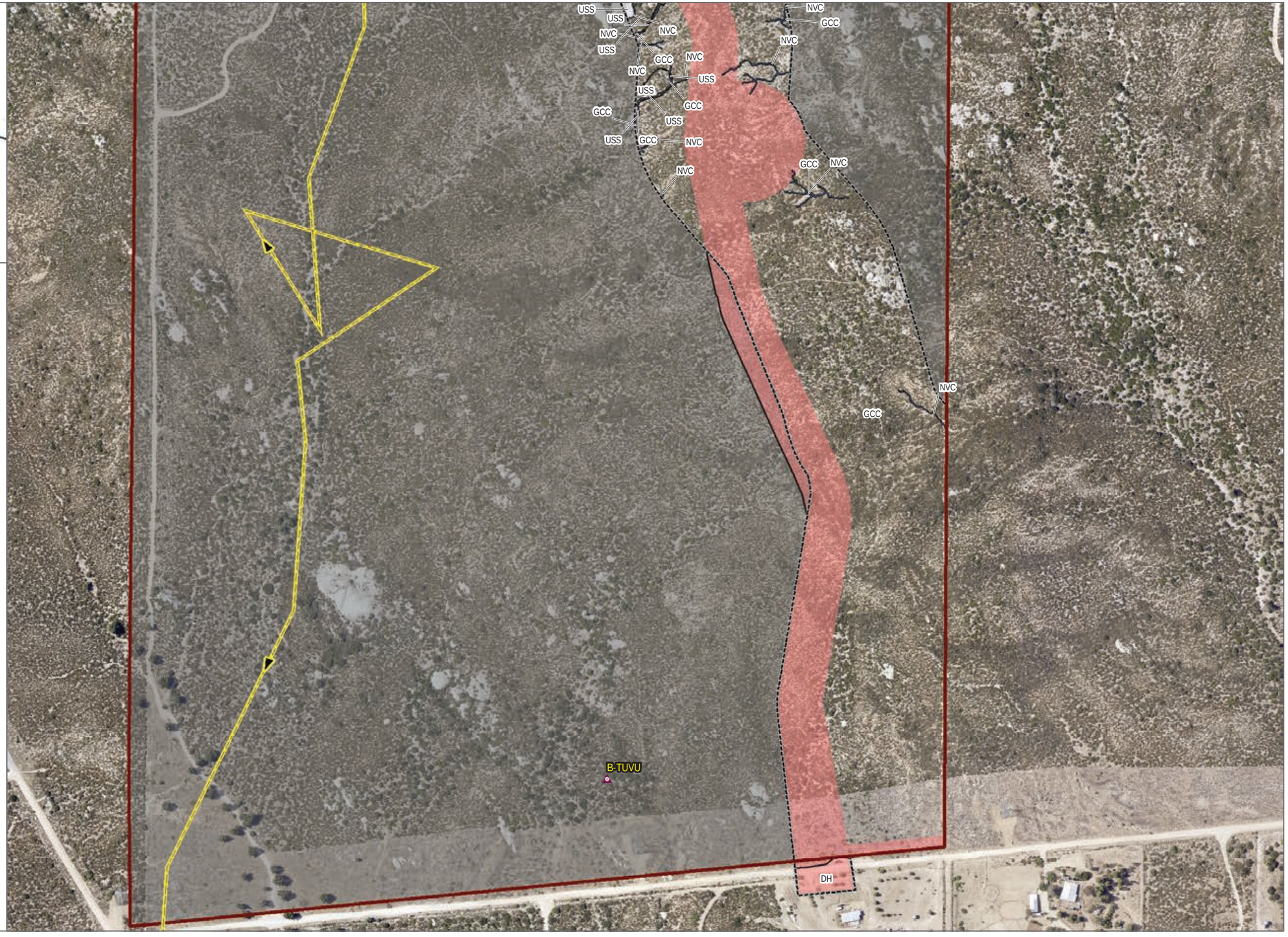
B-TUVU, Turkey vulture
Observed Golden Eagle Flight Paths

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral
NVC, Unvegetated Stream Channel
USS, Upper Sonoran Subshrub Scrub

Jurisdiction Delineations

Non-wetland Water - Ephemeral



SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bI

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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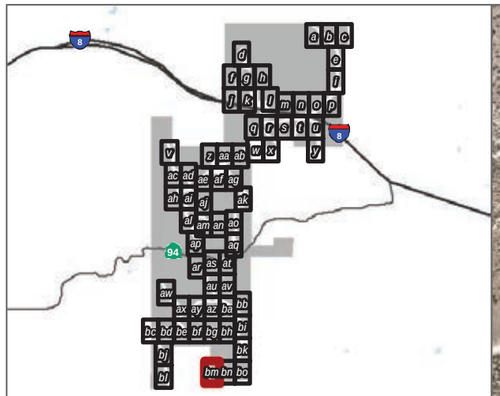

Reservation Boundary
Campo Corridor
Permanent Impacts

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bm

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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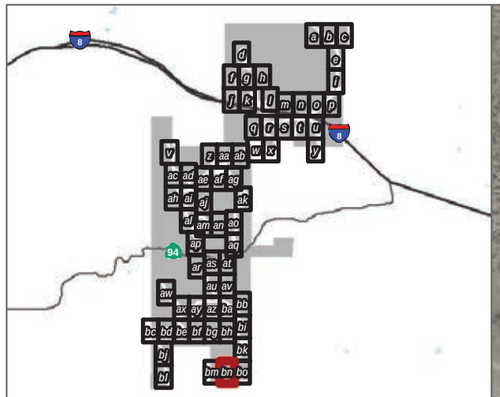

Reservation Boundary
Campo Corridor
Permanent Impacts

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bn

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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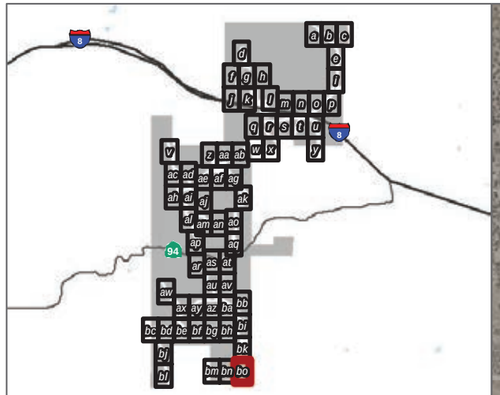

Reservation Boundary
Campo Corridor
Permanent Impacts

Vegetation and Land Cover Types

DH, Disturbed Habitat
GCC, Granitic Chamise Chaparral

SOURCE: SANGIS 2017

DUDEK

0 162.5 325 Feet

FIGURE 5-2bo

Impacts to Biological Resources - Reservation

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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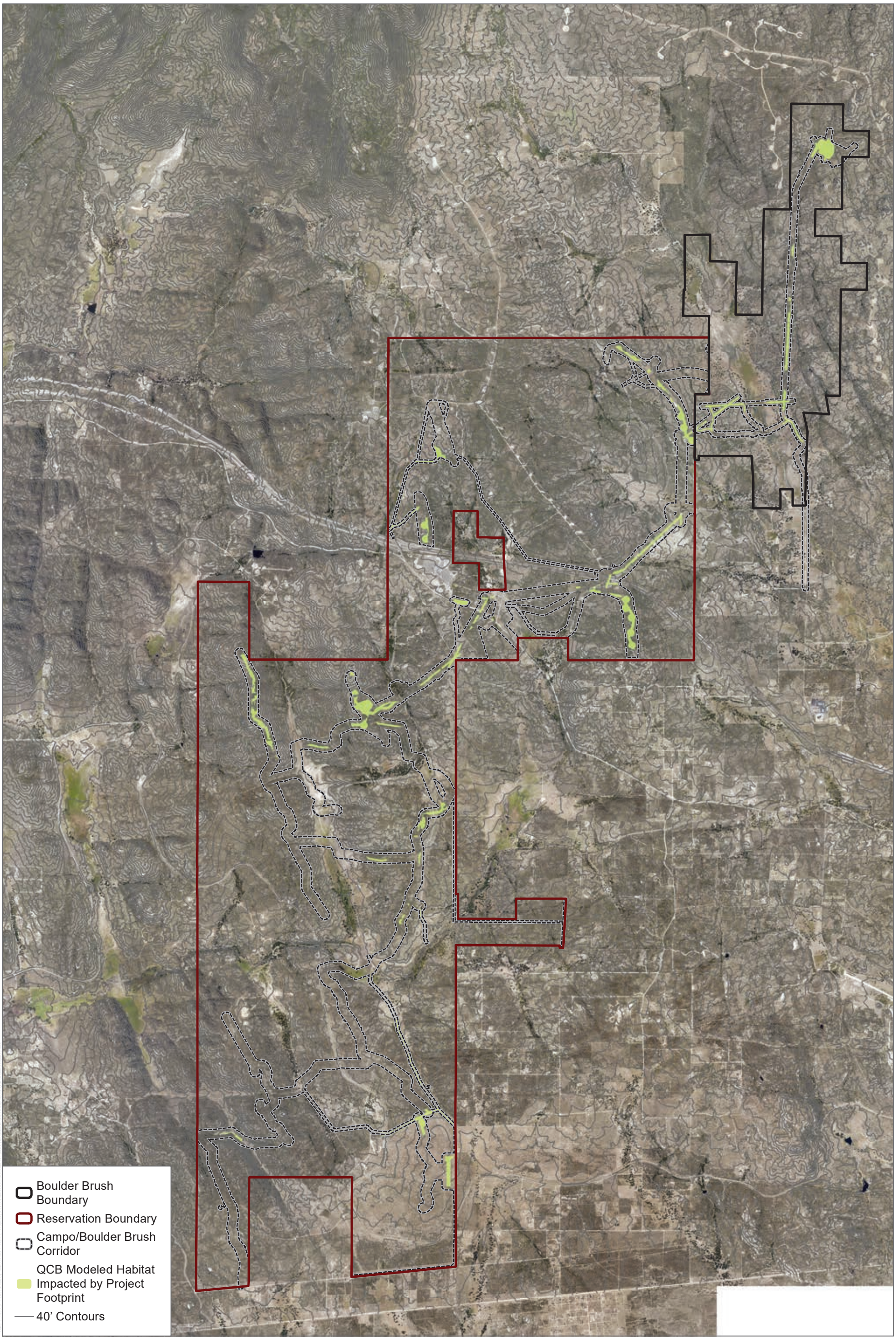

SOURCE: SANGIS 2017

DUDEK

0 2,200 4,400 Feet

FIGURE 5-3

Impacts to Potentially Occupied Quino Checkerspot Butterfly Habitat

Biological Resources Technical Report For the Campo Wind Project with Boulder Brush Facilities

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5.2 Special-Status Plant Species

5.2.1 Boulder Brush Facilities

The significance of these potential impacts to special-status species is determined through application of the County's Significance Guidelines, as described in Section 6.1, Guidelines for the Determination of Significance.

Direct Impacts to Special-Status Plant Species

Temporary Direct Impacts

Impact SP-1: Temporary Direct Impacts to Special-Status Plant Species

Temporary impacts to special-status plants resulting from construction are quantified as permanent impacts (see Section 5.2.1.2, Permanent Direct Impacts). Additionally, temporary direct impacts to special-status plants at the edge of the development footprint could primarily result from construction activities. Clearing, trampling, or grading of special-status plants outside designated Boulder Brush Facilities disturbance limits (or development 'footprint') could occur in the absence of avoidance and mitigation measures. These potential temporary direct impacts could damage individual plants and alter their ecosystem, creating gaps in vegetation that allow exotic, non-native plant species to become established, thus increasing soil compaction and leading to soil erosion. Any special-status plant species at the edge of the development footprint could be impacted by potential temporary direct impacts, such as those previously listed.

The significance determination for these potential impacts is presented in Section 6.2.2 of this Report.

Permanent Direct Impacts

Impact SP-2: Permanent Direct Impacts to Special-Status Plant Species

The Boulder Brush Facilities would result in the loss of sensitive plant species (Table 5-4, Summary of Direct Impacts to Special-Status Plant Species) (**Impact SP-2**). Special-status plant surveys were conducted in 2017 and 2018 (see Section 3.3.1) and results are described in Section 4.5.1. Permanent direct impacts to special-status plant species were quantified by comparing the development footprint with the occurrence data for each special-status plant species. Table 5-4 includes each species' status, estimates of the number of individuals within the Boulder Brush Corridor, and an assessment of permanent direct impacts based on the number of individual plants

located within the development footprint. For the areas outside of the 2017/2018 survey area, rare plant surveys will be conducted within approximately 2.63 acres of previously un-surveyed areas within the Boulder Brush Facilities during the appropriate seasons in 2020. The Boulder Brush Corridor does not contain any critical habitat for plant species.

The significance determination for these potential impacts is presented in Section 6.2.2 of this Report.

Table 5-4
Summary of Direct Impacts to Special-Status Plants Species – Boulder Brush Corridor

Species	Regulatory Status:Federal/State//CRPR	Approximate Number of Individuals within the Boulder Brush Corridor	Impacts to Number of Individuals
County List A			
Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*)	None/None/CRPR 1B.2	255	111
Southern jewelflower (*Streptanthus campestris*)	None/None/CRPR 1B.3	30	20
Tecate tarplant (*Deinandra floribunda*)	None/None/CRPR 1B.2	3,029	61
County List B			
Desert beauty (*Linanthus bellus*)	None/None/CRPR 2B.1	1,400	1,308
Sticky geraea (*Geraea viscida*)	None/None/CRPR 2B.2	673	203
County List D			
Colorado Desert larkspur (*Delphinium parishii* ssp. *subglobosum*)	None/None/CRPR 4.3	82	46

CRPR: California Rare Plant Rank
1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
4: Plants of Limited Distribution – A Watch List
Threat Rank
0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
0.3 – Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Indirect Impacts to Special-Status Plant Species

Temporary Indirect Impacts

Impact SP-3: Temporary Indirect Impacts to Special-Status Plant Species

The temporary indirect impacts to vegetation communities described in Section 5.1.1.2, Indirect Impacts to Riparian Habitat or Sensitive Vegetation Communities, can also affect sensitive plants. The indirect impacts analyzed in Section 5.1.1.2 include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, introduction of pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect the special-status plant species. Special-status plant species at the edge of the Boulder Brush Facilities development footprint could be impacted by potential temporary indirect impacts such as those listed in Section 5.1.1.2 (**Impact SP-3**).

The significance determination for these potential impacts is presented in Section 7.2.1 of this Report.

Permanent Indirect Impacts

Impact SP-4: Permanent Indirect Impacts to Special-Status Plant Species

The permanent indirect impacts to vegetation communities described in Section 5.1.1.2, Indirect Impacts to Riparian Habitat or Sensitive Vegetation Communities, can also affect sensitive plants. Permanent indirect impacts could result from the proximity of the development footprint to special-status plants outside of the Boulder Brush Facilities development footprint after construction. The indirect impacts analyzed in Section 5.1.1.2 include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, introduction of pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect the special-status plant species. Special-status plant species at the edge of the development footprint could be impacted by permanent indirect impacts such as those previously listed in Section 5.1.1.2 (**Impact SP-4**).

The significance determination for these potential impacts is presented in Section 7.2.1 of this Report.

5.2.2 Campo Wind Facilities

Direct Impacts to Special-Status Plant Species

Temporary Direct Impacts

For purposes of this analysis, all impacts associated with the Campo Wind Facilities are considered permanent direct impacts.

Permanent Direct Impacts

Impact SP-A: Permanent Direct Impacts to Special-Status Plant Species

The Campo Wind Facilities would likely result in the loss of special-status plant species, but these impacts cannot be quantified, because location information for special-status plants identified during surveys in 2010 and 2011 for the Shu'luuk Wind project is not available. The following species have been observed in the Project Area or have a high potential to occur and therefore are subject to potential direct impacts: Tecate cypress (List A), Tecate tarplant (List A), Jacumba milk-vetch (List A), sticky geraea (List B), desert beauty (List B), southern jewelflower (List A), Payson's jewelflower (List D), Peninsular spineflower (List D), Colorado desert larkspur (List D), pride-of-California (List D) (**Impact SP-A**). The Campo Corridor does not contain any critical habitat for plant species.

The significance determination for these potential impacts is presented in Section 6.2.2 of this Report.

Indirect Impacts to Special-Status Plant Species

Temporary Indirect Impacts

Impact SP-B: Temporary Indirect Impacts to Special-Status Plant Species

Most of the indirect impacts to vegetation communities described in Section 5.1.1.2, Indirect Impacts to Riparian Habitat or Sensitive Vegetation Communities, can also affect sensitive plants. Potential temporary indirect impacts to special-status plant species in the Campo Corridor would primarily result from construction activities and would include impacts related to or resulting from the increased human access, introduction of pests or exotic species, altering natural drainage, increasing noise and/or nighttime lighting, generation of fugitive dust, the introduction of chemical pollutants (including herbicides), and alteration of the natural fire regime (**Impact SP-B**). Special-status plant species at the edge of the development footprint could be impacted by potential temporary indirect impacts such as those previously listed (**Impact SP-B**) (see descriptions in Section 5.1.1.2).

Standard BMPs would be implemented during construction, O&M, and decommissioning of the Project that would reduce temporary indirect impacts to special-status plants. Table 5-3 above outlines BMPs relevant for avoidance and minimization of impacts to biological resources. The significance of these potential impacts is determined through application of the County's Significance Guidelines, as described in Section 6.1.

Permanent Indirect Impacts

Impact SP-C: Permanent Indirect Impacts to Special-Status Plant Species

Most of the indirect impacts to vegetation communities described in Section 5.1.1.2, Indirect Impacts to Riparian Habitat or Sensitive Vegetation Communities, can also affect sensitive plants. Permanent indirect impacts could result from the proximity of the development footprint to special-status plants outside of the development footprint after construction. Permanent indirect impacts that could affect special-status plant species include increased human access, introduction of pests or exotic species, altering natural drainage, increasing noise and/or nighttime lighting, generation of fugitive dust, chemical pollutants, and alteration of the natural fire regime (**Impact SP-C**). Each of these potential indirect impacts is discussed in Section 6.2.2, Special-Status Plant Species. Special-status plant species at the edge of the development footprint could be impacted by permanent indirect impacts such as those previously listed (**Impact SP-C**) (see descriptions in Section 5.1.1.2).

Standard best management practices (BMPs) would be implemented during construction, O&M, and decommissioning of the Project that would reduce permanent indirect impacts to special-status plants. Table 5-3 above outlines BMPs relevant for avoidance and minimization of impacts to biological resources.

5.3 Sensitive Wildlife Species

5.3.1 Boulder Brush Facilities

The significance of these potential impacts to sensitive wildlife species is determined through application of the County's Significance Guidelines, as described in Section 6.1 of this report.

Direct Impacts to Special-Status Wildlife Species

Temporary Direct Impacts

Impact W-1: Temporary Direct Impacts to Habitat for Special-Status Wildlife Species

There would be temporary direct impacts to suitable habitat for special-status wildlife species, including foraging habitat for raptors, associated with the development footprint of the Boulder Brush Facilities (Table 5-1). Although these areas would be revegetated after Boulder Brush Facilities construction, for mitigation purposes, these impacts to suitable habitat are considered permanent. Additionally, construction-related, temporary direct impacts to avian foraging and wildlife access to foraging, nesting, or water resources would primarily result from clearing, trampling, or grading of vegetation communities outside of the development footprint in the absence of avoidance and mitigation measures (**Impact W-1**). These potential impacts could reduce suitable habitat for wildlife species and alter their ecosystem, thus creating gaps in vegetation that allow exotic, non-native plant species to become established.

The significance determination for these potential impacts is described in Section 6.2.2 of this Report.

Permanent Direct Impacts

Impact W-2: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

Permanent direct impacts to special-status wildlife species were quantified by comparing the development footprint with suitable habitat for wildlife species observed or those that have a high potential to occur within the Boulder Brush Corridor. Implementation of the Boulder Brush Facilities would result in the direct loss of habitat, including foraging habitat, for some of the County of San Diego Group 1 and Group 2 species and SSCs described in Section 4.6.1 (**Impact W-2**). Table 5-5 outlines impacts to suitable habitat for County Group 1 and/or SSC species that are known to occur within the Boulder Brush Corridor or immediately surrounding area and those with a high potential to occur. Group 2 special-status wildlife species, that are not state SSC animals, are not included in the table as loss of habitat for these species from development of the Boulder Brush Facilities would be less than significant. These species occur within a variety of habitats and through a wide geographic, topographic, and elevation ranges where there are an abundance of these species in the region.

Locations of special-status wildlife observed are shown in the Figure 5-1 series, and described in Sections 4.6.1.

The significance determination of these potential impacts is presented in Section 6.2.2 of this Report.

Impact W-3 and W-4: Permanent Direct Impacts to Special-Status Wildlife Species

Impact W-3: Impacts to Active Nests

If any active nests or the young of nesting special-status bird species are impacted through direct grading, these impacts would be considered significant, absent mitigation (**Impact W-3**). O&M during the life of the Project is not expected to affect the nesting opportunities of birds.

Golden Eagle. Golden eagles can be sensitive to changes in their environment (e.g., wind farms). Madders (2009) describes a home range use change in a pair of resident golden eagles after a wind farm was constructed in their territory. A portion of the Boulder Brush Facilities would be located in the vicinity of existing wind turbines, which would likely deter golden eagle from utilizing portions of the Boulder Brush Corridor. Madders (2009) indicates that it is unlikely that golden eagles would nest within the immediate vicinity (i.e., 500 meters or 1,640 feet) of wind turbines, likely constraining the eagles from occupying nests within their existing territory. However, as described in Section 4.6.1.1, there are no suitable large trees or cliffs present for nesting within the Boulder Brush Corridor; therefore, this species is not expected to nest on site. Based on the low frequency golden eagles appear to fly over the site, the Boulder Brush Boundary appears to be at the very fringe of individual eagle territories or use areas, and likely mostly represent brief exploratory searches.

There are no golden eagle nests within the Boulder Brush Corridor, nor within 4,000 feet of the development footprint of the Boulder Brush Facilities. The nearest active golden eagle nest (e.g., nesting behavior documented) to the development footprint is approximately 5.5 miles east of the Project Site in the Carrizo Gorge area of the Jacumba Mountains. The location was last noted as active in February 2012 based on confidential data provided by USFWS (Dietsch 2018). Although one golden eagle was observed flying over the Boulder Brush Corridor, focused all-day eagle surveys (which were conducted on site in May/June, October/November 2018) and weekly 30-minute point counts (September 2017 through September 2019) did not record any golden eagles, indicating that this species does not occur in the Boulder Brush Corridor with much frequency. Therefore, construction and implementation of the Boulder Brush Facilities would not result in direct permanent impacts to golden eagle nests, given the distance between nest sites and the development footprint.

The significance determination of these potential impacts is presented in Section 6.2.2 of this Report.

Impact W-4 Impacts to Wildlife Species from Collisions and Electrocution

All electrical transmission would be overhead connecting to the proposed high-voltage substation and ultimately to the Sunrise Powerlink transmission line. The utility poles would provide perches from which avian species may forage, thereby increasing the potential risk of fatality associated with collisions and electrocutions and resulting in a potentially significant impact (**Impact W-4**).

Bats. The abundance of bats within the Boulder Brush Corridor is low (IA range of 215-855), particularly when compared to other areas with higher quality habitat types in the region, such as

the Virgin River sample area (IA of 46,583) and the Las Vegas Wash sample area (IA range of 28,594 to 168,428) (O'Farrell 2006a and 2006b).

Therefore, the overall magnitude of bat usage within the Boulder Brush Corridor is significantly less than any locations studied that contain attractant features (see Section 4.4.3, Mammals). This suggests that the risk for bat electrocution with Boulder Brush Facilities is low when taking into account the overall low abundance of bats in the area (see Table 4-2). The acoustical bat results indicate that the activity of the higher microphone (which captures bats that tend to fly higher), was lower when compared to the lower microphone. However, high-flying species such as hoary bat and Mexican free-tailed bat were detected with relatively low IAs. These species are known to fly at heights of 10 to 20 feet above ground and up to approximately 3,200 feet above ground (McCracken 1996). For reference, the gen-tie line polls would be up to 150 feet in height, and the tallest component of the high-voltage substation and switchyard would approximately 130 feet in height; however, the majority of the equipment associated with the high-voltage substation and switchyard would not exceed 35 feet in height. Although, due to the low activity index for both species, and all bat species in the Boulder Brush Corridor, it can be concluded that the potential effects of the Boulder Brush Facilities on the meta-community of bats in the region, would be negligible.

All of the structures within the Boulder Brush Corridor would be static and since bats use echolocation to identify and avoid objects, it is unlikely the Boulder Brush Facilities would result in collision or electrocution impacts. Potential impacts from electrocution to individual bats would not result in the greater population of any bat species known to occur on the Boulder Brush Corridor to drop below self-sustaining levels.

Regardless, in order to comply with the USFWS Land-Based Wind Energy Guidelines (see Section 2.1.5), Tier 4 post-construction studies will be conducted in association with the wind components to estimate mortality rates and ensure impacts to individual bats are at a minimum. These studies are part of standard Bird and Bat Conservation Strategy (BBCS) that would be negotiated with the USFWS and direct mortality monitoring of all relenvant components of the project.

Golden Eagle. The USGS biotelemetry data indicates that golden eagle use within the Project Area and the surrounding area is low compared to other areas in San Diego (Tracey et al. 2016, 2017). Figures 4-3a through 4-3n show only two eagles flying through the Project Site between 2015 and 2017. These eagles did not stop on site and the timing of their flight patterns indicate they did not spend more than 15 to 30 minutes flying over the Project Site. This data suggests that the Project Site and surrounding area (i.e., 10-mile buffer around the Project Site) receives little use by eagles and is not the core territory of any eagles, therefore the chance for electrocution is low.

The significance determination of these potential impacts is presented in Section 6.2.2 of this Report.

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
Amphibians and Reptiles						
San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*)	USFWS: None CDFW: SSC County: Group 2	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • southern mixed chaparral • chamise chaparral • non-native grassland • disturbed habitat • wildflower field • mulefat scrub • alluvial fan scrub • desert woodland • pine forest • sea level to 7,000 ft. amsl (2,130 m amsl)	There is 435,099 acres of modeled habitat within the biological cumulative study area.	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • disturbed habitat • wildflower field • sea level to 7,000 ft. amsl (2,130 m amsl)	Observed in the east-central portion of the Boulder Brush Corridor. There is 42.5 acres of modeled habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 59% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be potentially significant prior to implementation of mitigation as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
San Diego banded gecko (*Coleonyx variegatus abbotti*)	USFWS: None CDFW: None County: Group 1	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • chamise chaparral • southern mixed chaparral • mulefat scrub • alluvial fan scrub	There is 399,880 acres of modeled habitat within the biological cumulative study area.	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral	High potential to occur. There is 36.4 acres of modeled habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 59% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be potentially significant prior to implementation of mitigation as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
Blainville's horned lizard (*Phrynosoma blainvillii*)	USFWS: None CDFW: SSC County: Group 2	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • southern mixed chaparral • red shank chaparral • semi-desert chaparral • chamise chaparral • non-native grassland • southern arroyo willow riparian forest • coast live oak woodland • desert woodland • pine forest • oak riparian forest • riparian forest • riparian scrub • alluvial fan scrub • sea level to 8,000 ft. amsl (2,438 m amsl)	There is 472,398 acres of modeled habitat within the biological cumulative study area.	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • southern arroyo willow riparian forest • coast live oak woodland • sea level to 8,000 ft. amsl (2,438 m amsl)	Observed in four locations in the central-eastern and western, and southern-eastern and western portions of the Boulder Brush Corridor. There is 37.5 acres of modeled habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 58% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be potentially significant prior to implementation of mitigation as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
Coronado skink (*Plestiodon skiltonianus interparietalis*)	USFWS: None CDFW: SSC County: Group 2	• granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • chamise chaparral • southern mixed chaparral • alluvial fan scrub • sea level to 8,300 ft. amsl (2,530 m amsl)	There is 374,167 acres of modeled habitat within the biological cumulative study area.	• granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • sea level to 8,300 ft. amsl (2,530 m amsl)	High potential to occur. There is 28.0 acres of modeled habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 59% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be potentially significant prior to implementation of mitigation, as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
Coast patch-nosed snake (*Salvadora hexalepis virgultea*)	USFWS: None CDFW: SSC County: Group 2	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • chamise chaparral • southern mixed chaparral • non-native grassland • disturbed habitat • wildflower • mulefat scrub • coast live oak woodland • desert woodland • pine forest • oak riparian forest • southern arroyo willow riparian forest • riparian forest • riparian scrub • alluvial fan scrub • southern willow scrub	There is 505,063 acres of modeled habitat within the biological cumulative study area.	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • disturbed habitat • wildflower • coast live oak woodland • southern arroyo willow riparian forest • below sea level to 7,000 ft. amsl (2,130 m amsl)	High potential to occur. There is 43.6 acres of modeled habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 57% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be potentially significant prior to implementation of mitigation as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
		• below sea level to 7,000 ft. amsl (2,130 m amsl)				
Birds						
Cooper's hawk (*Accipiter cooperii*) (nesting)	USFWS: None CDFW: WL County: Group 1	Nesting • coast live oak woodland • southern arroyo willow riparian forest • eucalyptus woodland • oak riparian forest • riparian forest • pine forest • riparian scrub • mulefat scrub Foraging • montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • chamise chaparral • southern mixed chaparral	There is 59,756 acres of modeled nesting habitat and 448,719 acres of modeled foraging habitat within the biological cumulative study area.	Nesting • coast live oak woodland • southern arroyo willow riparian forest Foraging • montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral	Observed within the northern and southern portions of the Boulder Brush Corridor. There is 1.1 acres of modeled nesting habitat and 37.5 acres of modeled foraging habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 57% of foraging and 51% of nesting is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be potentially significant prior to implementation of mitigation as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
		• non-native grassland • southern arroyo willow riparian forest • coast live oak woodland • eucalyptus woodland • oak riparian forest • riparian forest • riparian scrub • mulefat scrub • cismontane alkali marsh		• southern arroyo willow riparian forest coast live oak woodland		
Bell's sage sparrow (*Artemisiospiza belli belli*)	USFWS: BCC CDFW: WL County: Group 1	Nesting and foraging • montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • chamise chaparral • southern mixed chaparral • non-native grassland • mulefat scrub • riparian scrub	There is 410,658 acres of modeled habitat within the biological cumulative study area.	Nesting and foraging • montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral	Observed within the northern portion of the Boulder Brush Corridor. There is 36.4 acres of modeled nesting/foraging habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 58% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be potentially significant prior to implementation of mitigation as the

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
		• alluvial fan scrub		• semi-desert chaparral		Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).
Loggerhead shrike (*Lanius ludovicianus*) (nesting)	USFWS: BCC CDFW: SSC County: Group 1	• montane buckwheat scrub • big sagebrush scrub • non-native grassland • mulefat scrub • riparian scrub • disturbed habitat • wildflower • eucalyptus woodland • desert woodland • alluvial fan scrub • semi-desert chaparral • southern mixed chaparral	There is 57,950 acres of modeled habitat within the biological cumulative study area.	• montane buckwheat scrub • big sagebrush scrub • disturbed habitat • wildflower • semi-desert chaparral	Observed within the Project Site. There is 24.9 acres of modeled nesting/foraging habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 46% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be potentially significant prior to implementation of mitigation as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
Yellow warbler (*Setophaga petechia)*	USFWS: BCC CDFW: SSC County: Group 2	• southern arroyo willow riparian forest • coast live oak woodland • oak riparian forest • riparian forest • riparian scrub • southern willow scrub • freshwater marsh • mulefat scrub	There is 44,334 acres of modeled habitat within the biological cumulative study area.	• southern arroyo willow riparian forest • coast live oak woodland	Observed within the Project Site. There is 1.2 acres of modeled nesting/foraging habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 39% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be potentially significant prior to implementation of mitigation as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
Mammals						
Western red bat (*Lasiurus blossevillii*)	USFWS: None CDFW: SSC MSCP: Not Covered County: Group 2	• southern arroyo willow riparian forest • coast live oak woodland • oak riparian forest • eucalyptus woodland • riparian forest • pine forest • riparian scrub • southern willow scrub	There is 59,859 acres of modeled habitat within the biological cumulative study area.	• southern arroyo willow riparian forest • coast live oak woodland	High potential to occur. There is 1.1 acres of modeled habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 51% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be potentially significant prior to implementation of mitigation as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	USFWS: None CDFW: SSC County: Group 2	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral • chamise chaparral • southern mixed chaparral • non-native grassland • mulefat scrub • riparian scrub • alluvial fan scrub • desert woodland	There is 413,938 acres of modeled habitat within the biological cumulative study area.	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • semi-desert chaparral	Observed within the Boulder Brush Corridor. There is 36.4 acres of modeled habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 59% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be implementation significant prior to implementation of mitigation as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Table 5-5
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Boulder Brush Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat within the Biological Cumulative Study	Biological Cumulative Study Area Habitat Total	Modeled Habitat within the Boulder Brush Corridor	Occurrence and Development Footprint Habitat Total	Significance Determination
San Diego desert woodrat (*Neotoma lepida intermedia*)	USFWS: None CDFW: SSC County: Group 2	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • chamise chaparral • non-native grassland • mulefat scrub • riparian scrub • disturbed habitat • wildflower • alluvial fan scrub • desert woodland • southern mixed chaparral • semi-desert chaparral	There is 415,819 acres of modeled habitat within the biological cumulative study area.	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • disturbed habitat • wildflower • semi-desert chaparral	High potential to occur. There is 26.0 acres of modeled habitat within the Boulder Brush Corridor.	Although there is a large amount of habitat within the region, of which 58% is in public ownership and is reasonable anticipated to remain undisturbed, impacts to suitable habitat associated with the proposed Project would be implementation significant as the Project would impact more than 5% of habitat within the Boulder Brush Corridor (Impact W-2).

Federal
BCC = Birds of Conservation Concern
FE = Federally Endangered

State
FP = Fully Protected
SE = State Endangered
SSC = Species of Special Concern
WL = Watch List

Impact W-5: Permanent Direct Impacts to Potentially Occupied Quino Checkerspot Butterfly

Quino checkerspot butterfly is the only known federally listed species to occur within the Boulder Brush Corridor. Quino checkerspot butterfly was observed once in the southwest portion of the Boulder Brush Corridor during the 2019 focused surveys (see Section 4.6.1) (Figure 5-1i). Dudek modeled habitat in order to estimate the overall potentially occupied areas within the Boulder Brush Corridor (see Section 4.6.1). The Boulder Brush Facilities would result in impacts to 54.79 acres of Quino checkerspot butterfly habitat (Figure 5-3), a portion of which is considered occupied based on the 2019 Quino checkerspot butterfly observations. There is no modeled habitat that overlaps with the 2.63 acres of previously un-surveyed areas within the Boulder Brush Facilities. These areas will be surveyed for plants in the spring and summer of 2020; if any host plants for Quino checkerspot butterfly are observed, the habitat model will be updated accordingly.

The significance determination of these potential impacts is presented in Section 6.2.1 of this Report.

Indirect Impacts to Special-Status Wildlife Species

Temporary Indirect Impacts

Impact W-6: Temporary Indirect Impacts to Special-Status Wildlife Species

Temporary indirect impacts to avian foraging and wildlife access to foraging, nesting, or water resources would primarily result from Boulder Brush Facilities construction activities limiting access to those resources (**Impact W-6**). The indirect impacts below include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, vehicle collisions, introduction of pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect special-status wildlife species. These potential impacts are described in detail below.

Increased Human Access. Construction activities can deter wildlife from using habitat areas near the development footprint and increase the potential for vehicle collisions.

Pests or Exotic Species. Trash from construction-related activities could attract invasive predators such as ravens and coyotes that could impact the wildlife species in the Boulder Brush Corridor.

Increasing Noise and/or Nighttime Lighting. Construction-related noise could occur from equipment used during vegetation clearing and construction of the turbines and associated

infrastructure. Noise impacts can have a variety of indirect impacts on wildlife species, including increased stress, weakened immune systems, altered foraging behavior, displacement due to startle, degraded communication with conspecifics (e.g., masking), damaged hearing from extremely loud noises, and increased vulnerability to predators (Lovich and Ennen 2011; Brattstrom and Bondello 1983, as cited in Lovich and Ennen 2011). The impact of noise on wildlife differs from species to species, and is dependent on the source of the noise (e.g., vehicle traffic versus blasting) and the decibel level, duration, and timing. The Project is currently subject to off-highway vehicle use, which Brattstrom and Bondello (1983) concludes has significant impacts on species such as kangaroo rats *(Dipodomys* spp.), desert iguanas (*Dipsosaurus dorsalis*), and fringe-toed lizards (*Uma* spp.). Therefore, it is likely that species sensitive to noise may not utilize the area given the frequent off-highway vehicle use. Numerous 'No Trespassing' signs have been posted at locations along the Boulder Brush Boundary to deter off-highway vehicle use by the public.

Construction noise would be generated by workers commuting to and from the job site; by construction-material deliveries; and, by the use of construction equipment during site preparation, grading, and construction activities. Although nearby off-site areas would be exposed to elevated construction noise levels, the exposure would be short term, and would cease upon Project construction. While typical construction activities would occur between 7 a.m. and 7 p.m., Monday through Friday, construction might occasionally occur during the night and/or on Saturdays and Sundays to enable deliveries or other activities for which Caltrans may restrict hours during which I-8 may be used for oversized loads. The Project would involve blasting and rock crushing. Lighting associated with possible nighttime work would be limited to vehicle deliveries and not expected to affect adjacent habitat for wildlife species.

Altering Natural Drainage. Changed hydrologic conditions can alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

Generation of Fugitive Dust. Dust and applications for fugitive dust control can impact vegetation surrounding the limits of grading, resulting in changes in the community structure and function. These changes could result in impacts to suitable habitat for special-status wildlife species.

Chemical Pollutants. Accidental spills of hazardous chemicals could contaminate nearby surface waters and groundwater and indirectly impact wildlife species through poisoning or altering suitable habitat. Use of pesticides for rodent control could directly or indirectly affect wildlife species, such as raptors that prey on small mammals through secondary poisoning. The Project will not use any pesticides for rodent control or other reasons.

Alteration of the Natural Fire Regime. The effects of altered natural fire regime on special-status wildlife are the same as those described above in Section 5.1.1.2. Alterations of plant communities could affect wildlife that relies on those habitat types.

The significance determination of these potential impacts is presented in Section 6.2.8 of this Report.

Permanent Indirect Impacts

Impact W-7: Permanent Indirect Impacts to Special-Status Wildlife Species

Permanent (operation-related) indirect impacts could result from the proximity of the Boulder Brush Facilities to sensitive vegetation communities after construction, including impacts related to operation and maintenance (**Impact W-7**). The indirect impacts below include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, increased predation or competition from domestic animals, pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect special-status wildlife species. All special-status wildlife species at the edge of the development footprint could potentially be impacted by temporary indirect impacts. These potential impacts are described in detail below.

Increased Human Access. The effects of increased human access on special-status wildlife are similar to what is described in Section 5.1.1 An increased human population increases the risk for damage to suitable habitat for wildlife species. In addition, increased human activity can deter wildlife from using habitat areas near the development footprint. O&M activities are very limited on Boulder Brush and the potential for vehicle collisions is low.

Increased Predation or Competition from Domestic Animals. No domestic animals are anticipated to be on site related to the Project.

Pests or Exotic Species. As described in Section 5.1.1, exotic plant species may alter habitats and displace native species over time, leading to extirpation of native plant species, unique vegetation communities, and subsequently suitable habitat for special-status wildlife species. The introduction of non-native, invasive animal species could negatively affect native species that may be pollinators of or seed dispersal agents for plants within sensitive vegetation communities. In addition, trash can attract invasive predators such as ravens and coyotes, in artificially high subsidized numbers, which could disproportionately impact the wildlife species in the Boulder Brush Corridor.

Increasing Noise and/or Nighttime Lighting. The high-voltage substation and 500 kV switchyard are predicted to produce less than 20 dBA L_{eq} at a distance of 15,000 feet from the closest potential noise-sensitive land uses to the south. At this noise level, the transformer noise impact would be considered a less than significant or non-substantial adverse effect. Lighting will be installed inside the high-voltage substation and switchyard fenced areas for the purpose of emergency repair work. Since nighttime maintenance activities are not expected to occur more than once per year, the safety lighting inside the fence would normally be turned off. Some of the perimeter lighting in both facilities will remain on all night for safety purposes.

Altering Natural Drainage. Changed hydrologic conditions can alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

Generation of Fugitive Dust. The effects of fugitive dust on special-status wildlife are described in Section 5.3.1.

Alteration of the Natural Fire Regime. The effects of altered natural fire regime on special-status wildlife are the same as those described above in Section 5.1.1.2. Alterations of plant communities could affect wildlife that relies on those habitat types.

The significance determination of these potential impacts is presented in Section 6.2.8 of this Report.

5.3.2 Campo Wind Facilities

Direct Impacts to Special-Status Wildlife Species

Temporary Direct Impacts

For purposes of this analysis, all impacts associated with the Campo Wind Facilities are considered permanent direct impacts.

Permanent Direct Impacts

Impact W-A: Permanent Direct Impacts to Potentially Occupied Quino Checkerspot Butterfly Habitat

Quino checkerspot butterfly is the only known federally listed species to occur within the Campo Corridor. Quino checkerspot butterfly was observed during the 2010 focused surveys within portions of the Campo Corridor as well as outside the Campo Corridor (see Section 4.6.2) (Figure 4-5). No Quino checkerspot butterflies were observed during the focused 2018 surveys; however, that does not override the results of the previous survey efforts. Dudek modeled habitat in order to estimate potentially occupied areas on site (see Section 4.6.2). There are impacts to

272.81 acres of potentially occupied Quino checkerspot butterfly habitat (Figure 5-3), a portion of which is considered occupied based on the 2010 Quino checkerspot butterfly observations.

The significance determination for these potential impacts is presented in Section 6.2.1 in this Report.

Impact W-B: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

Permanent direct impacts to special-status wildlife species were quantified by comparing the development footprint with suitable habitat for wildlife species observed or those that have a high potential to occur within the Campo Corridor. Implementation of the Campo Wind Facilities On-Reservation would result in the direct loss of habitat, including foraging habitat, for some of the County of San Diego Group 1 and Group 2 species and SSCs described in Section 4.6.2 (**Impact W-B**). Table 5-6 outlines impacts to suitable habitat for County Group 1 and/or SSC species that are known to occur within the Campo Corridor or immediately surrounding area and those with a high potential to occur. Group 2 special-status wildlife species, that are not state SSC animals, are not included in the table as loss of habitat for these species from development of the Project would be less than significant. These species occur within a variety of habitats and through a wide geographic, topographic, and elevation ranges where there is an abundance of these species in the region.

Recorded locations of special-status wildlife observed are shown in the Figure 5-2 series, and described in Section 4.6.2. The significance determination for these potential impacts is described in Section 6.2.2.

Table 5-6
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Campo Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat	Biological Cumulative Analysis Study Area Habitat Total	Modeled Habitat within the Development Footprint and Occurrence	Significance Determination
Amphibians and Reptiles					
Arroyo toad (*Anaxyrus californicus*)	USFWS: FE CDFW: SSC County: Group 1	• emergent wetland • freshwater marsh	There is 2,277 acres of modeled habitat within the biological cumulative analysis study area.	Low potential to occur within the Campo Wind Corridor. There is 0.3 acres of modeled habitat within the Campo Wind Facilities development footprint.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.

Table 5-6
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Campo Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat	Biological Cumulative Analysis Study Area Habitat Total	Modeled Habitat within the Development Footprint and Occurrence	Significance Determination
San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*)	USFWS: None CDFW: SSC County: Group 2	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • scrub oak chaparral • upper Sonoran subshrub scrub • valley Sacaton grassland • non-native grassland • non-native grassland broadleaf-dominated • disturbed habitat • mulefat scrub • sea level to 7,000 ft. (2,130 m)	There is 30,933,425 acres of modeled habitat within the biological cumulative study area.	Observed in the east-central portion of the Campo Wind Corridor. There is 771.0 acres of modeled habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.
San Diego banded gecko (*Coleonyx variegatus abbotti*)	USFWS: None CDFW: None County: Group 1	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • scrub oak chaparral • upper Sonoran subshrub scrub • mulefat scrub	There is 25,997,751 acres of modeled habitat within the biological cumulative study area.	High potential to occur within the Campo Wind Corridor. There is 699.7 acres of modeled habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.
Blainville's horned lizard (*Phrynosoma blainvillii*)	USFWS: None CDFW: SSC County: Group 2	• montane buckwheat scrub • big sagebrush scrub	There is 29,575,617 acres of modeled habitat within the	Observed in four locations in the central-eastern and western, and southern-eastern	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat

Table 5-6
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Campo Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat	Biological Cumulative Analysis Study Area Habitat Total	Modeled Habitat within the Development Footprint and Occurrence	Significance Determination
		• granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • scrub oak chaparral • upper Sonoran subshrub scrub • valley Sacaton grassland • non-native grassland • non-native grassland broadleaf-dominated • coast live oak woodland • coast live oak riparian forest • sea level to 8,000 ft. (2,438 m)	biological cumulative study area.	and western portions of the Campo Wind Corridor. There is 746.8 acres of modeled habitat within the Campo Wind Facilities.	associated with the Project would be less than significant.
Coronado skink (*Plestiodon skiltonianus interparietalis*)	USFWS: None CDFW: SSC County: Group 2	• big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • scrub oak chaparral • upper Sonoran subshrub scrub • sea level to 8,300 ft. (2,530 meters)	There is 20,106,530 acres of modeled habitat within the biological cumulative study area.	High potential to occur within the Campo Wind Corridor. There is 616.8 acres of modeled habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.
Coast patch-nosed snake (*Salvadora hexalepis virgultea*)	USFWS: None CDFW: SSC County: Group 2	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral	There is 33,421,368 acres of modeled habitat within the biological	High potential to occur within the Campo Wind Corridor. There is 794.3 acres of modeled habitat	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the

Table 5-6
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Campo Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat	Biological Cumulative Analysis Study Area Habitat Total	Modeled Habitat within the Development Footprint and Occurrence	Significance Determination
		• red shank chaparral • scrub oak chaparral • upper Sonoran subshrub scrub • valley Sacaton grassland • non-native grassland • non-native grassland broadleaf-dominated • coast live oak riparian forest • coast live oak woodland • disturbed habitat • mulefat scrub • southern willow scrub • below sea level to 7,000 ft. (2,130 m)	cumulative study area.	within the Campo Wind Facilities.	Project would be less than significant.
Birds					
Cooper's hawk (*Accipiter cooperii*) (nesting)	USFWS: None CDFW: WL County: Group 1	• Nesting • coast live oak woodland • coast live oak riparian forest • mulefat scrub • Foraging • montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • scrub oak chaparral • non-native grassland	There is 2,474,108 acres of modeled nesting habitat and 29,556,616 acres of modeled foraging habitat within the biological cumulative study area.	Observed within the northern and southern portions of the Campo Wind Corridor. There is 22.3 acres of modeled nesting habitat and 746.8 acres of modeled foraging habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.

Table 5-6
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Campo Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat	Biological Cumulative Analysis Study Area Habitat Total	Modeled Habitat within the Development Footprint and Occurrence	Significance Determination
		• non-native grassland broadleaf-dominated • valley Sacaton grassland • coast live oak woodland • coast live oak riparian forest • mulefat scrub			
Bell's sage sparrow (*Artemisiospiza belli belli*)	USFWS: BCC CDFW: WL County: Group 1	Nesting and foraging • montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • scrub oak chaparral • upper Sonoran subshrub scrub • non-native grassland • non-native grassland broadleaf-dominated • valley Sacaton grassland • mulefat scrub	There is 27,096,638 acres of modeled habitat within the biological cumulative study area.	High potential to occur within the Campo Wind Corridor. There is 724.5 acres of modeled nesting/foraging habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.
Long-eared owl (*Asio otus*)	USFWS: None CDFW: SSC County: Group 1	• montane buckwheat scrub • non-native grassland • non-native grassland broadleaf-dominated • upper Sonoran subshrub scrub • valley Sacaton grassland • emergent wetland	There is 5,756,163 acres of modeled habitat within the biological cumulative study area.	Low potential to occur within the Campo Wind Corridor. There is 74.3 acres of modeled nesting/foraging habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.

Table 5-6
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Campo Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat	Biological Cumulative Analysis Study Area Habitat Total	Modeled Habitat within the Development Footprint and Occurrence	Significance Determination
Prairie falcon (*Falco mexicanus*)	USFWS: BCC CDFW: WL County: Group 1	• coast live oak woodland • coast live oak riparian forest	There is 2,421,728 acres of modeled habitat within the biological cumulative study area.	Low potential to occur within the Campo Wind Corridor. There is 21.4 acres of modeled nesting/foraging habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.
Loggerhead shrike (*Lanius ludovicianus*) (nesting)	USFWS: BCC CDFW: SSC County: Group 1	• montane buckwheat scrub • big sagebrush scrub • non-native grassland • non-native grassland broadleaf-dominated • valley Sacaton grassland • mulefat scrub • disturbed habitat	There is 12,226,528 acres of modeled habitat within the biological cumulative study area.	Observed within the Campo Wind Corridor. There is 154.2 acres of modeled nesting/foraging habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.
Yellow warbler (*Setophaga petechial)*	USFWS: BCC CDFW: SSC County: Group 2	• coast live oak woodland • coast live oak riparian forest • emergent wetland • southern willow scrub • freshwater marsh • mulefat scrub • unvegetated stream channel	There is 2,460,623 acres of modeled habitat within the biological cumulative study area.	Observed within the Campo Wind Corridor. There is 22.9 acres of modeled nesting/foraging habitat within the Campo Wind Facilities.	Impacts to yellow warbler would be less than significant due to the small amount of suitable nesting habitat proposed to be impacted.

Table 5-6
Permanent Impacts to Group 1 and/or CDFW SSC Wildlife Species Present within the Campo Corridor or with High Potential to Occur

Species Common Name (Scientific Name)	Regulatory Status: Federal State County Group	Modeled Habitat	Biological Cumulative Analysis Study Area Habitat Total	Modeled Habitat within the Development Footprint and Occurrence	Significance Determination
Mammals					
Western red bat (*Lasiurus blossevillii*)	USFWS: None CDFW: SSC MSCP: Not Covered County: Group 2	• coast live oak woodland • coast live oak riparian forest • southern willow scrub	There is 2,474,589 acres of modeled habitat within the biological cumulative study area.	High potential to occur within the Campo Wind Corridor. There is 22.5 acres of modeled habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	USFWS: None CDFW: SSC County: Group 2	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • red shank chaparral • scrub oak chaparral • upper Sonoran subshrub scrub • non-native grassland • mulefat scrub	There is 27,103,533 acres of modeled habitat within the biological cumulative study area.	Observed within the Campo Wind Corridor. There is 724.5 acres of modeled habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.
San Diego desert woodrat (*Neotoma lepida intermedia*)	USFWS: None CDFW: SSC County: Group 2	• montane buckwheat scrub • big sagebrush scrub • granitic chamise chaparral • granitic northern mixed chaparral • non-native grassland • non-native grassland broadleaf-dominated • valley Sacaton grassland • mulefat scrub • disturbed habitat	There is 23,837,041 acres of modeled habitat within the biological cumulative study area.	High potential to occur within the Campo Wind Corridor. There is 613.1 acres of modeled habitat within the Campo Wind Facilities.	Given the large amount of habitat within the cumulative study area, impacts to suitable habitat associated with the Project would be less than significant.

Impact W-C and W-D: Permanent Direct Impacts to Special-Status Wildlife Species

Impact W-C: Impacts to Active Nests

If any active nests or the young of nesting special-status bird species are impacted through direct grading, these impacts would be considered significant, absent mitigation (**Impact W-C**). O&M during the life of the Project is not expected to affect the nesting opportunities of birds.

Golden Eagle. Golden eagles can be sensitive to changes in their environment (e.g., wind farms). Madders (2009) describes a home range use change in a pair of resident golden eagles after a wind farm was constructed in their territory. The Campo Wind Facilities would be located near existing wind turbines within the Project Vicinity; the existing turbines likely deter golden eagle from utilizing the Campo Corridor. Madders (2009) also indicates that it is unlikely that golden eagles would nest within the immediate vicinity (i.e., 500 meters or 1,640 feet) of wind turbines, likely constraining the eagles from occupying nests within their existing territory.

Golden eagle use in the Project Area and surrounding area is described in Section 4.6.2. The infrequent sightings during the eagle point surveys and USGS biotelemetry data suggests that the Campo Wind Corridor and surrounding area receives little use by eagles and is not the core territory of any eagles. A separate golden eagle report using USFSW guidance is being prepared that will address golden eagles in more detail for the purposes of determining if an eagle take permit is needed.

Furthermore, a study conducted by WEST (2010) analyzed turbine collision risk to eagles. This study included a comparison of the Tule Wind project to other wind projects throughout the United States, including two wind projects in California that had golden eagle observations. The study concluded that there was a low risk of turbine collision for eagles. However, it is recognized that this study was not based on data specific to the Project Site. The study also states that risk could be higher if birds in the vicinity are spending more time foraging in or around turbines. No specific studies, mapping, monitoring, or telemetry data had been collected to understand golden eagle use areas or behavioral patterns in or around the Tule Wind Site.

However, the telemetry data provided in this report shows that there were very few golden eagle incursions over the Project Site when compared to their overall use areas and the larger geographic area in which the Project Site is situated. Additionally, the areas surrounding the Project Site are rural and undeveloped, allowing golden eagles to forage in those locations and thus, spend less time at the Project Site foraging. Therefore, given the information and data demonstrating that eagles have low risk of turbine collision and that they spend minimal time at the Project Site, elevation information for telemetry data is not needed.

Table 5-7 shows the relevant variables and estimated golden eagle mortality risk per year (USFWS 2018b).

Table 5-7
Years 1 and 2 (30-Minute Surveys) – Turbine Model Specs and CI 80 Results for Various Turbine Models

Existing/Proposed/ Hypothetical	Turbine Model	Number of Turbines	Rotor Diameter (Meters)	Blade Ground Clearance (Meters)	Blade Tip Height (Meters)	CI 80 (Estimated GOEA Mortality/Year)
Proposed	N/A	60	141	44	179	0.12
Alternative	N/A	48	141	44	179	0.096

Notes: GOEA = golden eagle; N/A = not applicable.
Golden eagle mortality risk per year is estimated at the 80% confidence interval using the USFWS Risk Estimator R Package (USFWS 2018b).

There are no golden eagle nests within the Campo Corridor, nor within 4,000 feet of the Campo Wind Facilities. The nearest active golden eagle nest (e.g., nesting behavior documented) to the development footprint of the Campo Wind Facilities is approximately 7 miles east of the Campo Corridor in the Carrizo Gorge area of the Jacumba Mountains. The location was last noted as active in February 2012, based on confidential data provided by USFWS (Dietsch 2018). Nine golden eagles were observed flying over the Campo Corridor during the 2017 through 2019 surveys (see Section 4.6.2.1) (Figure 4-2 series). In total, as of September 2019, eagles were observed on site for approximately 15 of more than 131,600 minutes during the 2017–2019 all-day eagle surveys and avian point-count surveys, indicating that this species does not occur in the Campo Corridor with much frequency. Therefore, construction and implementation of the Campo Wind Facilities would not result in direct permanent impacts to golden eagle nests, given the distance between nest sites and the Campo Wind Facilities.

The significance determination for these potential impacts is presented in Section 6.2.2 in this Report.

Impact W-D Impacts to Wildlife Species from Collisions and Electrocution

Avian. There are potential impacts from avian collisions with turbines or towers and electrocution by transmission lines (gen-tie) (**Impact W-D**). Birds can collide with structures during migration or hunting/foraging activities.

Bats. The abundance of bats adjacent to the Campo Corridor is low when compared to other habitat types and regions. Thus, most species of bats are at minimal risk of adverse encounters with wind turbines. Direct impacts to bats could result in mortality or injury due to collisions at wind turbines. However, potential effects of the Project on the meta-community of bats in the region, including those species known to be susceptible to collision with turbine blades, would be negligible.

Golden Eagle. The USGS biotelemetry data indicates that golden eagle use within the Project Site and the surrounding area is low compared to other areas in San Diego (Tracey et al. 2016, 2017). During the 30-minute point-count surveys, only one juvenile golden eagle was detected on April 11, 2019, for 2 minutes. Single juvenile golden eagles were also detected during the all-day eagle surveys on October 6 and October 8, 2018. Additionally, eight golden eagles were detected between November 2017 and October 2018 on seven occasions for a total of 13 minutes (Figure 4-2 series). In total, as of September 2019, eagles were observed on site for approximately 15 of over 131,600 minutes during the 2017-2019 all-day eagle surveys and avian point-count surveys.

Based on the USGS telemetry data, as shown in Figures 4-4a through 4-4l the Campo Corridor appears to be at the very fringe of their individual territories or use areas, and likely mostly represent brief exploratory searches. This data, combined with the low number of observations during the 2017-2019 surveys, suggests that the Project Site and surrounding area (i.e., 10 mile buffer around the Project Site) receives little use by eagles and is not the core territory of any eagles; therefore, the chance for electrocution and collision is low.

The significance determination for these potential impacts is presented in Section 6.2.2 in this Report.

Indirect Impacts to Special-Status Wildlife Species

Temporary Indirect Impacts

Impact W-E: Temporary Indirect Impacts to Special-Status Wildlife Species

Temporary (construction-related) indirect impacts from grading and other construction activities to special-status wildlife species' habitat outside of the limits of grading are similar to those described for vegetation in Section 5.1.2.2. Potential temporary indirect impacts include generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including pesticides or herbicides). Additionally, construction-related noise can have a variety of indirect impacts on wildlife species, including increased stress, weakened immune systems, altered foraging behavior, displacement due to startle, degraded communication with conspecifics (e.g., masking), damaged hearing from extremely loud noises, and increased vulnerability to predators (Lovich and Ennen 2011; Brattstrom and Bondello 1983, as cited in Lovich and Ennen 2011). Construction-related noise and vibration could occur from equipment used during site preparation and grading, including vegetation clearing, and construction of the Project. Construction noise and vibration levels would vary from hour-to-hour and day-to-day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor. Construction would occur during the

day, and no construction is anticipated to take place at night. Increased noise and vibration can affect breeding behaviors in birds, mammals, reptiles, amphibians, and other species that use vocal methods for communication. Increased vibration can collapse small mammal, reptile, or amphibian burrows if they are located close to the construction equipment.

Construction activities increase the number of humans within the area, which can deter wildlife from using an area. Construction activities increase the number of vehicles on site, increasing the chance of collision. Additionally, trash from construction-related activities can attract predators to an area, increasing the chance of predation on wildlife species.

The significance determination for these potential impacts is described in Section 6.2.8 of this Report.

Permanent Indirect Impacts

Impact W-F: Permanent Indirect Impacts to Special-Status Wildlife Species

Permanent indirect impacts to special-status wildlife species are similar to those described for vegetation in Section 5.2.2. Potential permanent indirect impacts include generation of fugitive dust from O&M vehicles (similar to the temporary impacts), chemical pollutants if used for operation-related activities, light pollution, introduction of non-native species, habitat fragmentation, and increased fire regime. Dust can affect invertebrates as well as preventing nectaring on vegetation that is covered in dust; chemical pollutants can result in mortality of invertebrates, reptiles, and amphibians through direct contact; habitat fragmentation can prevent wildlife from foraging, expanding their ranges, moving between breeding, nesting, and foraging habitats, and overall reduce genetic diversity; and increased fire can reduce habitat or result in habitat type conversion that become unsuitable for wildlife as well as result in direct mortality of individual species (**Impact W-F**). The O&M Facility will have full-time employees that could result in increased vehicle collisions. All special-status wildlife species at the edge of the development footprint could potentially be impacted by permanent direct impacts. These potential impacts are described in detail in Section 5.3.2.

Operations-related lighting is limited to (1) restricted exterior lighting installed on turbines for Federal Aviation Administration aviation warning lights and (2) permanent motion-sensitive, directional security lights installed to provide adequate illumination around the collector substation. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties.

The significance determination for these potential impacts is described in Section 6.2.8 of this Report.

5.4 Jurisdictional Aquatic Resources

5.4.1 Boulder Brush Facilities

Features that convey or hold water are regulated by multiple agencies. Federal, state, and local agencies have different definitions and terminology for these types of features. As defined in Section 3.2.3, water-dependent resources regulated by USACE, RWQCB, CDFW, and the County are collectively referred to as jurisdictional aquatic resources herein.

5.4.1.1 Direct Impacts to Jurisdictional Aquatic Resources

The significance of these potential impacts is determined through application of the County's Significance Guidelines, described in Sections 7.1 and 8.1 of this report.

Temporary Direct Impacts

Impact JAR-1: Temporary Direct Impacts to Jurisdictional Aquatic Resources within the Boulder Brush Corridor

Temporary direct impacts to jurisdictional wetlands and riparian areas and non-wetland waters would primarily result from construction activities. Temporary impacts to jurisdictional aquatic resources, including County RPO wetlands, are summarized in Table 5-8. The Boulder Brush Facilities would also result in temporary direct impacts to 0.68 acres of RPO wetland buffer (Figures 5-1f, 5-1j, and 5-1l), resulting in a total temporary direct impact to 1.17 acres of RPO wetland/wetland buffer. The temporary direct impacts to these waters and riparian areas will be restored to the extent feasible, but not through a long-term management plan. Therefore, for mitigation purposes, these impacts are considered permanent. Additionally, temporary construction-related direct impacts to jurisdictional aquatic resources could result from clearing, trampling, or grading of jurisdictional aquatic resources outside of Boulder Brush Facilities, which would be significant (**Impact JAR-1**). These potential impacts could damage individual plants and alter their ecosystem, creating gaps in vegetation that allow exotic, non-native plant species to become established, thus increasing soil compaction and leading to soil erosion.

Table 5-8
Impacts to Jurisdictional Aquatic Resources - Boulder Brush Corridor

Jurisdiction	Type	Permanent		Temporary		Total	
		Acres	*LF*	*Acres*	*LF*	*Acres*	*LF*
USACE/RWQCB/ CDFW	Non-Wetland Water – Intermittent (County RPO)	0.01	24	0.09	141	0.10	166
	Non-Wetland Water – Ephemeral	0.11	1,612	0.21	2,277	0.32	3,858
Total USACE/RWQCB/CDFW Regulated Resources		*0.12*	*1,636*	*0.30*	*2,419*	*0.42*	*4,055*
CDFW Only and County RPO	Riparian Habitat	0.15	N/A	0.40[a]	N/A	0.55	N/A
Total CDFW Only Regulated Resources		*0.15*	N/A	*0.40*	*N/A*	*0.55*	*6,204*

RPO = Resource Protection Ordinance; LF = linear feet

[a] The temporary direct impacts to 0.40 acres are temporarily impacted as part of a construction road that will be utilized only during construction and will not be a permanent access road. Vegetation in this area will be trimmed or disked and no gravel or pavement will be placed within the creek. Following project construction, the area will be re-countered and revegetated to restore Tule Creek to pre-project conditions.

The significance determination for these potential impacts is described in Section 7.2.2 of this Report.

Permanent Direct Impacts

Impact JAR-2: Permanent Direct Impacts to Jurisdictional Aquatic Resources within Boulder Brush Corridor

The Boulder Brush Facilities would permanently impact waters of the United States and state, as summarized in Table 5-8, totaling 0.27 acres of permanent impacts. (**Impact JAR-2**) (Figure 5-1 series).

The significance determination for these potential impacts is described in Section 7.2.2 of this Report.

5.4.1.2 Indirect Impacts to Jurisdictional Aquatic Resources

Temporary Indirect Impacts

Impact JAR-3: Temporary Indirect Impacts to Jurisdictional Aquatic Resources within the Boulder Brush Corridor

There are potential temporary indirect impacts to jurisdictional aquatic resources in the Boulder Brush Corridor (**Impact JAR-3**). The indirect impacts below include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, introduction of pests or exotic species, altering natural drainage, and increasing noise and/or nighttime

lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect the jurisdictional aquatic resources. Potential temporary indirect impacts that could affect all the jurisdictional aquatic resources that occur adjacent to development are described below.

Increased Human Access. The effects of increased human access on jurisdictional aquatic features are similar to those described in Section 5.1 for vegetation communities.

Pests or Exotic Species. The effects of pests or exotic species on jurisdictional aquatic features are similar to those described in Section 5.1 for vegetation communities.

Increasing Noise and/or Nighttime Lighting. The effects of noise and/or nighttime lighting on jurisdictional aquatic features are similar to those described in Section 5.1 for vegetation communities.

Altering Natural Drainage. The effects of altering natural drainages on jurisdictional aquatic features are similar to those described in Section 5.1 for vegetation communities.

Generation of Fugitive Dust. The effects of fugitive dust on jurisdictional aquatic features are similar to those described in Section 5.1, Indirect Impacts to Riparian Habitat or Sensitive Vegetation Communities, for vegetation communities.

Chemical Pollutants. The effects of chemical pollutants on jurisdictional aquatic features are similar to those described in Section 5.1 for vegetation communities.

The significance determination for these potential impacts is described in Section 7.2.2 of this Report.

Permanent Indirect Impacts

Impact JAR-4: Permanent Indirect Impacts to Jurisdictional Aquatic Resources within the Boulder Brush Corridor

Permanent indirect impacts could result from the proximity of the Boulder Brush Facilities to jurisdictional aquatic resources after construction, including impacts related to operation and maintenance (**Impact JAR-4**). Operation and maintenance activities would occur within the development footprint. The indirect impacts below include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, introduction of pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect the jurisdictional aquatic resources. Each of these potential indirect impacts is discussed below.

Increased Human Access. The effects of increased human access on jurisdictional aquatic resources are similar to those described in Section 5.1 for vegetation communities.

Pests or Exotic Species. The effects of non-native, invasive plant and animal species on jurisdictional aquatic resources are similar to those described in Section 5.1 for vegetation communities.

Altering Natural Drainage. The effects of altering natural drainage are the same as to those described in Section 5.1 for vegetation communities.

Increasing Noise and/or Nighttime Lighting. Noise and lighting would not affect jurisdictional aquatic resources.

Generation of Fugitive Dust. The effects of fugitive dust on jurisdictional aquatic resources are similar to those described in Section 5.1, Permanent Indirect Impacts, for vegetation communities.

Chemical Pollutants. The effects of chemical pollutants on jurisdictional aquatic resources are similar to those described in Section 5.1 for vegetation communities.

Alteration of the Natural Fire Regime. The effects of non-native, invasive plant and animal species on jurisdictional aquatic resources are similar to those described in Section 5.1 for vegetation communities.

The significance determination for these potential impacts is described in Section 7.2.2 of this Report.

5.4.2 Campo Wind Facilities

5.4.2.1 Direct Impacts to Jurisdictional Aquatic Resources

Temporary Direct Impacts

For purposes of this analysis, all impacts associated with the Campo Wind Facilities are considered permanent direct impacts.

Permanent Direct Impacts

Impact JAR-A: Permanent Direct Impacts to Jurisdictional Aquatic Resources within the Campo Corridor

There are direct impacts to jurisdictional aquatic resources as a result of the Campo Wind Facilities. Table 5-9 quantifies the impacts to these resources. Figure 5-2 series shows these impacts.

The significance determination for these potential impacts is described in Section 7.2.2 of this Report.

Table 5-9
Impacts to Waters and Wetlands of the United States – Campo Corridor

Feature Type	Type of Habitat (Oberbauer et al. 2008)	Type of Habitat (Cowardin et al. 1979)	Acres	Linear Feet
Non-wetland waters	Waters of the United States/ unvegetated channel – ephemeral	Riverine; unconsolidated Bottom, sand, ephemerally flooded, fresh	1.13	8,839
Non-wetland waters	Waters of the United States/ unvegetated channel – intermittent	Riverine; unconsolidated bottom, sand, intermittently flooded, fresh	<0.00	199
Riparian habitat	Emergent wetland Freshwater marsh Valley Sacaton grassland	Riparian; emergent, lentic, riparian	0.54	N/A
Riparian habitat	Southern willow scrub	Riparian; scrub-shrub, lentic, riparian	0.13	N/A
Total Potential Jurisdictional Waters			1.81	9,038

5.4.2.2 Indirect Impacts to Jurisdictional Aquatic Resources

Temporary Indirect Impacts

Impact JAR-B: Temporary Indirect Impacts to Jurisdictional Aquatic Resources within the Campo Corridor

Temporary (construction-related) indirect impacts from grading and other construction activities to jurisdictional aquatic resources outside of the limits of grading are similar to those described for vegetation in Section 5.1. Potential temporary indirect impacts include generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides). The standard BMPs described in Table 5-3 minimize some of these potential impacts, such as keeping equipment free of leaks, avoiding working in heavy rains, and establishing speed limits to reduce dust from equipment and vehicles.

The significance determination for these potential impacts is described in Section 7.2.2 of this Report.

Permanent Indirect Impacts

Impact JAR-C: Permanent Indirect Impacts to Jurisdictional Aquatic Resources within the Campo Corridor

Permanent (operation-related) indirect impacts could result from the proximity of the Campo Wind Facilities to jurisdictional aquatic resources after construction are similar to those described for vegetation in Section 5.1. Potential permanent indirect impacts include generation of fugitive dust from vehicles (similar to the temporary impacts) and chemical pollutants if used for operation-related activities. The standard BMPs described in Table 5-3 minimize some of these potential impacts, such as speed limits to reduce dust from vehicles and trash abatement to reduce attraction of predators.

The significance determination for these potential impacts is described in Section 7.2.2 of this Report.

5.5 Habitat Connectivity and Wildlife Corridors

5.5.1 Boulder Brush Facilities

The significance of these potential impacts was determined through application of the County's Significance Guidelines, described in Section 9.1.

5.5.1.1 Direct Impacts to Habitat Connectivity and Wildlife Corridors

Temporary Direct Impacts

Impact WLC-1: Temporary Direct Impacts to Habitat Connectivity and Wildlife Corridors for Boulder Brush Corridor

There are temporary direct impacts associated with the Boulder Brush Facilities development footprint. However, for mitigation purposes, these impacts are considered permanent and mitigated through habitat conservation. Temporary construction-related, direct impacts to habitat connectivity and wildlife corridors would primarily result from construction activities. Construction-related impacts to vegetation communities, such as clearing, trampling, or grading of vegetation outside designated construction zones, could occur in the absence of avoidance and mitigation measures, and thus could impede access to important resources. These potential impacts could affect wildlife movement through the area by temporarily cutting off access routes for foraging, mating and territories as well as the potential for being trapped in open trenches (**Impact WLC-1**).

The significance determination for these potential impacts is described in Section 9.2.1 of this Report.

Permanent Direct Impacts

Implementation of the proposed Boulder Brush Facilities is not expected to result in permanent direct impacts to habitat connectivity and wildlife corridors. See Section 4.8, Habitat

Connectivity and Wildlife Corridors, for a detailed discussion regarding habitat connectivity and wildlife corridors. Although the Boulder Brush Facilities are included within a Core Wildlife Area, defined by the County based on its size and the surrounding undeveloped land, the area does not serve as a defined wildlife corridor or regional linkage, or other topographical features which confine wildlife movement.[7] The Boulder Brush Corridor is currently undeveloped, with scattered residential to the south and southwest. Although construction of the Boulder Brush Facilities would impact areas where wildlife may generally move through, it is not anticipated to hinder wildlife movement through the surrounding undeveloped landscapes. Therefore, installation of the Boulder Brush Facilities is not anticipated to constrain a wildlife movement corridor within the region, particularly for terrestrial species. Impacts related to collisions and electrocution from resident or migratory birds and bats are described in Section 5.3 as well as below.

Impact W-4 Impacts to Wildlife Species from Collisions and Electrocution

All electrical transmission would be overhead connecting to the proposed high-voltage substation and ultimately to the Sunrise Powerlink transmission line. The utility poles would provide perches from which avian species may forage, thereby increasing the potential risk of fatality associated with collisions and electrocutions and resulting in a potentially significant impact (**Impact W-4**).

Bats. The abundance of bats within the Boulder Brush Corridor is low (IA range of 215-855), particularly when compared to other areas with higher quality habitat types in the region, such as the Virgin River sample area (IA of 46,583) and the Las Vegas Wash sample area (IA range of 28,594 to 168,428) (O'Farrell 2006a and 2006b).

Therefore, the overall magnitude of bat usage within the Boulder Brush Corridor is significantly less than any locations studied that contain attractant features (see Section 4.4.3, Mammals). This suggests that the risk for bat electrocution with Boulder Brush Facilities is low when taking into account the overall low abundance of bats in the area (see Table 4-2). The acoustical bat results indicate that the activity of the higher microphone (which captures bats that tend to fly higher), was lower when compared to the lower microphone. However, high-flying species such as hoary bat and Mexican free-tailed bat were detected with relatively low IAs. These species are known to fly at heights of 10 to 20 feet above ground and up to approximately 3,200 feet above ground (McCracken 1996). For reference, the gen-tie line polls would be up to 150 feet

[7] As described in Section 4.8, wildlife corridors are defined as areas that connect suitable wildlife habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as canyon drainages, ridgelines, or areas with vegetation cover, provide corridors for wildlife travel.

in height, and the tallest component of the high-voltage substation and switchyard would approximately 130 feet in height; however, the majority of the equipment associated with the high-voltage substation and switchyard would not exceed 35 feet in height. Although, due to the low activity index for both species, and all bat species in the Boulder Brush Corridor, it can be concluded that the potential effects of the Boulder Brush Facilities on the meta-community of bats in the region, would be negligible.

All of the structures on Boulder Brush would be static and since bats use echolocation to identify and avoid objects, it is unlikely the Boulder Brush Facilities would result in collision or electrocution impacts. Further, potential impacts from electrocution to individual bats would not result in the greater population of any bat species known to occur on the Boulder Brush Corridor to drop below self-sustaining levels.

Regardless, in order to comply with the USFWS Land-Based Wind Energy Guidelines (see Section 2.1.5), Tier 4 post-construction studies will be conducted to estimate mortality rates and ensure impacts to individual bats are at a minimum. These studies are part of standard Bird and Bat Conservation Strategy (BBCS) that would be negotiated with the USFWS and direct mortality monitoring of all relenvant components of the project.

Golden Eagle. The USGS biotelemetry data indicates that golden eagle use within the Project Area and the surrounding area is low compared to other areas in San Diego (Tracey et al. 2016, 2017). Figures 4-3a through 4-3n show only two eagles flying through the Project Site between 2015 and 2017. These eagles did not stop on site and the timing of their flight patterns indicate they did not spend more than 15 to 30 minutes flying over the Project Site. This data suggests that the Project Site and surrounding area (i.e., 10 mile buffer around the Project Site) receives little use by eagles and is not the core territory of any eagles, therefore the chance for electrocution is low.

5.5.2 Indirect Impacts to Habitat Connectivity and Wildlife Corridors

Temporary Indirect Impacts

Impact WLC-2: Temporary Indirect Impacts to Habitat Connectivity and Wildlife Corridors (Boulder Brush Corridor)

As discussed in Section 5.5.1.2, Permanent Direct Impacts, the Boulder Brush Corridor functions as part of a large habitat block, and the Boulder Brush Facilities would not have any direct impacts on habitat linkages or movement corridors. However, wildlife movement through the Project Area may be indirectly impacted by development (**Impact WLC-2**). The indirect impacts below include the following potential indirect impacts described in the County's *Guidelines for Determining*

Significance and Report Format and Content Requirements: Biological Resources (County of San Diego 2010a): increased human access, vehicle collisions, introduction of pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect wildlife movement. These potential impacts are described below.

Increased Human Access. Construction activities can deter wildlife from using habitat areas near the development footprint and increase the potential for vehicle collisions. Project construction would likely take place during the day and would not affect wildlife species such as mammals that are most active in evenings and at night. Wildlife species such as birds, rabbits, and lizards are active in the day, but use a variety of habitats and could continue using other areas within and adjacent to the Boulder Brush Corridor for wildlife movement.

Pests or Exotic Species. Trash from construction-related activities could attract invasive predators such as ravens and coyotes that could impact the wildlife species in the Project Site.

Increasing Noise and/or Nighttime Lighting. Some localized security-related lighting may be required during construction. Construction lighting would conform to County of San Diego outdoor lighting requirements; therefore, lighting associated with the Project is not expected to result in significant impacts to wildlife movement related to lighting.

Project construction would result in noise and ground vibrations through the use of mechanized equipment and increased traffic and are described in more detail in Section 5.1.1. Noise would most likely only be a disturbance to those species that are active during the day, since noise levels are less at night. Lighting associated with possible nighttime work would be limited to vehicle deliveries and not expected to affect adjacent habitat for wildlife species. Most wildlife species that would use the area as a habitat corridor are nocturnal, and, therefore, would not be impacted while foraging and moving at night. Noise pollution during construction is not anticipated to hamper breeding of any special-status species.

Altering Natural Drainage. Changed hydrologic conditions can alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

The significance determination for these potential impacts is described in Section 9.2.4 of this Report.

Permanent Indirect Impacts

Impact WLC-3: Permanent Indirect Impacts to Habitat Connectivity and Wildlife Corridors

There are potential permanent indirect impacts to habitat connectivity and wildlife corridors (**Impact WLC-3**). The indirect impacts below include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, introduction of pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect wildlife movement. Each of these potential indirect impacts is discussed below.

Increased Human Access. The effects of increased human access on special-status wildlife are similar to what is described in Section 5.1.1 An increased human population increases the risk for damage to suitable habitat for wildlife species. In addition, increased human activity can deter wildlife from using habitat areas near the development footprint. O&M activities are very limited on Boulder Brush and the potential for vehicle collisions is low.

Pests or Exotic Species. The effects of pests or exotic species would be the same as is discussed in Section 5.3 for special-status wildlife species.

Increasing Noise and/or Nighttime Lighting. For the Boulder Brush Facilities, nighttime maintenance activities are not expected to occur more than once per year, the safety lighting inside the fence would normally be turned off. Some of the perimeter lighting in both facilities will remain on all night for safety purposes. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties.

Noise impacts to wildlife are complex and depend on variety of factors, including the type of bird, type of noise impact and how far the sound travels in a particular environment (Caltrans 2016). Caltrans (2016) describes the use of 60 A-weighted decibel (dBA) as a noise level for traffic that would begin to raise concerns about the potential masking of communication sounds between birds, but the report goes on to further explain that the use of a single noise level threshold may be unnecessarily restrictive. Using a specific dBA threshold may not be appropriate to determine noise impacts on birds; however, data shows that birds can tolerate certain levels of noise below 110 dBA without having permanent hearing damage or and permanent threshold shifts (hearing loss), and continuous noise levels below 93 dBA are unlikely to cause temporary threshold shifts in birds (Caltrans 2016). At further distances from the noise (beyond the 93 dBA), Caltrans' model shows that there is little to no additional masking of communication signals.

Boulder Brush Facilities implementation and operation would create stationary noise sources (Appendix G to the EIR (*Acoustical Analysis Report for the Campo Wind Project with Boulder Brush Facilities*)). These sources would include the substation and switchyard, gen-tie line, and

maintenance and inspection activities. Boulder Brush Facilities would be unmanned and routine O&M would require a single pickup truck visiting the high-voltage substation and switchyard periodically for inspections, as well as maintenance/repair trucks visiting the substation several times a year for equipment maintenance. The Boulder Brush Facilities would feature two 150 kW emergency generators: one at the high-voltage substation and one at the switchyard. The noise from the generators is negligible; for example, at 15,000 feet, the expected one-hour noise exposure level would be less than 10 dBA. Aboveground electrical transmission lines associated with the Boulder Brush Facilities may produce corona during normal operation, but even under "foul" weather conditions that would moisten or wet the conductor surfaces, the resulting noise would only be audible at very close distances and thus not result in an adverse effect.

The significance determination for these potential impacts is described in Section 9.2.4 of this Report.

5.5.2 Campo Wind Facilities

The significance of these potential impacts was determined through application of the County's Significance Guidelines, described in Section 9.1.

5.5.2.1 Direct Impacts to Habitat Connectivity and Wildlife Corridors

Temporary Direct Impacts

Impact WLC-A: Temporary Direct Impacts to Habitat Connectivity and Wildlife Corridors for Campo Corridor

There are temporary direct impacts associated with the Campo Wind Facilities development footprint. Temporary construction-related, direct impacts to habitat connectivity and wildlife corridors would primarily result from construction activities. Construction-related impacts to vegetation communities, such as clearing, trampling, or grading of vegetation outside designated construction zones, could occur in the absence of avoidance and mitigation measures, and thus could impede access to important resources. These potential impacts could affect wildlife movement through the area by temporarily cutting off access routes for foraging, mating and territories as well as the potential for being trapped in open trenches, and result in vehicle collisions from construction traffic (**Impact WLC-A**).

The significance determination for these potential impacts is described in Section 9.2.1 of this Report.

Permanent Direct Impacts

Implementation of the proposed Campo Wind Facilities is not expected to result in permanent direct impacts to habitat connectivity and wildlife corridors. See Section 4.8, Habitat Connectivity and Wildlife Corridors, for a detailed discussion regarding habitat connectivity and wildlife corridors. Although the Campo Wind Facilities are included within a Core Wildlife Area, defined by the County based on its size and the surrounding undeveloped land, the area does not serve as a defined wildlife corridor or regional linkage, or other topographical features which confine wildlife movement.[8] The Campo Corridor is open with occasional roads, residences and other buildings. Although construction of the Campo Wind Facilities would impact areas where wildlife may generally move through, it is not anticipated to hinder wildlife movement through the surrounding undeveloped landscapes. Therefore, installation of the Campo Wind Facilities is not anticipated to constrain a wildlife movement corridor within the region, particularly for terrestrial species. Impacts related to collisions and electrocution from resident or migratory birds and bats are described in Section 5.3 as well as below.

Impact W-D Impacts to Wildlife Species from Collisions and Electrocution

Avian. There are potential impacts from avian collisions with turbines or towers and electrocution by transmission lines (gen-tie) (**Impact W-D**). Birds can collide with structures during migration or hunting/foraging activities.

Bats. The abundance of bats adjacent to the Campo Corridor is low when compared to other habitat types and regions. Thus, most species of bats are at minimal risk of adverse encounters with wind turbines. Direct impacts to bats could result in mortality or injury due to collisions at wind turbines. However, potential effects of the Project on the meta-community of bats in the region, including those species known to be susceptible to collision with turbine blades, would be negligible.

Golden Eagle. The USGS biotelemetry data indicates that golden eagle use within the Project Site and the surrounding area is low compared to other areas in San Diego (Tracey et al. 2016, 2017). During the 30-minute point-count surveys, only one juvenile golden eagle was detected on April 11, 2019, for 2 minutes. Single juvenile golden eagles were also detected during the all-day eagle surveys on October 6 and October 8, 2018. Additionally, eight golden eagles were detected between November 2017 and October 2018 on seven occasions for a total of 13 minutes (Figure 4-

[8] As described in Section 4.8, wildlife corridors are defined as areas that connect suitable wildlife habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as canyon drainages, ridgelines, or areas with vegetation cover, provide corridors for wildlife travel.

2 series). In total, as of September 2019, eagles were observed on site for approximately 15 of over 131,600 minutes during the 2017-2019 all-day eagle surveys and avian point-count surveys.

Based on the USGS telemetry data, as shown in Figures 4-4a through 4-4l, the Campo Corridor appears to be at the very fringe of their individual territories or use areas, and likely mostly represent brief exploratory searches. This data, combined with the low number of observations during the 2017-2019 surveys, suggests that the Project Site and surrounding area (i.e., 10 mile buffer around the Project Site) receives little use by eagles and is not the core territory of any eagles; therefore, the chance for electrocution and collision is low.

5.5.2.2 Indirect Impacts to Habitat Connectivity and Wildlife Corridors

Temporary Indirect Impacts

Impact WLC-B: Temporary Indirect Impacts to Habitat Connectivity and Wildlife Corridors (Campo Corridor)

As discussed in Section 5.5.2.2, Permanent Direct Impacts, the Campo Corridor functions as part of a large habitat block, and the Campo Wind Facilities would not have any direct impacts on habitat linkages or movement corridors, particularly for terrestrial species. However, wildlife movement through the Project Area may be indirectly impacted by development (**Impact WLC-B**). The indirect impacts below include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, introduction of pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect wildlife movement. These potential impacts are described below.

Increased Human Access. Construction activities can deter wildlife from using habitat areas near the development footprint and increase the potential for vehicle collisions. Project construction would likely take place during the day and would not affect wildlife species such as mammals that are most active in evenings and at night. Wildlife species such as birds, rabbits, and lizards are active in the day, but use a variety of habitats and could continue using other areas within and adjacent to the Campo Corridor for wildlife movement.

Pests or Exotic Species. Trash from construction-related activities could attract invasive predators such as ravens and coyotes that could impact the wildlife species in the Project Site.

Increasing Noise and/or Nighttime Lighting. No nighttime lighting is proposed for the Campo Wind Facilities during construction (see BMPs listed in Table 5-3).

Construction-related noise and vibration could occur from equipment used during site preparation and grading, including vegetation clearing, and construction of the Project. Construction noise and vibration levels would vary from hour-to-hour and day-to-day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor. Construction would occur during the day, and no construction is anticipated to take place at night. Increased noise and vibration can affect breeding behaviors in birds, mammals, reptiles, amphibians, and other species that use vocal methods for communication. Increased vibration can collapse small mammal, reptile, or amphibian burrows if they are located close to the construction equipment.

Altering Natural Drainage. Changed hydrologic conditions can alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

The significance determination for these potential impacts is described in Section 9.2.4 of this Report.

Permanent Indirect Impacts

Impact WLC-C: Permanent Indirect Impacts to Habitat Connectivity and Wildlife Corridors

There are potential permanent indirect impacts to habitat connectivity and wildlife corridors (**Impact WLC-C**). The indirect impacts below include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, vehicle collisions, introduction of pests or exotic species, altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect wildlife movement. Each of these potential indirect impacts is discussed below.

Increased Human Access. The effects of increased human access on special-status wildlife are similar to what is described in Section 5.1.1 An increased human population increases the risk for damage to suitable habitat for wildlife species. In addition, increased human activity can deter wildlife from using habitat areas near the development footprint. The O&M Facility will have full-time employees that could result in increased vehicle collisions.

Pests or Exotic Species. The effects of pests or exotic species would be the same as is discussed in Section 5.3 for special-status wildlife species.

Increasing Noise and/or Nighttime Lighting. For the Campo Wind Facilities, operations-related lighting is limited to (1) restricted exterior lighting installed on turbines for Federal Aviation Administration aviation warning lights and (2) permanent, directional security lights installed to provide adequate illumination around the collector substation and O&M building. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties.

Noise impacts to wildlife are complex and depend on variety of factors, including the type of bird, type of noise impact and how far the sound travels in a particular environment (Caltrans 2016). Caltrans (2016) describes the use of 60 A-weighted decibel (dBA) as a noise level for traffic that would begin to raise concerns about the potential masking of communication sounds between birds, but the report goes on to further explain that the use of a single noise level threshold may be unnecessarily restrictive. Using a specific dBA threshold may not be appropriate to determine noise impacts on birds; however, data shows that birds can tolerate certain levels of noise below 110 dBA without having permanent hearing damage or and permanent threshold shifts (hearing loss), and continuous noise levels below 93 dBA are unlikely to cause temporary threshold shifts in birds (Caltrans 2016). At further distances from the noise (beyond the 93 dBA), Caltrans' model shows that there is little to no additional masking of communication signals.

Campo Wind Facilities implementation and operation would create stationary noise sources on the Reservation. These sources would include the wind turbines, O&M Facility, Project collector substation, gen-tie lines, and maintenance and inspection activities. Campo Wind Facilities would employ approximately 10 to 12 full-time employees, generating up to 24 daily two-way trips, 7 days per week. While these activities would increase noise levels immediately adjacent to the access road during vehicle pass-bys, these events would not result in a substantial increase in ambient noise. The O&M facility could result in noise impacts during the summer months when rooftop air-cooled condenser units are used. At peak use, the maximum estimated noise levels produced are less than 48 dBA L_{eq} at approximately 200 feet from the building. The collector substation, which would feature a single 35 kV / 230 kV transformer (for purposes of this analysis, a continuous source of noise emission as compared to other ancillary systems and equipment at this site that may only produce noise intermittently). At a source-to-receptor distance of at least 300 feet from this transformer, the expected sound pressure level would be less than 48 dBA $L_{eq.}$ The On-Reservation gen-tie line associated with the Boulder Brush Facilities may produce corona during normal operation, but even under foul weather conditions that would moisten or wet the conductor surfaces, the resulting noise would only be audible at very close distances and thus not result in an adverse effect.

Based on the noise contour modeling in Appendix G to the EIR (*Acoustical Analysis Report for the Campo Wind Project with Boulder Brush Facilities*), the operational noise levels at 60 dBA range from 300 feet to 1,800 feet from the turbine locations, varying with average hub-height wind speed as received by the turbines.

The significance determination for these potential impacts is described in section 9.2.4 of this report.

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6 SPECIAL-STATUS SPECIES

6.1 Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance (County of San Diego 2010b) that follow are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The significance criteria include analysis of whether:

Guideline 4.1: The project would have a substantial adverse effect, either directly or through habitat modifications, on a candidate, sensitive, or special-status species listed in local or regional plans, policies, or regulations, or by CDFW or USFWS.

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern (SSC). Impacts to these species are considered significant; however, impacts of less than 5% of the individual plants or of the sensitive species' habitat on a project site may be considered less than significant if a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of that plant or animal taxon.

C. The project would impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat. Any alteration of suitable habitat within 1 kilometer (3,280 feet) in any direction of occupied breeding habitat or suitable stream segments (unless very steep slopes or other barriers constrain movement) could only be considered less than significant if a biologically based determination can be made that the project would not impact the aestivation or breeding behavior of arroyo toads.

E. The project would impact golden eagle habitat. Any alteration of habitat within 4,000 feet of an active golden eagle nest could only be considered less than significant if a biologically based determination can be made that the project would not have a substantially adverse effect on the long-term survival of the identified pair of golden eagles.

F. The project would result in the loss of functional foraging habitat for raptors. Impacts to raptor foraging habitat is considered significant; however, impacts of less than 5% of the raptor foraging habitat on a project site may be considered less than significant if a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of any raptor species.

G. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, although smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species. Alteration of any portion of a core habitat could only be considered less than significant if a biologically based determination can be made that the project would not have a substantially adverse effect on the core area and the species it supports.

H. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing undeveloped lands or other natural habitat areas, to levels that would likely harm sensitive species over the long term. The following issues should be addressed in determining the significance of indirect impacts: increasing human access; increasing predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown to adversely affect sensitive species.

I. The project would impact occupied burrowing owl habitat.

J. The project would impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.

K. The project would impact occupied Hermes copper habitat.

L. The project would impact nesting success of the following sensitive bird species through grading, clearing, fire-fuel modification, and/or other noise-generating activities such as construction.

Species	Breeding Season
Coastal cactus wren	February 15 to August 15
Coastal California gnatcatcher	February 15 to August 31

Species	Breeding Season
Least Bell's vireo	March 15 to September 15
Southwestern willow flycatcher	May 1 to September 1
Tree-nesting raptors	January 15 to July 15
Ground-nesting raptors	February 1 to July 15
Golden eagle	January 1 to July 31
Light-footed clapper rail	February 15 to September 30

6.2 Analysis of Project Effects

6.2.1 Project Effects Relevant to Guideline 4.1.A (Federally Listed and State-Listed Species)

Boulder Brush Facilities

There are no federally or state-listed plants within the Boulder Brush Corridor; therefore, there are no permanent direct impacts to federally or state-listed plants.

Impact W-5: Permanent Direct Impacts to Occupied Quino Checkerspot Butterfly Habitat

Quino checkerspot butterfly is the only known federally listed species to occur within the Boulder Brush Corridor. Five Quino checkerspot butterfly was observed once in the southwest portion of the Boulder Brush Corridor during the 2019 focused surveys (see Section 4.6.1) (Figure 4-6). Dudek modeled habitat in order to estimate potentially occupied areas within the Boulder Brush Corridor (see Section 4.6.1). There are impacts to 54.8 acres of Quino checkerspot butterfly habitat (Figure 5-3), a portion of which is considered occupied based on the 2019 Quino checkerspot butterfly observations. These permanent direct impacts to would be mitigated to **less than significant** through implementation of mitigation measure **M-BI-1**, which describes the Section 7 consultation process with the USFWS, off-site mitigation for permanent impacts to Quino checkerspot butterfly habitat, avoidance of hilltopping habitat, fencing and signage around occupied Quino checkerspot butterfly habitat, and working in suitable habitat areas when the adult and larval activity is low. The full text of this mitigation measure is presented in Section 6.4.1 of this Report.

Campo Wind Facilities

There are no federally or state-listed plants within the Campo Corridor or limits of grading; therefore, there are no permanent direct impacts to federally or state-listed plants.

Impact W-A: Permanent Direct Impacts to Potentially Occupied Quino Checkerspot Butterfly Habitat

Quino checkerspot butterfly is the only known federally or state-listed species to occur within the Campo Corridor. Twenty-seven Quino observations were documented during 2010 USFWS protocol surveys (Attachment A-2). Observations were concentrated in the southern portion of the 2010 BSA (Figure 4-5) (AECOM 2012). In 2018, updated surveys were conducted for the Campo Corridor. No occurrences of Quino were recorded during the focused surveys.

Dudek modeled habitat in order to estimate potentially occupied areas within the Campo Corridor (see Section 4.6.2). Campo Wind Facilities would result in direct impacts to 272.8 acres of potentially occupied Quino checkerspot butterfly habitat (portions of which are considered occupied based on 2010 Quino checkerspot butterfly observations), which would be significant, absent mitigation (**Impact W-A**). These permanent direct impacts to would be mitigated to **less than significant** through implementation of **M-BI-A,** the Quino Checkerspot Butterfly-Specific Avoidance, Minimization mitigation measure, which describes the Section 7 consultation process with the USFWS, off-site mitigation for permanent impacts to Quino checkerspot butterfly habitat, and fencing and signage around occupied Quino checkerspot butterfly habitat. The full text of this mitigation measure is presented in Section 6.4.2 of this Report.

6.2.2 Project Effects Relevant to Guideline 4.1.B (County-Designated Sensitive Species)

Special-Status Plant Species (County List A and B Species)

Boulder Brush Facilities

Impact SP-1: Temporary Direct Impacts to Special-Status Plant Species

Temporary direct impacts to County List A and B plant species are considered permanent impacts because the plants will be lost during grading activities and the Boulder Brush Corridor will not be replanted with these species (Table 5-2, Summary of Direct Impacts to Special-Status Plant Species; Figure 5-1 series). Additionally, clearing, trampling, or grading of special-status plants outside of designated construction zones could occur in the absence of avoidance and mitigation measures. These potential temporary direct impacts to County List A and B plant species would be significant, absent mitigation (**Impact SP-1**). These temporary direct impacts would be mitigated to **less than significant** through implementation of Mitigation Measure **M-BI-2** (biological monitoring) and **M-BI-3** (temporary construction flagging/fencing) and **M-BI-4** (SWPPP BMPs, including restrictions on plantings, temporary equipment staging and storage, and construction vehicle speed limits). These

mitigation measures would ensure that construction does not occur outside of the Boulder Brush Facilities impact areas resulting in unauthorized impacts (**M-BI-2** and **M-BI-3**), and that best management practices are implemented to prevent construction related impacts such as the spread of invasive plant species (**M-BI-4**). With implementation of these measures, temporary direct impacts resulting from construction would be **less than significant**. The full text of mitigation measures is presented in Section 6.4.1 of this Report.

Impact SP-2: Permanent Direct Impacts to Special-Status Plant Species

The Boulder Brush Facilities would result in the loss of the following special-status plant species: County List A - Jacumba milk-vetch, southern jewelflower, and Tecate tarplant; County List B – desert beauty and sticky geraea; and County List D – Colorado desert larkspur (Table 6-1; Figure 5-1 series) (**Impact SP-2**). Impacts to County List A and B species would be mitigated through the preservation of suitable habitat and populations of each species per County requirements. Impacts to County List A species will be mitigated at a 2:1 mitigation to impact ratio for individuals while County List B species will be mitigated at a 1:1 ratio for individuals (Table 6-1) (**M-BI-5**). Since none of the County List A species proposed for impact are state or federally-listed, and are relatively common throughout the region, a mitigation ratio of 2:1, rather than 3:1, is appropriate to mitigate for impacts to these species. Surveys will be conducted to ensure that the mitigation site contains adequate populations of each plant species. Additionally, the 2.6-acre area within the Boulder Brush Facilities that was not surveyed during the 2017/2018 surveys shall be surveyed during the appropriate spring and summer pass to determine if additional rare plants are present (**M-BI-5**). With implementation of this measure, permanent direct impacts resulting from the Boulder Brush Facilities would be **less than significant**. The full text of mitigation measures is presented in Section 6.4.1 of this Report.

Table 6-1
Summary of Direct Impacts to Special-Status Plants Species On Private Lands

Species	Regulatory Status: Federal/State//CRPR	Impacts to Number of Individuals	Mitigation Ratio	Individuals Preserved
County List A				
Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*)	None/None/CRPR 1B.2	111	2:1	222
Southern jewelflower (*Streptanthus campestris*)	None/None/CRPR 1B.3	20	2:1	40
Tecate tarplant (*Deinandra floribunda*)	None/None/CRPR 1B.2	61	2:1	122

Table 6-1
Summary of Direct Impacts to Special-Status Plants Species On Private Lands

Species	Regulatory Status: Federal/State//CRPR	Impacts to Number of Individuals	Mitigation Ratio	Individuals Preserved
County List B				
Desert beauty (*Linanthus bellus*)	None/None/CRPR 2B.1	1,308	1:1	1,308
Sticky geraea (*Geraea viscida*)	None/None/CRPR 2B.2	203	1:1	203
County List D				
Colorado Desert larkspur (*Delphinium parishii* ssp. *subglobosum*)	None/None/CRPR 4.3	46	Habitat Based	N/A

CRPR: California Rare Plant Rank
1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
4: Plants of Limited Distribution – A Watch List
Threat Rank
0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
0.3 – Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Campo Wind Facilities

Impact SP-A: Permanent Direct Impacts to Special-Status Plant Species

The Campo Wind Facilities would likely result in the loss of special-status plant species (**Impact SP-A**), but these impacts cannot be quantified because location information for special-status plants identified during surveys in 2010 and 2011 for the Shu'luuk Wind project is not available. Impacts to non-federally listed plants on the Reservation (e.g., County List A or B species) are not subject to the mitigation requirements in the County guidelines. Therefore, the permanent direct impacts to County List A and B plant individuals would not be mitigated. Permanent direct impacts to special-status plants would be **significant and unavoidable**.

Special-Status Wildlife Species (County Group 1 or State SSC)

Boulder Brush Facilities

Impact W-1: Temporary Direct Impacts to Habitat for Special-Status Wildlife Species

Temporary direct impacts to special-status wildlife species were quantified by comparing the development footprint with suitable habitat for wildlife species. Loss of special-status wildlife

species (County Group 1 or state SSC animals), including individual amphibians, reptiles, small mammals, and their suitable habitat, from construction-related activities would result in temporary direct impacts that would be significant (**Impact W-1**). The Boulder Brush Facilities would include the following mitigation measures: biological monitoring to avoid unintentional impacts to species and habitat (**M-BI-2**); temporary flagging or fencing of construction limits to prevent unauthorized impacts (**M-BI-3**); implementation of SWPPP BMPs, including restrictions on plantings, temporary equipment staging and storage, and construction vehicle speed limits (**M-BI-4**); avoidance by preconstruction surveys for nesting birds and setbacks (**M-BI-6**); and replanting temporarily impacted areas with native vegetation (**M-BI-7**). However, temporary impacts to vegetation communities are still considered permanent impacts (see **Impact W-2**). Therefore, temporary direct impacts to County Group 1 species or state SSC would be **less than significant** with implementation of these mitigation measures. The full text of these mitigation measures is presented in Section 6.4.1 of this Report.

Impact W-2: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

Permanent direct impacts to special-status wildlife species were quantified by comparing the development footprint with suitable habitat for wildlife species observed or those that have a high potential to occur within the Boulder Brush Corridor (Table 5-5). Implementation of the Boulder Brush Facilities would result in the direct loss of habitat, including foraging habitat, for the following County of San Diego Group 1, and/or SSC species: San Diegan tiger whiptail, San Diego banded gecko, Blainville's horned lizard, Coast patch-nosed snake, Cooper's hawk, Bell's sage sparrow, loggerhead shrike, yellow warbler, western red bat, San Diego black-tailed jackrabbit, and San Diego desert woodrat (**Impact W-2**). These species occur within a variety of habitats and through a wide geographic, topographic, and elevation ranges where there are an abundance of these species within the south desert slope and southern mountains ecoregions, and generally a substantial portion of the suitable habitat for these species are in public ownership and therefore reasonably anticipated to remain undisturbed. However, since the Boulder Brush Facilities would result in impacts to more than 5% of modeled habitat for each of the species, impacts to suitable habitat within the development footprint are considered potentially significant. Implementation of **M-BI-5** would provide for the preservation of suitable habitat for all special-status species which are known to occur, or which have a high potential to occur, through the long-term conservation of similar habitat and would have a beneficial impact to these species. Therefore, permanent direct impacts to habitat for special-status wildlife species would be **less than significant** with implementation of mitigation measures. The full text of the mitigation measure is presented in Section 6.4.1 of this Report.

Impact W-3 and W-4: Permanent Direct Impacts to Special-Status Wildlife Species

Impact W-3: Impacts to Active Nests

As described in Section 5.3.1.2, if any active nests or the young of nesting special-status bird species are impacted through vegetation removal and direct grading, these impacts would be significant, absent mitigation, (**Impact W-3**). It is recommended that clearing of vegetation occur outside of the typical nesting period for most bird species and raptors (i.e., outside the period of February 1–September 1 and as early as January 1 for some raptor species) to limit impacts to nesting birds and raptors. If clearing is required within the nesting period, a nesting bird survey would be conducted and buffers required if nesting birds are identified, as described in **M-BI-6** (preconstruction surveys for nesting birds). With this mitigation measure, impacts to nesting birds and raptors and other sensitive status species would be less than significant. Therefore, impacts to active nests or the young of nesting special-status bird species would be **less than significant** with implementation of mitigation. The full text of the mitigation measure is presented in Section 6.4.1 of this Report.

Impact W-4 Impacts to Wildlife Species from Collisions and Electrocution

Migrating bird species would be at risk for electrocution from the overhead power lines and/or collisions with poles and structures (**Impact W-4**). The Boulder Brush Facilities would ensure that all transmission towers and lines are designed to conform to Avian Power Line Interaction Committee (APLIC) standards (**M-BI-8**). The Boulder Brush Facilities shall implement recommendations by the APLIC (2006), which will protect raptors and other birds from electrocution. These measures are sufficient to protect even the largest birds that may perch or roost on transmission lines or towers from electrocution. Specifically, these measures will include guidance on proper pole and crossmember dimensions, phasing, and insulator design and dimensions to preclude wire to wire contact with a goal of providing 150-cm of separation between energized conductors and energized hardware and ground wire. In addition, bird diverters or other means to make lines more visible to birds will be installed to help avoid collisions. In addition, the Boulder Brush Facilities will be required to move any dead carcasses, which may attract carrion-consuming birds of prey to the Boulder Brush Facilities **(M-BI-9**). Therefore, impacts to wildlife species from collisions and electrocution would be **less than significant** with implementation of mitigation. The full text of these mitigation measures is presented in Section 6.4.1 of this Report.

Bats. All of the structures on Boulder Brush would be static and since bats use echolocation to identify and avoid objects, it is unlikely the Boulder Brush Facilities would result in collision or electrocution impacts. Potential impacts from electrocution to individual bats would not result in

the greater population of any bat species known to occur on the Boulder Brush Corridor to drop below self-sustaining levels; therefore, impacts to bats are **less than significant**.

Golden Eagle. Golden eagle use in the Boulder Brush Corridor and surrounding area is described in Sections 4.6.1 and 5.3.1. Electrocution from power lines has some potential to cause injury or mortality of golden eagle individuals; however, the USGS biotelemetry data suggests that the Boulder Brush Corridor and surrounding area receives little use by eagles and is not the core territory of any eagles; Additionally, the Boulder Brush Facilities will comply with APLIC standards as mentioned above. Therefore, the chance for collisions/electrocution is very low and potential impacts would be **less than significant**.

Campo Wind Facilities

Impact W-B: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

Permanent direct impacts to special-status wildlife species were quantified by comparing the development footprint with suitable habitat for wildlife species observed or those that have a high potential to occur within the Campo Corridor (Table 5-6). Implementation of the Campo Wind Facilities would result in the direct loss of habitat, including foraging habitat, for the following County of San Diego Group 1, and/or SSC species: San Diegan tiger whiptail, San Diego banded gecko, Blainville's horned lizard, Coast patch-nosed snake, Cooper's hawk, Bell's sage sparrow, long-eared owl, northern harrier, prairie falcon, loggerhead shrike, yellow warbler, San Diego black-tailed jackrabbit, and San Diego desert woodrat (**Impact W-B**). Impacts to these species would be **less than significant** given the large amount of habitat within the region. These species occur within a variety of habitats and through a wide geographic, topographic, and elevation ranges where there are an abundance of these species in the region.

Impact W-C: Impacts to Active Nests

As described in Section 5.3.1.2, if any active nests or the young of nesting special-status bird species protected under the MBTA are impacted through direct grading, these impacts would be significant, absent mitigation (**Impact W-C**). It is recommended that clearing of vegetation occur outside of the typical nesting period for most bird species and raptors (i.e., outside the period of February 1–September 1 and as early as January 1 for some raptor species) to limit impacts to nesting birds and raptors. If clearing is required within the nesting period, a nesting bird survey would be conducted and buffers required if nesting birds are identified, as described in the Avian-Specific Avoidance, Minimization, and Mitigation Measures (**M-BI-B**). With this mitigation measure, impacts to nesting birds and raptors and other sensitive status species would be less than significant. Therefore, impacts

to active nests or the young of nesting special-status bird species would be **less than significant**. The full text of this mitigation measure is presented in Section 6.4.2 of this Report.

Impact W-D Impacts to Wildlife Species from Collisions and Electrocution

Birds would be at risk for collisions with the turbines and towers and electrocution by transmission lines (gen-tie); these impacts would be significant, absent mitigation (**Impact W-D**). Implementation of **M-BI-B**, the Avian-Specific Avoidance, Minimization, and Mitigation Measures (**M-BI-B**), which recommends implementing APLIC standards, preparing a Bird and Bat Conservation Strategy, and removing carcasses within the development site to reduce increased attraction of carrion-consuming birds of prey to the turbine and tower areas. Therefore, impacts collisions would be **less than significant**. The full text of this mitigation measure is presented in Section 6.4.2 of this Report.

Direct impacts to bats could result in mortality or injury due to collisions at wind turbines. However, potential effects of the Project on the meta-community of bats in the region, including those species known to be susceptible to collision with turbine blades, would be negligible, and **less than significant**.

6.2.3 Project Effects Relevant to Guideline 4.1.C (County Designated Special-Status Species)

Special-Status Plant Species (County List C and D Species)

Boulder Brush Facilities

There would be no direct impacts to County List C plant species resulting from implementation of the Boulder Brush Facilities. Potential impacts to County List D species are summarized in Table 5-2. Thus, impacts to County List C and D species would be **less than significant**. Although impacts to these species are not considered significant per the County Guidelines because of the low number of individuals being impacted, suitable habitat for these species would be conserved within an off-site preserve (**M-BI-5**).

Campo Wind Facilities

Impact SP-A: Permanent Direct Impacts to Special-Status Plant Species

The Campo Wind Facilities would likely result in the loss of special-status plant species (**Impact SP-A**), but these impacts cannot be quantified because location information for special-status

plants identified during surveys in 2010 and 2011 for the Shu'luuk Wind project is not available. There are no federally listed plants on Campo or that have potential to occur. Impacts to non-federally listed plants on the Reservation (e.g., County List C or D species) are not subject to the mitigation requirements in the County guidelines. Therefore, no mitigation for impacts to individual special status plant species would be implemented. Permanent direct impacts to County special-status plants could be **significant and unavoidable**.

Special-Status Wildlife Species (County Group 2 Species)

Boulder Brush Facilities

Impact W-2: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

As summarized in Section 4.6.1, the following County Group 2 special-status wildlife species were observed either directly or indirectly (i.e., scat, tracks), or have a high potential to occur, within the Boulder Brush Corridor: Coronado skink, San Diego ringneck snake, rosy boa, California horned lark, merlin, barn owl, western bluebird, mule deer, cougar, and small-footed myotis. The Figure 5-1 series shows the Boulder Brush Facilities impacts in relation to the special-status wildlife observations mapped within the Boulder Brush Corridor. Six additional Group 2 species were observed or have a high potential to occur and are state SSCs: San Diegan tiger whiptail, Blainville's horned lizard, coast patch-nosed snake, San Diego black-tailed jackrabbit, and San Diego desert woodrat. These species are discussed in Section 6.2.2.

Loss from development of the Boulder Brush Facilities of Group 2 special-status wildlife species that are not state SSC animals would be less than significant, because these species occur within a variety of habitats and through a wide geographic, topographic, and elevation ranges where there is an abundance of these species in the region. Although impacts to Group 2 species would be **less than significant**, mitigation measure **M-BI-5** ensures that suitable habitat for these species would be conserved off-site, which would be beneficial to Group 2 special-status wildlife species.

Campo Wind Facilities

Impact W-B: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

As summarized in Section 4.6.2, the following County Group 2 special-status wildlife species were observed either directly or indirectly (i.e., scat, tracks), or have a high potential to occur, within the Campo Corridor: Coronado skink, San Diego ringneck snake, rosy boa, California horned lark, merlin, barn owl, western bluebird, mule deer, cougar, and small-footed myotis. Loss from development of the Campo Wind Facilities of Group 2 special-status wildlife species that are not state SSC animals

would be **less than significant**, because these species occur within a variety of habitats and through a wide geographic, topographic, and elevation ranges where there is an abundance of these species in the region.

6.2.4 Project Effects Relevant to Guideline 4.1.D (Arroyo Toad)

No arroyo toads (*Anaxyrus californicus*) have been incidentally detected in either the Boulder Brush or Campo Corridors, nor are they expected to occur due to the lack of suitable habitat. Arroyo toads are not known from this area and have not been documented in the Live Oak Springs and Sombrero Peak quadrangles (CDFW 2018a). Although arroyo toad is known to occur within the surrounding quadrangles (CDFW 2018a), the Project Site lacks suitable habitat for this species, such as perennial or intermittent stream channels that support regular flows. For Boulder Brush Facilities, the closest California Natural Diversity Database occurrence is 8.5 miles west along Kitchen Creek within Fred Canyon and the USFWS occurrence is approximately 10.2 miles southwest along Cottonwood Creek of the Boulder Brush Corridor (CDFW 2018a; USFWS 2018a). Focused arroyo toad surveys conducted on the Campo Indian Reservation located south of the Boulder Brush Facilities site in 2010 were negative (AECOM 2010b).For Campo Wind Facilities, the closest known arroyo toad occurrences are located approximately 5.5 miles west of the Campo Corridor in the Cottonwood Creek area (USFWS 2018), a different watershed. There are no records of arroyo toad east of this location (USFWS 2018; CDFW 2018a). Surveys conducted for the 2010 BSA were negative (AECOM 2012).

6.2.5 Project Effects Relevant to Guideline 4.1.E (Golden Eagle)

Boulder Brush Facilities

A golden eagle was observed flying over the Boulder Brush Corridor once during the 2018 Quino checkerspot butterfly surveys. No active nests are known to occur within 4,000 feet of the Boulder Brush Corridor. The closest suitable nesting habitat is located approximately 5.5 miles east of the Boulder Brush Corridor in the Jacumba Mountains where there may be rocky outcrops suitable for nesting, and where this species has been documented (USFWS 2018). The nearest active golden eagle nest (e.g., nesting behavior documented) to the development footprint is approximately 5.5 miles east of the Project Site in the Carrizo Gorge area of the Jacumba Mountains. The location was last noted as active in February 2012 based on confidential data provided by USFWS (Dietsch 2018). This species has potential to forage over the Boulder Brush Corridor, but there are no suitable nesting areas within 4,000 feet of the Boulder Brush Corridor; therefore, there is no impact to nesting habitat within 4,000 feet of the Boulder Brush Corridor. Regardless, possible foraging habitat for golden eagle would

include more open communities like big sagebrush scrub, disturbed habitat, emergent wetland, montane buckwheat scrub, semi-desert chaparral, wildflower field, unvegetated stream channels, and open coast live oak woodland. There are 141.5 potential acres of foraging habitat, of which 69.8 acres would be temporarily or permanently impacted by the Boulder Brush Facilities. The USFWS and BLM determined through the Desert Renewable Energy Conservation Plan process that impacts to 20% of an eagle territory might cause take of an individual or pair. On the small side, home ranges are around 12,000 acres in size, so 20% would equate to 2,400 acres. Even cumulatively in this area, there would not be that much impact on foraging habitat, so the assessment would be a **less than significant** finding. Further, electrocution from power lines has some potential to cause injury or mortality of golden eagle individuals; however, the USGS biotelemetry data suggests that the Boulder Brush Corridor and surrounding area receives little use by eagles and is not the core territory of any eagles; Additionally, the Boulder Brush Facilities will comply with APLIC standards as mentioned above and the chance for collisions/electrocution is very low and potential impacts would be **less than significant**. Therefore, "take" of an eagle or pair could not be attributed to the loss of foraging habitat or electrocution related to the Boulder Brush Facilities.

Campo Wind Facilities

Eight golden eagles were observed flying over the Campo Corridor during the 2018 eagle point count surveys (Figure 4-2 series). There are no golden eagle nests within the Campo Corridor, nor within 4,000 feet of the development footprint. Therefore, construction and implementation of the Campo Wind Facilities would not result in direct permanent impacts to golden eagle nests, given the distance between nest sites and the development footprint. The nearest active golden eagle nest (e.g., nesting behavior documented) to the development footprint is approximately 7 miles east of the Project Site in the Carrizo Gorge area of the Jacumba Mountains. As shown in Figures 4-4a through 4-4n, the Campo Corridor appears to be at the very fringe of their individual territories or use areas, and likely mostly represent brief exploratory searches. This data suggests that the Project Site and surrounding area (i.e., 10 mile buffer around the Project Site) receives little use by eagles and is not the core territory of any eagles. Golden eagle use on site is infrequent, and the chance for electrocution and collisions is low; therefore, impacts to golden eagle would be **less than significant**.

6.2.6 Project Effects Relevant to Guideline 4.1.F (Raptor Foraging Habitat)

Boulder Brush Facilities

Impact W-2: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

Foraging habitat for raptors is present throughout the Boulder Brush Corridor, as well as the overall Boulder Brush Boundary (approximately 2,000 acres). The following vegetation communities are considered suitable raptor foraging habitat within the Boulder Brush Corridor: big sagebrush scrub, emergent wetland, disturbed habitat, granitic chamise chaparral, granitic northern mixed chaparral, montane buckwheat scrub, red shank chaparral, semi-desert chaparral, wildflower field, unvegetated stream channel, southern arroyo willow riparian forest, and coast live oak woodland. The Boulder Brush Facilities would result in impacts to more than 5% of the raptor foraging habitat within the entire Boulder Brush Boundary; however, the amount of impact (130.8 acres; 7%) is relatively small compared to available habitat in the overall Boulder Brush Boundary. Per the County guidelines, impacts to raptor foraging habitat would be a significant impact, because more than 5% of the raptor foraging habitat within the Boulder Brush Boundary would be impacted **(Impact W-2)**. Impacts to raptor foraging habitat would be mitigated to **less than significant** through off-site preservation of suitable habitat for foraging raptors (**M-BI-5**). The full text of this mitigation measure is presented in Section 6.4.1 of this Report.

Campo Wind Facilities

Impact W-B: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

Foraging habitat for raptors is present throughout the Campo Corridor (2,200 acres), as well as the overall Reservation Boundary (16,000 acres). The following vegetation communities are considered suitable raptor foraging habitat within the Campo Corridor: big sagebrush scrub (including disturbed), coast live oak woodland (including open and dense forms), disturbed habitat, emergent wetland, freshwater marsh, granitic chamise chaparral, granitic northern mixed chaparral, montane buckwheat scrub, mulefat scrub, non-native grassland, non-native grassland broadleaf-dominated, red shank chaparral, scrub oak chaparral, southern coast live oak riparian forest, southern willow scrub, upper Sonoran subshrub scrub, unvegetated stream channel, and valley Sacaton grassland.

The Campo Wind Facilities would result in impacts to 4.9% of the raptor foraging habitat within the entire Reservation Boundary (785.7 acres; 5% of the Reservation Boundary). Per the County guidelines, impacts to raptor foraging habitat would be a **less than significant** because less than 5% of the raptor foraging habitat on the Reservation would be impacted.

6.2.7 Project Effects Relevant to Guideline 4.1.G (Core Wildlife Area)

As discussed in 5.5.1.2, the Boulder Brush Boundary and Reservation Boundary are included within a Core Wildlife Area, as defined by the County. However, wildlife movement within the Project Area is not restricted to a specifically defined wildlife corridor. Wildlife can move throughout the

Project Site. Further, the Project boundaries are part of a larger contiguous area composed of private and public lands, which are mostly undeveloped and contribute to the Core Wildlife Area. The existing Tule Wind project is located east and north of the Boulder Brush Facilities and includes wind turbines and associated access roads; however, the turbines do not present a movement barrier to terrestrial wildlife species since their footprint is small and wildlife can still move through these areas uninterrupted.

Although construction of the Project would impact areas where wildlife may generally move through, it is not anticipated to hinder wildlife movement through the surrounding landscapes. Installation of the Project components is not anticipated to constrain a wildlife movement corridor within the region since the footprints of the turbines and electrical poles are small and provide easy access around/between them. Additionally, no fencing would be installed in large areas that might artificially constrain wildlife movement.

Therefore, the Project is not anticipated to impact long-term wildlife movement or viability within the development footprints or throughout the larger landscape. In addition, viable populations of special-status wildlife species are not limited to the development footprints alone (i.e., disturbed site area). As such, impacts to Core Wildlife Area would be **less than significant**.

6.2.8 Project Effects Relevant to Guideline 4.1.H (Indirect Impacts)

Special-Status Plant Species

Boulder Brush Facilities

Impact SP-3: Temporary Indirect Impacts to Special-Status Plant Species

There are potential temporary indirect impacts to special-status plant species in the Boulder Brush Corridor (**Impact SP-3**). The indirect impacts analyzed in Section 5.2 include the following potential indirect impacts described in the County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a): increased human access, introduction of pests or exotic species altering natural drainage, and increasing noise and/or nighttime lighting. Additional potential indirect impacts are also analyzed in terms of their potential to affect the special-status plant species and include generation of fugitive dust, the introduction of chemical pollutants (including herbicides), and alteration of the natural fire regime. Special-status plant species at the edge of the development footprint, including all seven special-status plant species observed within the Boulder Brush Corridor, could be impacted by potential temporary indirect impacts such as those previously listed (see Section 4.2 and descriptions in Section 5.2). Absent mitigation, these impacts would be significant. **M-BI-2** (biological monitoring), **M-BI-3**

(temporary construction flagging and/or fencing), **M-BI-4** (SWPPP), **M-BI-10** (fugitive dust control), **M-BI-11** (erosion and runoff control), and **M-BI-12** (regulation of chemical pollutants) described in Section 6.4 would mitigate these impacts to less than significant. Regarding fire, the proposed vegetative fuel modification treatments and the use of metal poles will lower the risk for potential loss of the Boulder Brush Facilities. The high-voltage substation and switchyard sites will include contiguous fuel modification from 100 feet outside of the perimeter fence inward onto the pad area. The high-voltage substation and switchyard pad areas will be free of vegetation around all electrical equipment. These impacts would be reduced to **less than significant** because the measures would minimize the potential for unintentional loss of individuals during construction. The full text of the mitigation measures is presented in Section 6.4.1 of this Report.

Impact SP-4: Permanent Indirect Impacts to Special-Status Plant Species

Permanent indirect impacts could result from the proximity of the development footprint to special-status plants after construction. Permanent indirect impacts that could affect special-status plant species include generation of fugitive dust, unintentional spillover or drift of chemical pollutants, non-native invasive species, and alteration of the natural fire regime (**Impact SP-4**). Each of these potential indirect impacts is discussed in Section 5.2. Special-status plant species at the edge of the development footprint, including all six special-status plant species observed within the Boulder Brush Corridor, could be impacted by permanent indirect impacts such as those previously listed (see Section 4.2). Absent mitigation, these impacts would be significant. **M-BI-4** (SWPPP), **M-BI-10** (fugitive dust control), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), and **M-BI-13** (prevention of invasive plant species), would mitigate these impacts to **less than significant** by ensuring that the Project does not introduce pollutants or spread invasive plant species within and surrounding the development footprint. The full text of these mitigation measures is presented in Section 6.4.1 of this Report.

Campo Wind Facilities

Impact SP-B: Temporary Indirect Impacts to Special-Status Plant Species

Potential temporary indirect impacts to special-status plant species in the Campo Corridor would primarily result from construction activities and include impacts related to or resulting from increased human access, introduction of pests or exotic species, altering natural drainage, increasing noise and/or nighttime lighting, generation of fugitive dust, the introduction of chemical pollutants (including herbicides), and alteration of the natural fire regime (**Impact SP-B**). Special-status plant species that could occur within the Campo Corridor, but outside of the development footprint, could be impacted by potential temporary indirect impacts such as those previously listed (see descriptions in Section 5.2). Absent mitigation, these impacts would be significant. The incorporation of the BMPs

outlined in Table 5-3 and the General Avoidance and Minimization Measures (**M-BI-C**) reduce the impacts to **less than significant**. The full text of these mitigation measures is presented in Section 6.4.2 of this Report.

Impact SP-C: Permanent Indirect Impacts to Special-Status Plant Species

Permanent indirect impacts could result from the proximity of the development footprint to special-status plants after construction. Permanent indirect impacts that could affect special-status plant species include increased human access, introduction of pests or exotic species, altering natural drainage, increasing noise and/or nighttime lighting, and alteration of the natural fire regime (**Impact SP-C**). Each of these potential indirect impacts is discussed in Section 5.2. Special-status plant species that may occur at the edge of the development footprint could be impacted by permanent indirect impacts such as those previously listed. Absent mitigation, these impacts would be significant. The incorporation of the BMPs outlined in Table 5-3 and the General Avoidance and Minimization Measures (**M-BI-C**) reduce the impacts to **less than significant**. The full text of these mitigation measures is presented in Section 6.4.2 of this Report.

Special-Status Wildlife Species

Boulder Brush Facilities

Impact W-6: Temporary Indirect Impacts to Special-Status Wildlife Species

Temporary indirect impacts to avian foraging and wildlife access to foraging, nesting, or water resources would primarily result from construction activities limiting access to those resources (**Impact W-6**). Potential temporary indirect impacts could occur as a result of increased human access, vehicle collisions, introduction of pests or exotic species, altering natural drainage, increasing noise and/or nighttime lighting, generation of fugitive dust, chemical pollutants, and alteration of the natural fire regime (see Section 5.3 for additional details). Absent mitigation, these impacts would be significant. Species potentially affected by such activities include loggerhead shrike, Cooper's hawk, Blainville's horned lizard, and other wildlife species that are on site during construction activities. Indirect impacts to sensitive bird species may occur if clearing of vegetation is conducted during the nesting season for migratory birds (February 15 through August 31) and raptors (January 15 through July 31). Implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or fencing), **M-BI-4** (SWPPP and construction vehicle speed limits), **M-BI-6** (nesting bird survey), **M-BI-7** (revegetation of temporarily impacted areas), **M-BI-10** (fugitive dust control), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), and **M-BI-13** (prevention of invasive species) would mitigate these impacts to **less than significant** because the mitigation would prevent construction impacts

beyond the development footprint and restore temporarily impacted areas. The full text of these mitigation measures is presented in Section 6.4.1 of this Report.

Impact W-7: Permanent Indirect Impacts to Special-Status Wildlife Species

Permanent indirect impacts to special-status wildlife species include increased human access, introduction of pests or exotic species, altering natural drainage, increasing noise and/or nighttime lighting, generation of fugitive dust, and alteration of the natural fire regime (**Impact W-7**). Absent mitigation, these impacts would be significant. **M-BI-10** (fugitive dust control), **M-BI-11** (erosion and runoff control), **M-BI-13** (prevention of invasive species), **M-BI-14** (fire protection), and **M-BI-15** (access control) described in Section 6.4 would mitigate these impacts to **less than significant**.

Campo Wind Facilities

Impact W-E: Temporary Indirect Impacts to Special-Status Wildlife Species

Temporary indirect impacts to avian foraging and wildlife access to foraging, nesting, or water resources would primarily result from construction activities limiting access to those resources (**Impact W-E**). Potential temporary indirect impacts could occur as a result of increased human access, vehicle collisions, introduction of pests or exotic species, altering natural drainage, increasing noise and/or nighttime lighting, generation of fugitive dust, chemical pollutants, and alteration of the natural fire regime (see Section 5.3 for additional details). Absent mitigation, these impacts would be significant. The incorporation of the BMPs outlined in Table 5-3 and the General Avoidance and Minimization Measures (**M-BI-C**) reduce the impacts to **less than significant**. The full text of these mitigation measures is presented in Section 6.4.2 of this Report.

Impact W-F: Permanent Indirect Impacts to Special-Status Wildlife Species

Permanent indirect impacts to special-status wildlife species include increased human access, vehicle collisions, introduction of pests or exotic species, altering natural drainage, increasing noise and/or nighttime lighting, generation of fugitive dust, chemical pollutants, and alteration of the natural fire regime (**Impact W-F**). Absent mitigation, these impacts would be significant. The incorporation of the BMPs outlined in Table 5-3 and the General Avoidance and Minimization Measures (**M-BI-C**) reduce the impacts to **less than significant**. The full text of these mitigation measures is presented in Section 6.4.2 of this Report.

6.2.9 Project Effects Relevant to Guideline 4.1.I (Burrowing Owl)

As described in Attachments I-1 and I-2 to this Report, burrowing owl are not known to occur between the Jacumba Valley and Otay areas in San Diego County. Therefore, there are no impacts to occupied burrowing owl habitat.

6.2.10 Project Effects Relevant to Guideline 4.1.J (Coastal Cactus Wren)

Coastal (San Diego) cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) is not expected to occur within the Boulder Brush Corridor or Campo Corridor. Coastal cactus wren rely on cactus thickets at elevations below 1,500 feet (Unitt 2004). Both Boulder Brush and Campo Corridors are above this elevation range and there are no large patches of *Cylindropuntia* spp. or *Opuntia* spp. on site; however, there are scattered cacti throughout the scrub and chaparral. *C. brunneicapillus* (desert subspecies) was documented on the Campo Corridor (AECOM 2012); however, this species is not the coastal subspecies for which this guideline applies. Because the Project Site is outside of the range for the coastal (San Diego) cactus wren, there would be no impacts to occupied coastal cactus wren habitat.

6.2.11 Project Effects Relevant to Guideline 4.1.K (Hermes Copper Butterfly)

The known range for Hermes copper butterfly is farther west toward Descanso, Jamul, and Potrero (CDFW 2018a). Additionally, no *Rhamnus crocea*, this species' host plant, was observed within the Boulder Brush Corridor. Therefore, there are no impacts to occupied Hermes copper butterfly habitat.

No *Rhamnus crocea*, this species' host plant, was observed within the Campo Corridor. Additionally, Hermes copper butterfly is not a federally protected species.

6.2.12 Project Effects Relevant to Guideline 4.1.L (Sensitive Bird Nesting)

Boulder Brush Facilities

Direct impacts to trees could result in impacts to the nesting success of tree-nesting raptors (such as Cooper's hawk) as a result of the removal of potential nesting habitat. Nesting tree habitat within the Boulder Brush Corridor includes coast live oak woodland and southern arroyo willow riparian forest. The Boulder Brush Facilities would result in permanent impacts to 1.1 acres of tree-dominated vegetation (coast live oak woodland and southern arroyo willow riparian forest). There would also be temporary impacts to 4.9 acres of these vegetation types that would likely result in tree removal. As described above, temporary impacts resulting from construction are quantified as permanent impacts. Impacts to the nesting success of tree- and ground-nesting raptors associated with the loss of suitable nesting habitat would be significant (**Impact W-2**). The loss of suitable nesting habitat would be

mitigated to **less than significant** through off-site preservation of suitable habitat for foraging raptors (**M-BI-5**). Temporary and permanent indirect impacts to nesting raptors (**Impact W-6** and **Impact W-7**) are discussed in Section 5.3.2, Indirect Impacts to Special-Status Wildlife Species, and Section 6.2.8.2, Special-Status Wildlife Species.

Due to lack of suitable habitat, least Bell's vireo, southwestern willow flycatcher, and light-footed clapper rail (*Rallus longirostris levipes*) are not expected to nest in the development footprint (see Attachment I-1); therefore, no impact to the nesting success of those protected species would result. The Boulder Brush Corridor is outside of the range, or does not have suitable habitat, for burrowing owl, coastal California gnatcatcher and coastal cactus wren.

Campo Wind Facilities

Direct impacts to trees could result in impacts to the nesting success of tree-nesting raptors (such as Cooper's hawk and long-eared owl) and ground-nesting raptors (such as prairie falcon) as a result of the removal of potential nesting habitat. The Campo Wind Facilities would result in permanent impacts to 21.55 acres of tree-dominated vegetation (coast live oak woodland habitats) and 21.97 acres of potential ground-nesting raptor habitat (emergent wetland and grasslands). Impacts to these species would be **less than significant** given the large amount of habitat within the region (**Impact W-B**). Impacts to nesting habitat on the Reservation are not subject to the mitigation requirements in the County guidelines. Temporary and permanent indirect impacts to nesting raptors (**Impact W-E** and **Impact W-F**) are discussed in Section 5.3, and Section 6.2.8, Special-Status Wildlife Species, and would be less than significant with implementation of mitigation measures **M-BI-C**.

Due to lack of suitable habitat and negative surveys for least Bell's vireo, southwestern willow flycatcher, and light-footed clapper rail (*Rallus longirostris levipes*) are not expected to nest in the development footprint (see Attachment I-2); therefore, no impact to the nesting success of those protected species would result. The Campo Corridor is outside of the range, or does not have suitable habitat, for burrowing owl, coastal California gnatcatcher or coastal cactus wren.

6.3 Cumulative Impact Analysis

Cumulative impacts are not assessed in this document, but are discussed in the EIR being prepared by the County for the Project. Cumulative impacts are also discussed in Section 2.3 of the EIR as well as the EIS being prepared by the BIA for the Campo Wind Project. For purposes of assessing cumulative impacts related to the Project, an appropriate geographic scope would include the Peninsular Ranges of the California floristic province, as defined by the Jepson Flora Project (2018).

6.4 Mitigation Measures and Design Considerations

6.4.1 Boulder Brush Facilities

M-BI-1 **Implementation of USFWS-Issued Terms and Conditions for Quino Checkerspot Butterfly.** All terms and conditions developed as part of the Section 7 consultation process with the U.S. Fish and Wildlife Service (USFWS) and provided in the Project's Biological Opinion shall be implemented. Terms and conditions shall apply to federally listed species that may be impacted by the Project. Ratios for habitat-based mitigation shall be determined during the Section 7 consultation process. The mitigation shall focus on habitat preservation and creation for long-term conservation of metapopulation dynamics. Habitat mitigation ratios will be determined through the Section 7 consultation. Terms and conditions outlined in the Project's Biological Opinion shall take precedence over the measures outlined herein to the extent there is conflict between the two.

(a) Temporary Construction Flagging/Fencing and Signage. Construction flagging/fencing and signage will be installed, per USFWS requirements when construction of the Project occurs immediately adjacent to mapped occupied Quino checkerspot butterfly habitat to prevent unnecessary intrusion into occupied Quino checkerspot butterfly habitat. Signage shall be installed where high-use areas of the Boulder Brush Facilities border suitable Quino checkerspot butterfly habitat to prevent intrusion into sensitive habitat and remind personnel of restrictions regarding activities within these areas.

M-BI-2 **Biological Monitoring.** To prevent inadvertent disturbance to areas outside the limits of grading, fencing or flagging, as required, shall be installed and all grading shall be monitored by a biologist in environmentally sensitive areas. A biologist (Project Biologist) approved by the County of San Diego (County) shall be contracted to perform biological monitoring during all grading, clearing, grubbing, trenching, construction, and decommissioning activities.

The Project Biologist shall perform the monitoring duties before, during, and after construction pursuant to the most current version of the County of San Diego's Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources (County Guidelines). The contract provided

to the County shall include an agreement that this shall be completed, and a Memorandum of Understanding between the biological consulting company and the County shall be executed. In addition to performing monitoring duties pursuant to the most current version of the County Guidelines, the Project Biologist shall also perform the following duties:

1. A worker environmental awareness program (WEAP) would be prepared for construction contractors and all on-site personnel. WEAP training would cover the sensitive resources found on site, flagging/fencing of exclusion areas, permit requirements, and other environmental issues and permit constraints. The WEAP would also educate and instruct on-site personnel to avoid harassment and disturbance of wildlife, especially during reproductive activities (e.g., courtship and nesting) during construction. In addition, temporary personnel delivering equipment and supplies to the Project site will be aware of the requirements and required to comply with the WEAP training, including, but not limited to, 15 mile per hour speed limit, stopping for wildlife observed in the access road, driving within the approved Project right-of-way, observing bird buffer signs and not stopping within the buffers, and driving slower than the approved Project speed limit, should dust occur on the access road. All on-site personnel would be required to attend the WEAP training in conjunction with hazard and safety training prior to working on site.
2. Attend the preconstruction meeting with the construction contractor and other key construction personnel prior to clearing, grubbing, or grading to reduce conflict between the timing and location of construction activities with other mitigation requirements (e.g., seasonal surveys for nesting birds).
3. Conduct meetings with the construction contractor and other key construction personnel describing the importance of restricting work to designated areas prior to clearing, grubbing, or grading and clarifying that the Project Biologist has the authority to halt work that could harm or harass a protected species.
4. Review and/or designate the construction area in the field with the construction contractor in accordance with the final grading plan prior to clearing, grubbing, or grading.
5. Conduct a field review of the staking to be set by the surveyor, designating the limits of all construction activity prior to clearing, grubbing, or grading.

6. Flush special-status species (i.e., avian or other mobile species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities.
7. To address hydrology impacts, the Project Biologist shall verify that grading plans include a Stormwater Pollution Prevention Plan (if required pursuant to provisions of the State Water Resources Control Board 2009-0009-DWQ Construction General Permit, or equivalent applying the standards set forth in the County of San Diego Stormwater Standards Manual); see **M-BI-3**.
8. Periodically monitor the construction site to see that dust is minimized according to the fugitive dust control measures delineated in M-AQ-2 and M-AQ-3 and that temporary impacted areas are revegetated as soon as possible.
9. Periodically monitor the construction site to verify that artificial security light fixtures are directed away from open space and are shielded.
10. Oversee the construction site so that cover and/or escape routes for wildlife from excavated areas are provided on a daily basis. All steep trenches, holes, and excavations during construction shall be covered at night with backfill, plywood, metal plates, or other means, and the edges covered with soils and plastic sheeting such that small wildlife cannot access them, and/or excavations shall provide an earthen ramp to allow for a wildlife escape route.

M-BI-3 **Temporary Construction Flagging/Fencing.** Prior to issuance of grading or building permits, the Boulder Brush Developer or its designee shall install temporary flagging or fencing, as required, where the limits of grading are adjacent to sensitive vegetation communities or jurisdictional aquatic resources. Temporary flagging or fencing, as required, will also be installed for areas where Boulder Brush Facilities impacts are adjacent to a population of special-status plant species. Temporary flagging or fencing shall remain in place for the duration of construction activities. All temporary flagging/fencing shall be shown on plans and a Fencing and Flagging Plan will be prepared and submitted to applicable agencies for review prior to construction. Access roads would be staked at the outermost perimeter of 40 feet, to ensure no project personnel go beyond these boundaries. Stakes would be placed every 200 feet in accordance with industry standards. Additionally, all on-site construction workers performing ground disturbance activities would be equipped with GPS units that would clearly delineate the limits of grading.

M-BI-4 **SWPPP.** If required, the Stormwater Pollution Prevention Plan (SWPPP) shall include, at a minimum, the best management practices listed below. The combined implementation of these requirements shall protect adjacent habitats and special-status species during construction to the maximum extent practicable. At a minimum, the following measures and/or restrictions shall be incorporated into the SWPPP and noted on construction plans, where appropriate, to avoid impacts to special-status species, sensitive vegetation communities, and/or jurisdictional waters during construction. The Project Biologist shall verify the implementation of the following design requirements:

1. No planting or seeding of invasive plant species (per the most recent version of the California Invasive Plant Council California Invasive Plant Inventory for the Project region) shall be permitted.
2. Construction activity shall not be permitted in jurisdictional waters of the United States/state except as authorized by applicable law and permit(s), including permits and authorizations approved by the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board.
3. Silt settling basins installed during the construction process shall be located away from areas of ponded or flowing water to prevent discolored, silt-bearing water from reaching areas of ponded or flowing water during normal flow regimes.
4. Temporary structures, staging, and storage areas for construction equipment and/or materials shall not be located in jurisdictional waters, including wetlands and riparian areas.
5. Any equipment or vehicles driven and/or operated within a jurisdictional waters of the United States/state shall be checked and maintained by the operator daily to prevent leaks of oil or other petroleum products that could be deleterious to aquatic life if introduced to the watercourse.
6. No stationary equipment, such as motors, pumps, generators, and welders, or fuel storage tanks shall be located within 200 feet of jurisdictional waters of the United States/state.
7. No debris, bark, slash sawdust, rubbish, cement, concrete, oil, or petroleum products shall be stored where it may be washed by rainfall or runoff into jurisdictional waters of the United States/state.

8. When construction operations are completed, any excess materials or debris shall be removed from the work area.
9. No equipment maintenance shall be performed within 200 feet of jurisdictional waters of the United States/state where petroleum products or other pollutants from the equipment may enter these areas.
10. Fully covered trash receptacles that are animal-proof and weather-proof shall be installed and used by the operator to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Littering shall be prohibited and trash shall be removed from construction areas daily. All food-related trash and garbage shall be removed from the construction sites on a daily basis.

M-BI-5

(a) Pre-Construction Surveys. Pre-construction surveys for special-status plants and Quino checkerspot butterfly host plants will be conducted during the spring and summer within the portion of the Boulder Brush Facilities development footprint that has not been previously surveyed (approximately 2.6 acres). If any special-status plants are found, the Applicant shall develop a plant relocation plan for the open space (prepared by a biologist with at least 5 years of experience in rare plant relocation), with plant specimens grown on site or from local seed or cutting sources. The individuals shall be planted within the open space to secure a 2:1 mitigation ratio for any County List A species, and a 1:1 mitigation ratio for County list B species identified. The plant relocation plan shall require the Applicant to submit a revegetation plan, including annual monitoring reports for at least 5 years after the replanting to demonstrate that the plants have been successfully established at the required mitigation ratio.

If any Quino checkerspot butterfly host plants are found, the habitat model for Quino checkerspot butterfly shall be updated and additional mitigation for potentially occupied habitat may be required, as determined through M-BI-1.

(b) Habitat Preservation. To mitigate for impacts to vegetation communities and habitats for special-status wildlife species and occurrences of special-status plant species resulting from the Boulder Brush Facilities, suitable off-site mitigation land shall be acquired prior to issuance of grading or building permits. The Boulder Brush Developer shall purchase habitat credit or provide for the conservation of habitat generally consistent with the assemblage of vegetation communities impacted by the Boulder Brush Facilities. As

proposed, the Boulder Brush Facilities is estimated to impact the following vegetation community acreages; however, the permanent open space acres shall be dependent on the actual temporary and permanent areas of impact. Montane buckwheat scrub (17.0 acres), red shank chaparral (18.3 acres), semi-desert chaparral (31.1 acres), and unvegetated stream channel (0.1 acres) would be mitigated at a 1:1 ratio; big sagebrush scrub (9.2 acres) would be mitigated at a 2:1 ratio; wildflower field (3.7 acres), emergent wetland (0.2 acres), southern arroyo willow riparian forest (0.4 acres), coast live oak woodland (5.4 acres), open coast live oak woodland (0.1 acres), and oak root zone (7.3 acres) would be mitigated at a 3:1 ratio; and granitic northern mixed chaparral (33.4 acres), and granitic chamise chaparral (3.6 acres) would be mitigated at a 0.5:1 ratio. The permanent open space acres shall be dependent on the final as-built drawings. This shall mitigate for Boulder Brush Facilities impacts to sensitive vegetation communities, thereby preserving compensatory habitat that provides equal or greater benefit to plant and wildlife species. The off-site mitigation options are described below:

County List A and B species shall be mitigated based on impacts to individual plants. County List A plant species will be mitigated at 2:1, List B species are mitigated at 1:1 and impacts to List D species are not ratio based but will be through the preservation of suitable habitat. Therefore, mitigation for the loss of special-status plant species shall be as follows: 2:1 mitigation ratio for impacts to 111 Jacumba milk vetch individuals, 20 southern jewelflower individuals, and 61 Tecate tarplant individuals; and 1:1 mitigation ratio for impacts to 1,308 desert beauty individuals and 203 sticky geraea individuals. Impacts to Colorado Desert larkspur will be mitigated through preservation of suitable habitat for the species. If additional special-status plant populations are recorded during the pre-construction surveys in the additional survey areas, the off-site mitigation site shall provide for any additionally required mitigation.

This shall mitigate for Boulder Brush Facilities impacts to sensitive vegetation communities, thereby preserving compensatory habitat that provides equal or greater benefit to plant and wildlife species. The off-site mitigation site will also provide for the preservation of known populations of special-status plants impacted by the Boulder Brush Facilities. The off-site mitigation options for the Boulder Brush Facilities are described below:

Option 1: If purchasing mitigation credit, the mitigation bank shall be approved by the Wildlife Agencies (i.e., U.S. Fish and Wildlife Service and California Department of Fish and Wildlife). The evidence of purchase shall include the following information to be provided by the mitigation bank:

1. A copy of the purchase contract referencing the Project name and numbers for which the habitat credits were purchased.
2. If not stated explicitly in the purchase contract, a separate letter must be provided identifying the entity responsible for the long-term management and monitoring of the preserved land.
3. To ensure the land is protected in perpetuity, evidence must be provided that a dedicated conservation easement or similar land constraint has been placed over the mitigation land.
4. An accounting of the status of the mitigation bank. This shall include the total amount of credits available at the bank, the amount required by the Project and the amount remaining after use by this Project.

Option 2: If habitat credit cannot be purchased in a mitigation bank, then the Boulder Brush Developer shall provide for the conservation of habitat of the same amount and type of land located in San Diego County as required per County guidelines:

1. Prior to purchasing the land for the proposed mitigation, the location shall be pre-approved by the Department of Planning and Development Services (PDS).
2. A Resource Management Plan (RMP) shall be prepared and approved pursuant to the County of San Diego Report Format and Content Requirements: Biological Resources to the satisfaction of the Director of PDS.
3. An open space easement over the land shall be dedicated to the County of San Diego or like agency to the satisfaction of the Director of PDS. The land shall be protected in perpetuity.
4. The purchase and dedication of the land and the selection of the Resource Manager and establishment of an endowment to ensure

funding of annual ongoing basic stewardship costs shall be complete prior to the approval of the RMP.

5. In lieu of providing a private habitat manager, the Boulder Brush Developer may contract with a federal, state or local government agency with the primary mission of resource management to take fee title and manage the mitigation land. Evidence of satisfaction must include a copy of the contract with the agency, and a written statement from the agency that (1) the land contains the specified acreage and the specified habitat, or like functioning habitat, and (2) the land shall be managed by the agency for conservation of natural resources in perpetuity.

(c) Resource Management Plan. If Option 2 is chosen, to provide for the long-term management of the proposed Open Space Preserve, an RMP shall be prepared and shall be implemented. The final RMP shall be completed to the satisfaction of the Director of PDS, as follows: (1) the RMP shall be prepared and approved pursuant to the most current version of the County of San Diego Report Format and Content Requirements: Biological Resources; (2) the habitat land to be managed shall be owned by a land conservancy or equivalent; (3) open space easements shall be dedicated recorded in perpetuity; (4) a resource manager shall be selected and approved, with evidence provided demonstrating acceptance of this responsibility; (5) the RMP funding mechanism shall be identified and adequate to fund annual costs for implementation; and (6) a contract between the Boulder Brush Developer and County of San Diego shall be executed for the implementation of the RMP, and funding will be established with the County of San Diego as the third-party beneficiary.

M-BI-6 **Nesting Bird Survey**. To avoid any direct impacts to raptors and/or any migratory birds protected under the Migratory Bird Treaty Act and California Fish and Game Code, removal of habitat that supports active nests on the proposed area of disturbance shall occur outside of the nesting season for these species (January 15 through September 1, annually). If, however, removal of habitat on the proposed area of disturbance must occur during the nesting season, the Boulder Brush Developer or its designee shall retain a biologist approved by the County of San Diego to conduct a preconstruction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The preconstruction survey must be conducted within 72 hours

prior to the start of construction that would impact any vegetation that could support nesting birds.

If nesting birds are detected by the biologist, buffers shall be established per the biologist's discretion and submitted to the County and Wildlife Agencies[9] for review and concurrence prior to disturbance. The buffer shall be flagged in the field and mapped on the construction plans. These buffer zones shall be avoided until the nesting cycle is complete.

M-BI-7 **Revegetation of Temporarily Impacted Areas.** Disturbed areas that are not required to be clear for operations and maintenance activities (i.e., temporarily disturbed areas) shall be revegetated or stabilized using soil binders within 90 days of construction completion. The Boulder Brush Facilities would result in temporary impacts to sensitive upland and jurisdictional aquatic resources (ephemeral channels). Temporary impacts shall be revegetated to provide erosion control, slope stabilization, or other necessary function. Revegetation areas may incorporate salvaged materials, such as seed collection and translocation of plant materials, as determined to be appropriate. The Project Biologist shall review the plant materials prior to grading and determine if salvage is warranted. Ephemeral channels will be restored to pre-construction conditions as feasible.

M-BIO-8 **APLIC Standards.** Provide evidence to the Director of PDS that all transmission poles and lines are designed to conform to Avian Power Line Interaction Committee (APLIC) standards. The Boulder Brush Facilities shall implement recommendations by the APLIC (2006, 2012), which will protect raptors and other birds from electrocution. These measures are sufficient to protect even the largest birds that may perch or roost on transmission lines or poles from electrocution. Specifically, these measures will include guidance on proper pole and crossmember dimensions, phasing, and insulator design and dimensions to preclude wire to wire contact with a goal of providing 150-cm of separation between energized conductors and energized hardware and ground wire.

M-BI-9 **Removal of Carcasses.** All large animal carcasses (e.g., any domestic livestock, feral animal, or big game) incidentally found within or adjacent to the development footprint during operation and maintenance activities shall be

[9] Wildlife Agencies is defined as the U.S. Fish and Wildlife Service and California Department of Fish and Game.

removed from the Boulder Brush Corridor to prevent attraction of carrion-consuming birds of prey.

M-BI-10 **Fugitive Dust Control**. The Boulder Brush Developer shall implement the fugitive dust control measures outlined in mitigation measures M-AQ-2 and M-AQ-3 (Fugitive Dust Control) of the Final EIR.

M-BI-11 **Erosion and Runoff Control.** During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns. This shall protect sensitive vegetation from being inundated with sediment-laden runoff.

Dewatering shall be conducted in accordance with standard regulations of the Regional Water Quality Control Board (RWQCB). A construction National Pollutant Discharge Elimination System permit, issued by RWQCB to discharge water from dewatering activities, shall be required prior to start of construction. This shall minimize erosion, siltation, and pollution within sensitive communities.

Design of drainage facilities shall incorporate long-term control of pollutants and stormwater flow to minimize pollution and hydrologic changes. An Urban Runoff Plan and operational best management practices shall be approved by the San Diego County Department of Planning & Development Services prior to construction.

M-BI-12 **Regulation of Chemical Pollutants.** Weed control treatments shall include all legally permitted chemical, manual, and mechanical methods applied with the authorization of the County of San Diego agriculture commissioner. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Adviser and implemented by a licensed applicator. Where manual and/or mechanical methods are used, disposal of the plant debris shall follow the regulations set by the County agriculture commissioner.

M-BI-13 **Prevention of Invasive Plant Species.** A County of San Diego–approved plant list shall be used for the revegetation areas. A hydroseed mix that incorporates native species, is appropriate to the area, and is without invasive species shall be used for slope stabilization in transitional areas. No invasive plant species as

included on the most recent version of the California Invasive Plant Council's California Invasive Plant Inventory for the Project region shall be included in the seed mix, and the plant palette shall be composed of native species that do not require high irrigation rates. The hydroseed mix and a map of the seeded areas shall be submitted and approved by the County of San Diego prior to re-seeding.

M-BI-14 **Fire Protection**. To minimize impacts to biological resources from fire hazards, the Boulder Brush Facilities Fire Protection Plan shall be implemented in conjunction with development of the Boulder Brush Facilities.

M-BI-15 **Access Control**. To minimize unauthorized access to the Boulder Brush Facilities, all access roads adjacent to a public road shall be gated and locked to the extent permitted by adjacent land owners, easements and County of San Diego requirements.

M-BI-16 **Federal and State Agency Permits.** Prior to impacts occurring to U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) (collectively, the Resource Agencies) jurisdictional aquatic resources, the Boulder Brush Developer or its designee shall obtain the following permits: USACE 404 permit or authorization under a Nationwide Permit, RWQCB 401 Water Quality Certification, and California Fish and Game Code 1602 Streambed Alteration Agreement. To mitigate for impacts to jurisdictional waters, the Developer may purchase mitigation bank credits, including establishment, re-establishment, enhancement, or rehabilitation. Alternatively, a suitable mitigation site shall be selected and approved by the Resource Agencies during the permitting process. Either of these mitigation options would result in no net loss of jurisdictional aquatic resources. A functional assessment, such as the California Rapid Assessment Method (CRAM), of the jurisdictional areas proposed to be impacted and preserved at the mitigation site shall be conducted. The purpose of the functional assessment is to evaluate the existing functions and services within the jurisdictional drainages and ensure that the functions and values of the jurisdictional areas lost are replaced at the mitigation site. The precise mitigation ratio shall depend on the functions and values of the mitigation site and any restoration activities that may be conducted to further increase the functions and values of the mitigation site.

Impacts to Resource Protection Ordinance wetlands (with the exception of the intermittent channel) shall be mitigated at a minimum of ratio 3:1, with a minimum of 1:1 impact-to-creation ratio; restoration/enhancement of existing wetlands may be used to make up the remaining requirements. This would result in no net loss of County RPO wetlands.

If mitigation is proposed to occur within the Boulder Brush Corridor or within the off-site mitigation area, then a Wetlands Mitigation and Monitoring Plan shall be prepared. Prior to issuance of land development permits, including clearing, grubbing, and grading permits for activities that would impact jurisdictional aquatic resources, the Boulder Brush Developer shall prepare a Wetlands Mitigation and Monitoring Plan to the satisfaction of the Director of Planning & Development Services (or his/her designee). The Conceptual Wetlands Mitigation and Monitoring Plan shall, at a minimum, prescribe site preparation, planting, irrigation, and a 5-year maintenance and monitoring program with qualitative and quantitative evaluation of the revegetation effort and specific performance criteria to determine successful revegetation.

6.4.2 Campo Facilities

The following mitigation measures are the recommended mitigation measures in the EIS for the Campo Wind Facilities, and are subject to the BIA's Record of Decision.

M-BI-A **Implementation of USFWS-Issued Terms and Conditions.** All terms and conditions developed as part of the Section 7 consultation process with the U.S. Fish and Wildlife Service (USFWS) and provided in the Project's Biological Opinion shall be implemented. Terms and conditions shall apply to any ESA-listed species that may be impacted by the Project. Ratios for habitat-based mitigation (if any) shall be determined during the Section 7 consultation process. The mitigation shall focus on habitat preservation and creation for long-term conservation of metapopulation dynamics. Per coordination with USFWS, seasonal avoidance of mapped suitable Quino checkerspot butterfly habitat during Project construction would not be required. Terms and conditions outlined in the Project's Biological Opinion shall take precedence over the measure outlined herein. The measure described below would be subject to enforcement by the Campo Environmental Protection Agency on the Reservation, and by the County of San Diego for the Boulder Brush Facilities. The Project's Biological Opinion will be issued to the

BIA and the BIA will be responsible for implementing the terms and conditions of the Biological Opinion.

(a) Construction Flagging and Signage. Construction flagging and/or signage will be installed when construction of the Project occurs immediately adjacent to mapped occupied Quino checkerspot butterfly habitat (i.e., within a 200-meter radius around host plant concentrations or Quino checkerspot butterfly detections that are located within 1 kilometer of a mapped Quino checkerspot butterfly location) to prevent unnecessary intrusion into occupied Quino checkerspot butterfly habitat. Signage shall be installed where construction activity high-use areas border suitable Quino checkerspot butterfly habitat to prevent intrusion into sensitive habitat and remind personnel of restrictions regarding activities within these areas.

M-BI-B Avian-Specific Avoidance, Minimization, and Mitigation Measures.

(a) Vegetation Clearing Seasonal Avoidance/Nest Clearance Surveys. Vegetation clearing will take place outside of the general avian breeding season (February 15 through August 15) when practicable. If not practicable to conduct vegetation clearing outside the general avian breeding season, it is recommended that a Project biologist with a minimum of 3 years' experience conducting migratory bird surveys conduct a nest-clearance survey within 500 feet (152 meters) of a vegetation clearance area no more than 5 days prior to vegetation clearing. Vegetation clearing crews shall coordinate with the Project biologist prior to the start of construction to verify that the area has been adequately surveyed. If no active nests are discovered, vegetation clearing may proceed. If an active nest is discovered, the nest and an avoidance buffer (at least 300 feet (91 meters) for passerines and at least 500 feet (152 meters) for raptors) shall be flagged or otherwise marked for avoidance. The Project biologist shall monitor any active nest discovered on at least a weekly basis to track the status of each nest. Vegetation clearing shall not take place within the avoidance buffer until nesting is complete (i.e., nestlings have fledged or nest has failed), as determined by the Project biologist. If clearing in a given area ceases for five or more consecutive days during the nesting season, repeat nest clearance surveys will be conducted to verify that new nesting locations have not been established.

(b) Construction Seasonal Avoidance/Pre-Construction Surveys. Construction (non-vegetation-clearing activities; see MM-BIO-3(a) for vegetation clearing restrictions) that cannot occur outside the general avian breeding season (February 15 through August 15) shall proceed under the following recommended protocols. If nest clearance surveys (see MM-BIO-3(a)) have not been conducted within 5 days of the start of construction, the Project biologist shall conduct a pre-construction nest survey within 500 feet (152 meters) of the construction area no more than 5 days prior to the start of construction in a given area of the construction footprint. Construction crews shall coordinate with the Project biologist prior to the start of construction to verify that the area has been adequately surveyed. If no active nests are discovered, construction may proceed. If an active nest is discovered, the nest and an avoidance buffer (at least 300 feet (91 meters) for passerines and at least 500 feet (152 meters) for raptors) shall be flagged or otherwise marked prior to the start of construction. The Project biologist shall coordinate with construction crews to determine the types of construction activities that may take place within the avoidance buffer. The following shall be taken into consideration when determining whether a construction activity may take place within the avoidance buffer: (1) location of nest; (2) status of nesting; (3) species-specific sensitivity to potential disturbances associated with an activity; (4) type, duration, and timing of construction activity; (5) existing level of disturbances; and (6) influence of other environmental factors on potential disturbances. The Project biologist shall be responsible for monitoring any active nests discovered on at least a weekly basis to track the status of each nest. Should the Project biologist determine that construction activities may disturb the nesting activity, then construction activities shall cease within the avoidance buffer until nesting is complete. If construction in a given area ceases for 5 or more consecutive days during the nesting season, repeat pre-construction surveys shall be required to verify that new nesting locations have not been established.

(c) Bird and Bat Conservation Strategy. The Developer shall prepare a Bird and Bat Conservation Strategy (BBCS). The BBCS shall be prepared by a qualified biologist and shall include methods and results of avian and bat surveys conducted in 2017, 2018, and 2019 at the Project Site; a risk assessment associated with potential collisions/barotrauma with Project turbines and meteorological towers and electrocution associated with

overhead transmission lines; recommended avoidance, minimization, and mitigation measures to address this risk; methods and protocols associated with post-construction monitoring; and adaptive management actions that can be taken based on monitoring results. The BBCS shall be submitted to USFWS for review. The BBCS may include the following:

- **Implementation of a Post-Construction Monitoring Program.** A Post-Construction Monitoring Program shall provide a means of methodically recording and collecting information on dead or injured birds and bats within the Project Site by professional biologists. This monitoring program will include standardized survey methods, observer trials, and carcass removal trials to assist in determining accurate collision estimates for the Project. These rates will allow for comparison to other projects and assist in determining what, if any, adaptive management activities should be implemented. This monitoring program will occur for a minimum of 2 years and be initiated after completion of Project construction.
- **Implementation of a Worker Response Reporting System (WRRS).** The WRRS shall provide a means of recording and collecting information on incidental discoveries of dead or injured birds and bats within the Project Site by site personnel. The WRRS shall be used by site personnel who discover bird and bat carcasses during construction and routine maintenance activities. Site personnel shall be provided a set of standardized instructions to follow in response to wildlife incidents in the Project Area.
- **Notification and Implementation Activities.** In accordance with the WRRS, during construction, site personnel shall notify the Project biologist to collect the following data on the incidentally detected avian and bat wildlife: species, date, time, location (e.g., nearest Project structure), and how the animal died, if known. Results shall be reported to the Tribe and the Developer on a quarterly basis unless federally listed species are involved. During operations, a procedure shall be developed for site personnel to collect the same data, take photographs, and notify the Project's environmental manager, who shall then notify the Tribe and the Developer unless listed species are involved, in which case USFWS shall be notified within 48 hours. In the event of an injury

to federally protected species, the USFWS shall be contacted immediately for instruction on how to handle the situation. Workers shall be trained on the WRRS during Worker Environmental Awareness Program training. The WRRS shall be used for the life of the Project. To accommodate these requirements, a Project biologist shall be on retainer throughout the construction period, and one shall be available during the life of the Project to assist in avian and bat identifications, data collection, determination of cause of death or injury, and implementing the WRRS.

(d) Removal of Carcasses. All large animal carcasses (e.g., any domestic livestock, feral animal, or big game) incidentally found within the Project Site during operation and maintenance activities shall be removed from the site to prevent attraction of carrion-consuming birds of prey.

(e) APLIC Standards. The Project shall implement 2006 and 2012 recommendations by the Avian Power Line Interaction Committee (APLIC) to protect raptors and other birds from electrocution. When properly designed and implemented, these measures can be sufficient to protect even the largest birds that may perch or roost on transmission lines or towers from electrocution. Specifically, these measures will include design specifications regarding proper pole and crossmember dimensions, phasing, and insulator design and dimensions to preclude wire-to-wire contact with a goal of providing appropriate separation between energized conductors and energized hardware and ground wire. In addition, bird diverters or other means to make lines more visible to birds will be installed where appropriate to help avoid collisions.

M-BI-C General Avoidance and Minimization Measures.

(a) Project Biologist(s). A Project biologist(s) approved by the U.S. Fish and Wildlife Service (USFWS) and the Campo Band of Diegueño Mission Indians (Tribe) shall be designated by the Developer. The Campo Environmental Protection Agency is recommended to oversee the duties of the Project biologist for all work conducted on the Reservation. The Developer shall submit the names, documented experience, any relevant permit numbers, and resumes for the Project biologist(s) to USFWS and the

Tribe for approval prior to initiation of construction. The Project biologist(s) shall be responsible for the following:

- Providing training to all construction workers (may take the form of any documentable training platform).
- Reviewing and/or designating the construction area in the field with the construction contractor in accordance with the final grading plan prior to clearing, grubbing, or grading.
- Conducting a field review of the staking to be set by the professional surveyor, designating the limits of construction activity prior to clearing, grubbing, or grading.
- Flushing wildlife species (i.e., reptiles, mammals, avian, or other mobile species) from occupied habitat areas immediately prior to (i.e., within 2 hours) brush-clearing and earthmoving activities. This does not include disturbance of nesting birds (see M-BI-B) or "flushing" of federally listed species (e.g., Quino checkerspot butterfly (see M-BI-A)).
- Regularly monitoring construction activities to verify that construction is proceeding in compliance with all permit requirements specific to biological resources.
- Overseeing the construction site so that cover and/or escape routes for wildlife from excavated areas are provided on a daily basis. All steep trenches, holes, and excavations during construction shall be covered at night with backfill, plywood, metal plates, or other means, and the edges covered with soils and plastic sheeting such that small wildlife cannot access them, and/or excavations shall provide an earthen ramp or boards to allow for a wildlife escape route at the ends and every 30 feet.
- Maintaining communication with the appropriate personnel (construction Project manager, resident engineer) so that issues relating to biological resources are appropriately and lawfully managed.
- Verifying that grading plans include a stormwater pollution prevention plan.
- Reporting any noncompliance issues to the Bureau of Indian Affairs, resident engineer, and the Tribe.

(b) Environmental Training Program. A worker environmental awareness program shall be developed and implemented prior to the start of construction. The Project biologist(s) shall use this program to conduct environmental training for construction personnel. All construction site personnel shall be required to attend the environmental training in conjunction with hazard and safety training prior to working on site.

(c) SWPPP. The stormwater pollution prevention plan (SWPPP) or equivalent shall include, at a minimum, the best management practices listed below. The combined implementation of these requirements shall protect adjacent habitats and special-status species during construction to the maximum extent practicable. At a minimum, the following measures and/or restrictions shall be incorporated into the SWPPP and noted on construction plans, where appropriate, to avoid impacts to special-status species, special-status vegetation communities, and/or jurisdictional waters during construction. The measures described in the SWPPP would be subject to enforcement by the Campo Environmental Protection Agency on the Reservation, and the County of San Diego for the Boulder Brush Facilities.

The Project biologist(s) shall verify the implementation of the following design requirements:

- No planting or seeding of invasive plant species (per the most recent version of the California Invasive Plant Council's California Invasive Plant Inventory for the Project region) shall be permitted.
- Construction activity shall not be permitted in jurisdictional waters of the United States except as authorized by applicable law and permit(s), including permits and authorizations approved by the U.S. Army Corps of Engineers.
- Silt settling basins installed during the construction process shall be located away from areas of ponded or flowing water to prevent discolored, silt-bearing water from reaching areas of ponded or flowing water during normal flow regimes.
- Temporary structures, staging, and storage areas for construction equipment and/or materials shall not be located in jurisdictional waters, including wetlands and riparian areas.

- Any equipment or vehicles driven and/or operated within jurisdictional waters of the United States shall be checked and maintained by the operator daily to prevent leaks of oil or other petroleum products that could be deleterious to aquatic life if introduced to the watercourse.
- No stationary equipment, such as motors, pumps, generators, and welders, or fuel storage tanks shall be located within 200 feet of jurisdictional waters of the United States.
- No debris, bark, slash sawdust, rubbish, cement, concrete, oil, or petroleum products shall be stored where it may be washed by rainfall or runoff into jurisdictional waters of the United States.
- When construction operations are completed, any excess materials or debris shall be removed from the work area.
- No equipment maintenance shall be performed within 200 feet of jurisdictional waters of the United States where petroleum products or other pollutants from the equipment may enter these areas.
- Fully covered trash receptacles that are animal-proof and weather-proof shall be installed and used by the construction contractor(s) to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Littering shall be prohibited and trash shall be removed from construction areas daily. All food-related trash and garbage shall be removed from the construction sites on a daily basis.

(d) Fugitive Dust Control. The Developer or its designee shall implement the fugitive dust control measures outlined in project design features PDF-AQ-2 and PDF-AQ-3 (Fugitive Dust Control) of the Final EIR.

(e) Revegetation. Disturbed areas that are not required to be clear for operations and maintenance activities (i.e., temporarily disturbed areas) shall be revegetated or stabilized using soil binders within 90 days of construction completion. If soil binders are used they shall be as efficient, or more efficient, for fugitive dust control than California Air Resources Board-approved soil stabilizers. Soil would be revegetated with native plant species found within adjacent habitats. Locally available seed will be used, and that seed from species that are unavailable for collection would not be incorporated into the final seed palette. Revegetation of temporarily

disturbed areas shall provide a minimum of 40% cover of plant species native to adjacent habitats within a 2-year time frame. If 40% cover of native species is not achieved within 2 years, adaptive management measures (e.g. supplemental seeding, erosion control, pest control) will be pursued until 40% cover of native species is achieved.

Prior to decommissioning of Campo Wind Facilities, a decommissioning plan would be prepared and implemented. The decommissioning plan shall include revegetation of the previously disturbed areas. Soil would be revegetated with native plant species found within adjacent habitats. Locally available seed would be used, and seed from species that are unavailable for collection would not be incorporated into the final seed palette. Revegetation of disturbed areas shall provide a minimum of 40% cover of plant species native to adjacent habitats within 2 years of construction completion. If 40% cover of native species is not achieved within 2 years, adaptive management measures will be pursued until 40% cover of native species is achieved.

(f) Erosion and Runoff Control. During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns. This will protect jurisdictional resources from being inundated with sediment-laden runoff. Design of drainage facilities shall incorporate long-term control of pollutants and stormwater flow to minimize pollution and hydrologic changes.

(g) Weed Management. A weed management plan shall be developed and approved by the Tribe prior to commencement of construction activities on the Reservation. The plan shall include the following:

- Weed inventory and risk assessment;
- Identification of problem areas and necessary preventive measures;
- Annual surveys within the restoration areas to document weed patches for 2 years post construction;
- Success standards, such as no more than a 10% increase in weed species in restoration areas;
- Adaptive management measures; and
- Reporting.

All herbicide application shall be in compliance with applicable state and federal laws and regulations under the prescription of a Pest Control Adviser and implemented by a licensed applicator.

(h) Fire Protection. To minimize the potential exposure of the Project to fire hazards, a Boulder Brush Fire Protection Plan shall be prepared and a Fire Protection Plan for the Campo Wind Facilities shall be prepared to the satisfaction of the CRFPD. The FPPs shall be implemented in conjunction with development of the Project.

6.5 Conclusions: Level of Significance After Mitigation

6.5.1 Sensitive Plant Species

Boulder Brush Facilities

Impact SP-1: Temporary Direct Impacts to Special-Status Plant Species

Potential significant temporary direct impacts during Boulder Brush Facilities construction would be mitigated to less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging/fencing) and **M-BI-4** (SWPPP BMPs, including restrictions on plantings, and temporary equipment staging and storage).

Impact SP-2: Permanent Direct Impacts to Special-Status Plant Species

The Boulder Brush Facilities would result in the loss of special-status plant species. Impacts to special-status plant individuals would be mitigated through the preservation of plant individuals at a ratio of 2:1 for County List A species, 1:1 ratio for County List B species, and suitable habitat for County List D species (**M-BI-5**).

Impact SP-3: Temporary Indirect Impacts to Special-Status Plant Species

Potential temporary indirect impacts during Boulder Brush Facilities construction to special-status plant species would be reduced to less than significant through **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging/fencing), **M-BI-4** (SWPPP), **M-BI-10** (fugitive dust control), **M-BI-11** (erosion and runoff control), and **M-BI-12** (regulation of chemical pollutants).

Impact SP-4: Permanent Indirect Impacts to Special-Status Plant Species

Permanent indirect impacts to special-status plants during the life of the Boulder Brush Facilities would be reduced to less than significant through **M-BI-4** (SWPPP), **M-BI-10** (fugitive dust control), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), and **M-BI-13** (prevention of invasive plant species).

Campo Wind Facilities

Impact SP-A: Permanent Direct Impacts to Special-Status Plant Species

Potential permanent impacts to non-federally listed plants on the Reservation (e.g., County List A or B species) are not subject to the mitigation requirements in the County guidelines. Therefore, no mitigation is proposed. Impacts to non-federally listed plants would be **significant and unavoidable**.

Impact SP-B: Temporary Indirect Impacts to Special-Status Plant Species

Potential temporary indirect impacts to special-status plant species would be reduced to less than significant through incorporation of the BMPs outlined in Table 5-3 and the General Avoidance and Minimization Measures (**M-BI-C**).

Impact SP-C: Permanent Indirect Impacts to Special-Status Plant Species

Potential permanent indirect impacts to special-status plant species would be reduced to less than significant through incorporation of the BMPs outlined in Table 5-3 and the General Avoidance and Minimization Measures (**M-BI-C**).

6.5.2 Special-Status Wildlife Species

Boulder Brush Facilities

Impact W-1: Temporary Direct Impacts to Habitat for Special-Status Wildlife Species

Potential significant temporary direct impacts to special-status wildlife species would be reduced to less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging/fencing), **M-BI-4** (SWPPP BMPs, including restrictions on plantings, and temporary equipment staging and storage), **M-BI-6** (preconstruction surveys for nesting birds), and **M-BI-7** (replanting temporarily impacted areas). These impacts would be reduced to less than significant because the measures would minimize the potential for loss of wildlife individuals. However, temporary impacts to vegetation communities are still considered permanent impacts and would be mitigated through off-site habitat conservation (see **Impact W-2**).

Impact W-2: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

As stated in Section 6.2, the Boulder Brush Facilities would have direct impacts to foraging habitat for raptors and habitat for those species listed in Table 5-5. These impacts would be reduced to **less than significant** levels through implementation of **M-BI-5** (habitat preservation).

Impact W-3: Permanent Direct Impacts to Special-Status Wildlife Species (Nesting Birds)

The Boulder Brush Facilities could impact nesting birds protected under the MBTA and California Fish and Game Code. These impacts would be reduced to **less than significant** through implementation of **M-BI-6** (preconstruction surveys for nesting birds).

Impact W-4: Permanent Direct Impacts to Special-Status Wildlife Species (Collisions and Electrocution)

Migratory birds could be injured or killed through collisions with and electrocution by transmission lines (gen-tie). These impacts would be reduced to **less than significant** through implementation **M-BI-8** (APLIC standards) and **M-BI-9** (removal of dead carcasses).

Impact W-5: Permanent Direct Impacts to Occupied Quino Checkerspot Butterfly

The significant permanent direct impacts to 54.79 acres of occupied Quino checkerspot butterfly habitat would be reduced to less than significant through implementation of mitigation measure **M-BI-1**, which describes the Section 7 consultation process with the USFWS, off-site mitigation for permanent impacts to Quino checkerspot butterfly habitat, avoidance of hilltopping habitat, fencing and signage around occupied Quino checkerspot butterfly habitat, and working in suitable habitat areas when the adult and larval activity is low.

Impact W-6: Temporary Indirect Impacts to Special-Status Wildlife Species

The significant temporary indirect impacts to avian foraging and wildlife access to foraging, nesting, or water resources would be reduced to less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging/fencing), **M-BI-4** (SWPPP BMPs, including restrictions on plantings, and temporary equipment staging and storage), **M-BI-6** (nesting bird survey), and **M-BI-7** (replanting temporarily impacts areas), **M-BI-10** (fugitive dust control), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), and **M-BI-13** (prevention of invasive species) because the mitigation would prevent construction impacts beyond the Boulder Brush Facilities development footprint and restore temporarily impacted areas.

Impact W-7: Permanent Indirect Impacts to Special-Status Wildlife Species

The significant permanent indirect impacts from Boulder Brush Facilities to special-status wildlife species would be reduced to less than significant through implementation of **M-BI-10** (fugitive dust control), **M-BI-11** (erosion and runoff control), **M-BI-13** (prevention of invasive species), **M-BI-14** (fire protection) and **M-BI-15** (access control).

Campo Wind Facilities

Impact W-A: Permanent Direct Impacts to Potentially Occupied Quino Checkerspot Butterfly Habitat

Permanent direct impacts to 272.81 acres of potentially occupied Quino checkerspot butterfly habitat would be reduced to **less than significant** through implementation **M-BI-A** (Quino Checkerspot Butterfly-Specific Avoidance, Minimization, and Mitigation Measures which describes the Section 7 consultation process with the USFWS, off-site mitigation for permanent impacts to Quino checkerspot butterfly habitat, avoidance of hilltopping habitat, fencing and signage around occupied Quino checkerspot butterfly habitat, and working in suitable habitat areas when the adult and larval activity is low.

Impact W-B: Permanent Direct Impacts to Habitat for Special-Status Wildlife Species

Permanent direct impacts to raptor foraging and/or nesting habitat on the Reservation are not subject to the mitigation requirements in the County guidelines. Impacts to raptor foraging and/or nesting habitat would be **less than significant** given the large amount of habitat within the region.

Impact W-C: Impacts to Active Nests

The Campo Wind Facilities could impact nesting birds protected under the MBTA. These impacts would be reduced to **less than significant** through **M-BI-B (**Avian-Specific Avoidance, Minimization, and Mitigation Measures).

Impact W-D: Impacts to Wildlife Species from Collisions or Electrocution

The Campo Wind Facilities could impact birds through collisions with the turbines and towers and electrocution from transmission lines (gen-tie). These impacts would be reduced to **less than significant** through implementation of **M-BI-B** (Avian-Specific Avoidance, Minimization, and Mitigation Measures), which recommends implementing APLIC standards, preparing a Bird and Bat Conservation Strategy, and removing carcasses within the development site to reduce increased attraction of carrion-consuming birds of prey to the turbine and tower areas.

Impact W-E: Temporary Indirect Impacts to Special-Status Wildlife Species

Temporary indirect impacts to special-status wildlife species would be reduced to less than significant through **M-BI-C**.

Impact W-F: Permanent Indirect Impacts to Special-Status Wildlife Species

Permanent indirect impacts to special-status wildlife species would be reduced to less than significant through **M-BI-C**.

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7 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

7.1 Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources (County of San Diego 2010a) are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The following guidelines for the determination of significance come directly from the County's guidelines (County of San Diego 2010a):

Guideline 4.2: The project would have a substantial adverse effect on riparian habitat or another sensitive natural community identified in local or regional plans, policies, regulations, or by CDFG [now CDFW] or USFWS.

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 [County of San Diego 2010a] excluding those without a mitigation ratio) on or off the project area. This Guideline would not apply to small remnant pockets of habitat that have a demonstrated limited biological value. No *de minimus* standard is specified under which an impact would not be significant; however, minor impacts to native or naturalized habitat that is providing essentially no biological habitat or wildlife value can be evaluated on a case-by-case basis to determine whether the projected impact may be less than significant. For example, an impact to native or naturalized upland habitat under 0.1 acres in an existing urban setting may be considered less than significant (depending on a number of factors). An evaluation of this type should consider factors including, but not limited to, type of habitat, relative presence or potential for sensitive species, relative connectivity with other native habitat, wildlife species and activity in the project vicinity, and current degree of urbanization and edge effects in project vicinity, etc. Just because a particular habitat area is isolated, for example, does not necessarily mean that impacts to the area would not be significant (e.g., vernal pools). An area that is disturbed or partially developed may provide a habitat "island" that would serve as a functional refuge area "stepping stone" or "archipelago" for migratory species.

B. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by U.S. Army Corps of Engineers (USACE), California Department of Fish and Game (CDFG [now CDFW]), and the County of San Diego: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity, and abundance.

C. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of 3 feet or more from historically low groundwater levels.

D. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing undeveloped lands or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term. The following issues should be addressed in determining the significance of indirect impacts: increasing human access; increasing predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown by the best available science to adversely affect the functioning of sensitive habitats.

E. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands. If the project is subject to the Resource Protection Ordinance (RPO), buffers of a minimum of 50 feet and a maximum of 200 feet to protect wetlands are required based on the best available science available to the County at the time of adoption of the ordinance. The following examples provide guidance on determining appropriate buffer widths:

- A 50-foot wetland buffer would be appropriate for lower quality RPO-wetlands where the wetland has been assessed to have low physical and chemical functions, vegetation is not dominated by hydrophytes, soils are not highly erosive, and slopes do not exceed 25%.
- A wetland buffer of 50 to 100 feet is appropriate for moderate- to high-quality RPO-wetlands that support a predominance of hydrophytic vegetation or wetlands within steep slope areas (greater than 25%) with highly erosive soils. Within the 50- to 100-foot range, wider buffers are

appropriate where wetlands connect upstream and downstream, where the wetlands serve as a local wildlife corridor, or where the adjacent land use(s) would result in substantial edge effects that could not be mitigated.

- Wetland buffers of 100 to 200 feet are appropriate for RPO-wetlands within regional wildlife corridors or wetlands that support significant populations of wetland-associated sensitive species, or where stream meander, erosion, or other physical factors indicate a wider buffer is necessary to preserve wildlife habitat.
- Buffering of greater than 200 feet may be necessary when an RPO-wetland is within a regional corridor or supports significant populations of wetland-associated sensitive species and lies adjacent to land use(s) that could result in a high degree of edge effects within the buffer. Although the RPO stipulates a maximum of 200 feet for RPO-wetland buffers, actions may be subject to other laws and regulations (such as the Endangered Species Act) that require greater wetland buffer widths.

7.2 Analysis of Project Effects

7.2.1 Project Effects Relevant to Guideline 4.2.A (Impacts to Sensitive Habitat)

Boulder Brush Facilities

Impact V-1: Temporary Direct Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

Temporary direct impacts to sensitive riparian and upland vegetation communities within and outside of the development footprint would primarily result from construction activities. Temporary impacts would occur in conjunction with road grading where temporary impacts extend outside the permanent footprint, gen-tie pole installation, a laydown yard needed for installation of the gen-tie poles, a parking area during construction, and FMZs associated with the gen-tie line pole, the high-voltage substation, and the switchyard. Temporary direct impacts associated with the development footprint are considered permanent and mitigated through off-site habitat conservation (see **Impact V-2**). Clearing, trampling, or grading of sensitive vegetation communities outside designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to sensitive vegetation communities on site would be significant, absent mitigation (**Impact V-1**). However, these temporary, direct impacts would be mitigated to less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or

fencing), **M-BI-4** (SWPPP), **M-BI-5** (habitat preservation), **M-BI-7** (restoration of temporary impacts), and **M-BI-16** (federal and state agency permits).

Impact V-2: Permanent Direct Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

Permanent direct impacts to sensitive riparian and upland vegetation communities are analyzed in Section 5.1.1.2. As noted above in **Impact V-1**, there are temporary direct impacts to vegetation. While these areas would be replanted, they will not be managed as part of a long-term management or monitoring plan, and therefore, are considered permanent impacts for mitigation requirement purposes. The Boulder Brush Facilities would cause the direct loss of 122.6 acres of sensitive vegetation communities (uplands and riparian) and 7.3 acre of oak root zone (Table 7-1, Vegetation Communities and Land Cover Types within the Development Footprint Mitigation Requirements) (**Impact V-2**).

Table 7-1
Vegetation Communities and Land Cover Types Boulder Brush Facilities Impacts and Mitigation Requirements

General Vegetation Community/Land Cover Category	Vegetation Type (Holland/Oberbauer Code[a])	Impacts (Acres)	Mitigation Ratio	Mitigation Requirements (Acres)
Disturbed and Developed Areas (10000)	Disturbed Habitat (11300)	8.0	—	0
	Urban/Developed (12000)	0.1	—	*0*
	Disturbed and Developed Areas Subtotal	*8.1*	—	*0*
Scrub and Chaparral (30000)	Montane buckwheat scrub (32800)[b]	17.0	1:1	17.0
	Big Sagebrush Scrub (35210)[b]	9.2	2:1	18.4
	Granitic Northern Mixed Chaparral (37131)[b]	33.5	0.5:1	16.8
	Granitic Chamise Chaparral (37210)[b]	3.6	0.5:1	1.8
	Red Shank Chaparral (37300)[b]	18.4	1:1	18.4
	Semi-Desert Chaparral (37400)[b]	31.1	1:1	31.1
	Scrub and Chaparral Subtotal[c]	*112.8*	—	*103.5*
Grasslands, Vernal Pools, Meadows, and other Herb Communities (40000)	Wildflower Field (42300)[b]	3.7	3:1	11.1
Grasslands, Vernal Pools, Meadows, and other Herb Communities Subtotal		*3.7*	—	*11.1*
Bog and Marsh (50000)	Emergent Wetland (52440)[b]	0.2	3:1	0.6
	Bog and Marsh Subtotal[c]	*0.2*	—	*0.6*
Riparian and Bottomland Habitat (60000)	Southern Arroyo Willow Riparian Forest (61320)[b]	0.4	3:1	1.1[d]
	Riparian and Bottomland Habitat Subtotal[c]	*0.4*	—	*1.1*

Table 7-1
Vegetation Communities and Land Cover Types Boulder Brush Facilities Impacts and Mitigation Requirements

General Vegetation Community/Land Cover Category	Vegetation Type (Holland/Oberbauer Code[a])	Impacts (Acres)	Mitigation Ratio	Mitigation Requirements (Acres)
Woodland (70000)	Coast Live Oak Woodland (71160)[b]	5.5	3:1	16.5
	Open Coast Live Oak Woodland (71161)[b]	0.1	3:1	0.3
	Woodland Subtotal[c]	*5.6*	—	*16.8*
Waters of the United States/State	Unvegetated Stream Channel	0.1[e]	1:1	0.1
	Waters of the United States/State Subtotal	*0.1*	—	*0.1*
Total Impacts to Sensitive Upland and Riparian and Required Mitigation[c]		122.6	—	133.1
	Oak Root Zone	*7.3*	*3:1*	*21.9*
	Total[c]	122.6[f]	—	155.1

[a] Holland (1986) as modified by Oberbauer et al. (2008).
[b] Considered special status by the County (County of San Diego 2010a).
[c] Totals may not sum due to rounding.
[d] Per County guidelines, mitigation will include a minimum 1:1 creation component, while restoration/enhancement of existing wetlands may be used to make up the remaining requirements for a total 3:1 ratio
[e] Impacts to unvegetated stream channel does not include 0.30 acres of temporary impacts which will be restored following project construction (see Table 5-1).
[f] Since the oak root zone is an overlay, it is not included in the impacts total. However, separate mitigation requirements apply to the oak root zone; therefore it is included in the mitigation requirements.

M-BI-5 (habitat preservation) and **M-BI-16** (federal and state agency permits requiring no net loss of resources), described in Section 6.4.1, would mitigate for this impact through off-site habitat preservation and agency permitting requiring no net loss of jurisdictional aquatic resources. With implementation of these measures, potentially significant impacts to sensitive vegetation communities as a result of the Boulder Brush Facilities would be mitigated to **less than significant**.

Campo Wind Facilities

Impact V-A: Permanent Direct Impacts to Sensitive Vegetation Communities within the Campo Corridor

The Campo Wind Facilities would result in impacts to 789.3 acres of vegetation communities and land covers (Table 5-2). Of those, approximately 740.5 acres are considered "sensitive vegetation communities" by the County. Impacts to vegetation communities or land covers on the Reservation are not subject to the mitigation requirements in the County guidelines. Therefore, mitigation is not proposed. Permanent direct impacts to sensitive vegetation communities would be **significant and unavoidable**.

7.2.2 Project Effects Relevant to Guideline 4.2.B (Impacts to Wetlands and Riparian Habitats)

Any activity resulting from construction activities, which result in an adverse change to jurisdictional aquatic resources (i.e., wetlands and riparian habitat under the jurisdiction of USACE, CDFW and/or County), would be significant. As stated in Guideline 4.2.B, an activity is defined as: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity, and abundance.

Boulder Brush Facilities

Impact JAR-1: Temporary Direct Impacts to Jurisdictional Aquatic Resources within the Boulder Brush Corridor

Temporary direct impacts to jurisdictional aquatic resources would primarily result from construction activities. Temporary impacts to jurisdictional aquatic resources total 0.70 acres (see Table 5-8). Similar to vegetation impacts, temporary direct impacts to wetland or riparian areas are considered permanent and mitigated through off-site habitat conservation (see **Impact JAR-2**); however, temporary impacts to non-wetland waters/unvegetated stream channels will be re-contoured to pre-Project conditions. Clearing, trampling, or grading of jurisdictional aquatic resources outside of designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to jurisdictional aquatic resources within the Boulder Brush Corridor would be significant, absent mitigation (**Impact JAR-1**).

Temporary impacts would be mitigated to a level below significance through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or fencing), **M-BI-4** (SWPPP), **M-BI-7** (restoration of temporary impacts), and **M-BI-16** (federal and state agency permits). Additionally, **M-BI-5** will provide off-site habitat mitigation for temporary impacts. These mitigation measures would prevent and document that construction would not cause additional impacts outside of the development footprint, restore hydrology as part of erosion control, and require permits from the appropriate federal and state agencies relating to impacting jurisdictional aquatic resources. The permits, in conjunction with agency oversight, would ensure that adequate mitigation, such as the restoration of temporary impacts to jurisdiction aquatic features, is implemented. The above mitigation measures are described in Sections 6.4.1 and 7.4.1

Impact JAR-2: Permanent Direct Impacts to Jurisdictional Aquatic Resources within Boulder Brush Corridor

The Boulder Brush Facilities would permanently affect 0.28 acres of regulated jurisdictional aquatic resources, as summarized in Table 5-8 (**Impact JAR-2**) (Figure 5-1 series; Table 5-4). As noted above in **Impact JAR-1**, there are temporary direct impacts to wetland or riparian habitat. Permanent, direct impacts would be mitigated to less than significant through implementation of **M-BI-5** (habitat preservation) and **M-BI-16** (federal and state agency permits). Implementation of **M-BI-5** and **M-BI-16** ensures that the Project applicant provide off-site habitat preservation obtain the required permits from the appropriate federal and state agencies relating to impacting jurisdictional aquatic resources. These permits would require that the Boulder Brush Facilities have a no-net loss of jurisdictional aquatic resources (i.e., wetlands and non-wetland waters). Permanent direct impacts to jurisdictional aquatic resources would be **less than significant** with implementation of these mitigation measures. The full text of the mitigation measures is presented in Sections 6.4.1 and 7.4.1 of this Report.

Impact JAR-3: Temporary Indirect Impacts to Jurisdictional Aquatic Resources within the Boulder Brush Corridor

Potential temporary indirect impacts to jurisdictional aquatic resources in the Boulder Brush Corridor would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides) (**Impact JAR-3**). Potential temporary indirect impacts that could affect all the jurisdictional aquatic resources that occur adjacent to development are described in Section 5.4.

Absent mitigation, potential temporary indirect impacts to jurisdictional aquatic resources that occur within the Boulder Brush Corridor would be significant. **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or fencing), **M-BI-4** (SWPPP), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), and **M-BI-16** (federal and state agency permits) would mitigate these impacts to less than significant. The measures would mitigate for this impact through implementation of construction-related measures to reduce impacts outside of the development footprint, implementation of a SWPPP, implementation of erosion and runoff control measures, prevention of chemical spills, and implementation of federal and state agency permit requirements. Temporary indirect impacts to jurisdictional aquatic resources would be **less than significant** with implementation of these mitigation measures. The full text of these mitigation measures is presented in Sections 6.4.1 and 7.4.1 of this Report.

Impact JAR-4: Permanent Indirect Impacts to Jurisdictional Aquatic Resources within the Boulder Brush Corridor

Permanent indirect impacts could result from the proximity of the Boulder Brush Facilities to jurisdictional aquatic resources after construction generation of fugitive dust, chemical pollutants, non-native invasive species, and alteration of the natural fire regime (**Impact JAR-4**). Each of these potential indirect impacts is discussed in Section 5.4. Absent mitigation, potential permanent indirect impacts to jurisdictional aquatic resources that occur within the Boulder Brush Corridor would be significant. **M-BI-4** (SWPPP), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), **M-BI-13** (prevention of invasive plant species), **M-BI-14** (fire protection), and **M-BI-16** (federal and state agency permits) would mitigate for these impacts. These measures would mitigate for this impact through construction-related measures to reduce impacts outside of the development footprint, SWPPP implementation, erosion and runoff control measures, minimization of release of exotic plants and animals, implementation of a Fire Protection Plan, prevention of chemical spills, and implementation of federal and state agency permit requirements. With implementation of these mitigation measures, the permanent direct impacts to jurisdictional aquatic resources would be **less than significant**. The full text of these mitigation measures is presented in Section 6.4.1 and 7.4.1 of this Report.

Campo Wind Facilities

Impact JAR-A: Permanent Direct Impacts to Jurisdictional Aquatic Resources within the Campo Corridor

The Campo Wind Facilities would permanently affect 1.13 acres (8,839 linear feet) of ephemeral non-wetland waters, less than 0.00 acre (199 linear feet) of intermittent non-wetland waters, and 0.67 acres of wetlands (**Impact JAR-A**) (Figure 5-2 series; Table 5-9). To the extent feasible, Project features have been sited to avoid potential jurisdictional waters of the United States. However, potential permanent impacts resulting from new access road (unpaved) construction are unavoidable. While considered a permanent impact, construction of these unpaved roads across underdeveloped ephemeral drainage features would not affect the overall functions (e.g., volume, velocity, and historical direction of surface water) or values (e.g., aesthetics, flood control, and water quality) of these ephemeral drainages because the roads will be at grade to allow for water to continue flowing downstream.

These permanent direct impacts will be reduced to less than significant through **M-BI-D**, which includes the Jurisdictional Waters and Wetlands-Specific Avoidance, Minimization, and Mitigation Measures. The full text of these mitigation measures is presented in Section 7.4.2 of this Report.

Impact JAR-B: Temporary Indirect Impacts to Jurisdictional Aquatic Resources within the Campo Corridor

Potential temporary indirect impacts to jurisdictional aquatic resources in the Campo Corridor would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides) (**Impact JAR-B**). Potential temporary indirect impacts that could affect all the jurisdictional aquatic resources that occur adjacent to development are described in Section 5.4.

The incorporation of the BMPs outlined in Table 5-3 and implementation of **M-BI-C**, General Avoidance and Minimization Measures, and **M-BI-D**, Jurisdictional Waters and Wetlands-Specific Avoidance, Minimization, and Mitigation Measures, would reduce the impacts to **less than significant**. The full text of the mitigation measure is presented in Sections 6.4.2 and 7.4.2 of this Report.

Impact JAR-C: Permanent Indirect Impacts to Jurisdictional Aquatic Resources within the Campo Corridor

Permanent indirect impacts could result from the proximity of the Project to jurisdictional aquatic resources after construction generation of fugitive dust, chemical pollutants, non-native invasive species, and alteration of the natural fire regime (**Impact JAR-C**). Each of these potential indirect impacts is discussed in Section 5.4. Absent mitigation, potential permanent indirect impacts to jurisdictional aquatic resources that occur within the Campo Corridor would be significant.

The incorporation of the BMPs outlined in Table 5-3 and **M-BI-C**, General Avoidance and Minimization Measures, and **M-BI-D**, Jurisdictional Waters and Wetlands-Specific Avoidance, Minimization, and Mitigation Measures, would reduce the impacts to **less than significant**. The full text of the mitigation measure is presented in Sections 6.4.2 and 7.4.2 of this Report.

7.2.3 Project Effects Relevant to Guideline 4.2.C (Impacts to Groundwater Table)

Approximately 50 acre-feet (AF) of water would be used to construct the Boulder Brush Facilities. Up to 123 AF of water would be used to construct the Campo Wind Facilities. The Jacumba Community Service District (JCSD) or Padre Dam Municipal Water District (PDMWD) have capacity to support these temporary water needs. Additionally, the Boulder Brush Facilities would use up less than acre-foot of groundwater from an on-site well during this time, and none during the operation of the Project. Decommissioning of the Project would require less activity and reduced water demand from JCSD or PDMWD compared to construction and would not therefore

be expected to exceed capacity for temporary needs. Therefore, the Project would not significantly impact groundwater or groundwater-dependent habitat.

7.2.4 Project Effects Relevant to Guideline 4.2.D (Indirect Impacts to Sensitive Habitat)

Boulder Brush Facilities

Impact V-3: Temporary Indirect Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

Potential temporary indirect impacts to sensitive vegetation communities in the Boulder Brush Corridor would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants, including herbicides as described in detail in Section 5.1.2.1 (**Impact V-3**). Absent mitigation, potential temporary indirect impacts to sensitive vegetation communities that occur within the Boulder Brush Corridor would be significant. **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or fencing), **M-BI-4** (SWPPP), **M-BI-7** (replanting temporarily impacts areas), **M-BI-10** (fugitive dust control), **M-BI-11** (erosion and runoff control), and **M-BI-12** (regulation of chemical pollutants) would mitigate these impacts to less than significant. The measures would mitigate for this impact through implementation of construction-related measures to reduce impacts outside of the development footprint, implementation of a SWPPP, implementation of erosion and runoff control measures, prevention of chemical spills, and implementation of federal and state agency permit requirements. With implementation of these mitigation measures, temporary indirect impacts to sensitive vegetation communities would be **less than significant**. The full text of these mitigation measures is presented in Section 6.4.1 and 7.4.1.

Impact V-4: Permanent Indirect Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

As described in Section 5.1.2.2, permanent indirect impacts could result from the proximity of the Boulder Brush Facilities to sensitive vegetation communities after construction (e.g., maintenance of roads, and clearance around gen-tie poles) (Impact V-4). Permanent indirect impacts that could affect sensitive vegetation communities include generation of fugitive dust, chemical pollutants, non-native invasive species, and alteration of the natural fire regime. Absent mitigation, potential permanent indirect impacts to sensitive vegetation communities that occur within the Boulder Brush Corridor would be significant. **M-BI-4** (SWPPP), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), **M-BI-13** (prevention of invasive plant species), **M-**

BI-14 (fire protection) and **M-BI-16** (federal and state agency permits) would mitigate for these impacts. These measures would mitigate for this impact through construction-related measures to reduce impacts outside of the development footprint, SWPPP implementation, erosion and runoff control measures, minimization of release of exotic plants and animals, implementation of a Fire Protection Plan, and prevention of chemical spills. With implementation of these mitigation measures, permanent indirect impacts to sensitive vegetation communities would be less than significant. The full text of these mitigation measures is presented in Section 6.4.1 and 7.4.1.

Campo Wind Facilities

Impact V-B: Temporary Indirect Impacts to Sensitive Vegetation Communities within the Campo Corridor

Potential temporary indirect impacts to sensitive vegetation communities in the Campo Corridor would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides) (**Impact V-B**). Sensitive vegetation communities that could occur within the Campo Corridor, but outside of the development footprint, could be impacted by potential temporary indirect impacts such as those previously listed (see descriptions in Section 5.1). Absent mitigation, these impacts would be significant. Implementation of the BMPs outlined in Table 5-3 and **M-BI-C** would reduce the impacts to **less than significant**. The full text of these mitigation measures is presented in Section 6.4.2.

Impact V-C: Permanent Indirect Impacts to Sensitive Vegetation Communities within the Campo Corridor

Permanent indirect impacts could result from the proximity of the development footprint to sensitive vegetation communities after construction. Permanent indirect impacts that could affect sensitive vegetation communities include generation of fugitive dust, unintentional spillover or drift of chemical pollutants, non-native invasive species, and alteration of the natural fire regime (**Impact V-C**). Each of these potential indirect impacts is discussed in Section 5.1. Sensitive vegetation communities that may occur at the edge of the development footprint could be impacted by permanent indirect impacts such as those previously listed. Absent mitigation, these impacts would be significant. Implementation of the BMPs outlined in Table 5-3 and **M-BI-C** would reduce the impacts to **less than significant**. The full text of these mitigation measures is presented in Section 6.4.2.

7.2.5 Project Effects Relevant to Guideline 4.2.E (Resource Protection Ordinance Buffers)

Boulder Brush Facilities

Impact V-5: Permanent Direct Impacts to RPO Wetland and Wetland Buffer within the Boulder Brush Corridor

There are RPO wetlands along and within Tule Creek and Ribbonwood Road (Table 7-2). The construction of the Boulder Brush Facilities would require use of the existing disturbed area that bisects the RPO wetlands and wetland buffer associated with Tule Creek; however, the road would need to be widened to 25 feet in order to accommodate construction equipment, resulting in permanent impacts to 0.09 acres of RPO wetland/wetland buffer. The road would remain unpaved. Additional improvements are needed along Ribbonwood Road, which would permanently impact 0.31 acres of RPO wetland/wetland buffer. There are temporary impacts associated with each of these road improvements, totaling 0.90 acres of RPO wetland/wetland buffer. An additional temporary road is proposed in the northern portion of the Tule Creek floodplain. This temporary road results in approximately 0.27 acres of temporary impacts to RPO wetland/wetland buffer.

Section 86.604 of the RPO provides the following list of permitted uses within wetlands and wetland buffers [original numbering retained] (County of San Diego 2012):

> (5) Crossings of wetlands for roads, driveways or trails/pathways dedicated and improved to the limitations and standards under the County Trails Program, that are necessary to access adjacent lands, when all of the following conditions are met:
>
> (aa) There is no feasible alternative that avoids the wetland;
>
> (bb) The crossings are limited to the minimum number feasible;
>
> (cc) The crossings are located and designed in such a way as to cause the least impact to environmental resources, minimize impacts to sensitive species and prevent barriers to wildlife movement (e.g., crossing widths shall be the minimum feasible and wetlands shall be bridged where feasible);
>
> (dd) The least-damaging construction methods are utilized (e.g., staging areas shall be located outside of sensitive areas, work shall not be performed during the sensitive avian breeding season, noise attenuation measures shall be included and hours of operation shall be limited so as to comply with all applicable ordinances and to avoid impacts to sensitive resources);

(ee) The applicant shall prepare an analysis of whether the crossing could feasibly serve adjoining properties and thereby result in minimizing the number of additional crossings required by adjacent development; and

(ff) There must be no net loss of wetlands and any impacts to wetlands shall be mitigated at a minimum ratio of 3:1 (this shall include a minimum 1:1 creation component, while restoration/enhancement of existing wetlands may be used to make up the remaining requirements for a total 3:1 ratio).

The Boulder Brush Facilities would involve use of an existing unpaved access road to cross over the middle segment of Tule Creek to the western side of the Boulder Brush Corridor. This is the only available access road to this portion of the Boulder Brush Facilities. This crossing would need to be improved to accommodate the necessary construction equipment via upgrades to the roadway (i.e., widening to 25 feet) and installation of a larger culvert to maintain flows beneath the roadway. Improvements to Ribbonwood Road would require minimal impacts to the RPO wetland buffer along the southern portion of Tule Creek. Additionally, a 12-foot wide temporary construction access road is required in the northern segment of Tule Creek for hauling equipment between the poles. This road will be utilized only during construction to drive a pull truck across it to string cables, and will not be a permanent access road. Vegetation in this area will be trimmed or disked and no gravel or pavement will be placed within the creek. Following Project construction, the area will be re-countered and replanted to restore Tule Creek to pre-Project conditions. However, for habitat mitigation purposes, these impacts are considered permanent and mitigated through habitat conservation.

All temporary staging for the proposed Project would be outside of the RPO wetlands, and impacts to these resources would be mitigated through **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or fencing), **M-BI-4** (SWPPP), **M-BI-11** (erosion and runoff control), and **M-BI-12** (regulation of chemical pollutants).

There are permanent impacts to RPO wetlands and wetland buffers, as summarized in Table 7-2.

Table 7-2
Impacts to Resource Protection Ordinance Wetlands and Wetland Buffers within the Boulder Brush Facilities Development Footprint

RPO Wetland or Wetland Buffer	Vegetation Type	Permanent Impacts (Acres)	Temporary Impacts (Acres)	Total Impacts
RPO Wetlands	Emergent Wetland	--	0.20	0.20
	Southern Arroyo Willow Riparian Forest	0.15	0.20	0.35
	Unvegetated Stream Channel - Intermittent	0.01	0.09	0.10
	RPO Wetland Impact Subtotal	*0.17*	*0.49*	*0.66*
RPO Wetland Buffers	Big Sagebrush Scrub	0.05	0.40	0.45
	Coast Live Oak Woodland	--	0.04	0.04
	Disturbed Habitat	0.18	0.17	0.35
	Semi-Desert Chaparral	--	0.03	0.03
	Wildflower Field	--	0.01	0.01
	Unvegetated Stream Channel - Ephemeral	--	0.05	0.05
	RPO Wetland Buffer Impact Subtotal	*0.23*	*0.68*	*0.92*
	Grand Total	0.40	1.17	1.57

Construction would result in impacts to 0.17 acres of RPO wetlands, and these impacts would be mitigated at a 3:1 ratio, as required by the RPO (**M-BI-5**). Permanent impacts to 0.23 acres of RPO wetland buffers will be mitigated through habitat preservation (**M-BI-5**). Temporary impacts to 0.09 acres of intermittent stream channel and 0.05 acres of ephemeral stream channels will be restored to pre-Project conditions (**M-BI-7**). The remaining temporary impacts to RPO wetland and wetland buffer would will be mitigated through habitat preservation (**M-BI-5**). In addition, these areas are subject to federal and state agency permitting (**M-BI-16**). With implementation of these measures, impacts to RPO wetlands would be **less than significant**. The full text of these mitigation measures is presented in Sections 6.4.1 and 7.4.1 of this Report.

Campo Wind Facilities

Impact V-D: Permanent Direct Impacts to RPO Wetland and Wetland Buffer within the Campo Corridor

The Campo Wind Facilities On-Reservation is not subject to the County RPO. It is not known whether there are biological resources subject to that County's RPO within the Campo Corridor.

Therefore, no mitigation measures are proposed. Impacts to such resources, if they exist, are considered to be **significant and unavoidable.**

7.3 Cumulative Impact Analysis

Cumulative impacts are discussed in the EIR prepared for the Project. Please refer to the Section 2.3, Biological Resources, of the EIR for an analysis of cumulative impacts. For purposes of assessing cumulative impacts related to the Project, an appropriate geographic scope would include the Peninsular Ranges of the California floristic province, as defined by the Jepson Flora project (2018).

7.4 Mitigation Measures and Design Considerations

7.4.1 Boulder Brush Facilities

Mitigation measures M-BI-1 through M-BI-15 are described in Section 6.4.1 above.

M-BI-16 **Federal and State Agency Permits.** Prior to impacts occurring to U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) (collectively, the Resource Agencies) jurisdictional aquatic resources, the Project applicant or its designee shall obtain the following permits: USACE 404 permit or authorization under a Nationwide Permit, RWQCB 401 Water Quality Certification, and California Fish and Game Code 1602 Streambed Alteration Agreement. To mitigate for impacts to jurisdictional waters, the applicant may purchase mitigation bank credits, including establishment, re-establishment, enhancement, or rehabilitation. Alternatively, a suitable mitigation site shall be selected and approved by the Resource Agencies during the permitting process. Either of these mitigation options would result in no net loss of jurisdictional aquatic resources. A functional assessment, such as the California Rapid Assessment Method (CRAM), of the jurisdictional areas proposed to be impacted and preserved at the mitigation site shall be conducted. The purpose of the functional assessment is to evaluate the existing functions and services within the jurisdictional drainages and ensure that the functions and values of the jurisdictional areas lost are replaced at the mitigation site. The precise mitigation ratio shall depend on the functions and values of the mitigation site and any restoration activities that may be conducted to further increase the functions and values of the mitigation site.

Impacts to Resource Protection Ordinance wetlands (with the exception of the intermittent channel) shall be mitigated at a minimum of ratio 3:1, with a minimum of 1:1 impact-to-creation ratio; restoration/enhancement of existing wetlands may be used to make up the remaining requirements. This would result in no net loss of County RPO wetlands.

If mitigation is proposed within the off-site mitigation area, then a Wetlands Mitigation and Monitoring Plan shall be prepared. Prior to issuance of land development permits, including clearing, grubbing, and grading permits for activities that would impact jurisdictional aquatic resources, the Project applicant shall prepare a Wetlands Mitigation and Monitoring Plan to the satisfaction of the Director of Planning & Development Services (or his/her designee). The Conceptual Wetlands Mitigation and Monitoring Plan shall, at a minimum, prescribe site preparation, planting, irrigation, and a 5-year maintenance and monitoring program with qualitative and quantitative evaluation of the revegetation effort and specific performance criteria to determine successful revegetation.

7.4.2 Campo Wind Facilities

Mitigation measures M-BI-A through M-BI-C are described in Section 6.4.2 above.

M-BI-D **Jurisdictional Waters and Wetlands Compensation.** Temporary and permanent impacts to jurisdictional waters and wetlands shall be mitigated per the Project's federal Clean Water Act permit conditions. Temporary impacts shall be restored in place to pre-activity functions; permanent impacts shall be mitigated through a U.S. Army Corps of Engineers-approved mitigation bank and/or in-lieu fee program. Either of these mitigation options would result in no net loss of jurisdictional aquatic resources. A functional assessment, such as the California Rapid Assessment Method, of the jurisdictional areas proposed to be impacted and preserved at the mitigation site shall be conducted. The purpose of the functional assessment is to evaluate the existing functions and services within the jurisdictional drainages and ensure that the functions and values of the jurisdictional areas lost are replaced at the mitigation site. The precise mitigation ratio shall depend on the functions and values of the mitigation site and any restoration activities that may be conducted to further increase the functions and values of the mitigation site. Refer to MM-BIO-1 for success criteria for revegetation areas.

7.5 Conclusions

Boulder Brush Facilities

Impact V-1: Temporary Direct Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

The significant temporary direct impacts to sensitive vegetation communities would be reduced to less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging/fencing), **M-BI-4** (SWPPP), **M-BI-5** (habitat preservation), **M-BI-7** (restoration of temporary impacts), and **M-BI-16** (federal and state agency permits; see County Guideline 4.2.B), which would mitigate for this impact through construction-related measures to reduce impacts outside of the development footprint, restoration of temporary impacted areas, and implementation of agency permitting requirements for impacts to jurisdictional aquatic resources.

Impact V-2: Permanent Direct Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

The significant permanent, direct impact to sensitive vegetation communities within the development footprint (Table 5-1) would be reduced to less than significant through implementation of **M-BI-5** (habitat preservation), and **M-BI-16** (federal and state agency permits for jurisdictional aquatic resources, see County Guideline 4.2.B). These measures would mitigate for this impact through habitat preservation and, construction-related measures to reduce impacts outside of the development footprint.

Impact V-3: Temporary Indirect Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

Significant indirect impacts to sensitive vegetation communities would be reduced to less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or fencing), **M-BI-4** (SWPPP), **M-BI-7** (replanting temporarily impacts areas), **M-BI-10** (fugitive dust control), **M-BI-11** (erosion and runoff control), and **M-BI-12** (regulation of chemical pollutants).

Impact V-4: Permanent Indirect Impacts to Sensitive Vegetation Communities within the Boulder Brush Corridor

Significant permanent indirect impacts to sensitive vegetation communities would be reduced to less than significant through implementation of **M-BI-4** (SWPPP), **M-BI-11** (erosion and runoff

control), **M-BI-12** (regulation of chemical pollutants), **M-BI-13** (prevention of invasive plant species), **M-BI-14** (fire protection), and **M-BI-16** (federal and state agency permits).

Impact V-5: Permanent Direct Impacts to RPO Wetland and Wetland Buffer within the Boulder Brush Corridor

The significant permanent, direct impacts to RPO wetland and wetland buffer (Table 7-2) would be reduced to less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging/fencing), **M-BI-4** (SWPPP), **M-BI-5** (habitat preservation), **M-BI-7** (restoration of temporary impacts), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), and **M-BI-16** (federal and state agency permits).

Impact JAR-1: Temporary Direct Impacts to Jurisdictional Aquatic Resources within the Boulder Brush Corridor

Significant temporary direct impacts to jurisdictional aquatic resources would be reduced to less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging/fencing), **M-BI-4** (SWPPP), **M-BI-5** (habitat preservation), **M-BI-7** (restoration of temporary impacts), and **M-BI-16** (federal and state agency permits).

Impact JAR-2: Permanent Direct Impacts to Jurisdictional Aquatic Resources within the Boulder Brush Corridor

Significant permanent direct impacts to jurisdictional aquatic resources would be reduced to less than significant through implementation of **M-BI-5** (habitat preservation) and **M-BI-16** (federal and state agency permits), which would mitigate for this impact through coordination with federal and state agencies to obtain the appropriate permits and approvals for impacts to jurisdictional aquatic resources and implementation of measures that would reduce impacts to jurisdictional aquatic resources (i.e., restoration of temporary impacts and purchase of mitigation credits to offset impacts).

Impact JAR-3: Temporary Indirect Impacts to Jurisdictional Aquatic Resources within the Boulder Brush Corridor

The significant temporary indirect impacts to jurisdictional aquatic resources would be reduced to less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging/fencing), **M-BI-4** (SWPPP), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), and **M-BI-16** (federal and state agency permits).

Impact JAR-4: Permanent Indirect Impacts to Jurisdictional Aquatic Resources within the Boulder Brush Corridor

The significant permanent indirect impacts to jurisdictional aquatic resources would be reduced to less than significant through implementation of **M-BI-4** (SWPPP), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), **M-BI-13** (prevention of invasive plant species), **M-BI-14** (fire protection), and **M-BI-16** (federal and state agency permits).

Campo Wind Facilities

Impact V-A: Permanent Direct Impacts to Sensitive Vegetation Communities within the Campo Corridor

The Campo Wind Facilities would result in impacts to 789.3 acres of vegetation communities and land covers (Table 5-2). Of those, approximately 740.5 acres are considered "sensitive vegetation communities" by the County. Impacts to vegetation communities or land covers on the Reservation are not subject to the mitigation requirements in the County guidelines. Therefore, no mitigation measures are proposed. Permanent direct impacts would be **significant and unavoidable**.

Impact V-B: Temporary Indirect Impacts to Sensitive Vegetation Communities within the Campo Corridor

Significant temporary indirect impacts to sensitive vegetation communities would be reduced to less than significant through implementation of the BMPs outlined in Table 5-3 and **M-BI-**C.

Impact V-C: Permanent Indirect Impacts to Sensitive Vegetation Communities within the Campo Corridor

Significant permanent indirect impacts to sensitive vegetation communities would be reduced to less than significant through implementation of the BMPs outlined in Table 5-3 and **M-BI-**C.

Impact V-D: Permanent Direct Impacts to RPO Wetland and Wetland Buffer within the Campo Corridor

The Campo Wind Facilities On-Reservation is not subject to the County RPO. It is not known whether there are biological resources subject to that County's RPO within the Campo Corridor. Therefore, no mitigation measures are proposed. Impacts to such resources, if they exist, are considered to be **significant and unavoidable.**

Impact JAR-A: Permanent Direct Impacts to Jurisdictional Aquatic Resources within the Campo Corridor

Significant permanent direct impacts to jurisdictional aquatic resources will be reduced to less than significant through **M-BI-D**.

Impact JAR-B: Temporary Indirect Impacts to Jurisdictional Aquatic Resources within the Campo Corridor

The significant temporary indirect impacts to jurisdictional aquatic resources would be reduced to less than significant through implementation of the BMPs outlined in Table 5-3, **M-BI-C**, and **M-BI-D**.

Impact JAR-C: Permanent Indirect Impacts to Jurisdictional Aquatic Resources within the Campo Corridor

The significant permanent indirect impacts to jurisdictional aquatic resources would be reduced to less than significant through implementation of the BMPs outlined in Table 5-3, **M-BI-C**, and **M-BI-D**.

8 JURISDICTIONAL WETLANDS AND WATERWAYS

8.1 Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources (County of San Diego 2010a) are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The following guideline for the determination of significance comes directly from the County's guidelines and refers only to federally protected wetlands (County of San Diego 2010a):

Guideline 4.3: The project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The significance of impacts are determined under County Guidelines 4.2B, C, and E.

8.2 Analysis of Project Effects Relevant to Guideline 4.3 (Federally Protected Wetlands)

Boulder Brush Facilities

As described in Section 7.2, Analysis of Project Effects, the Boulder Brush Facilities would have temporary and permanent direct impacts to jurisdictional aquatic resources, including wetlands, as defined by Section 404 of the Clean Water Act (**Impacts JAR-1** through **JAR-4**). **Impacts JAR-1** through **JAR-4** would be mitigated through **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or fencing), **M-BI-4** (SWPPP), **M-BI-5** (habitat preservation), **M-BI-7** (restoration of temporary impacts), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), **M-BI-13** (prevention of invasive plant species), and **M-BI-16** (federal and state agency permits).

Campo Wind Facilities

As described in Section 7.2, the Campo Wind Facilities would have permanent direct impacts to jurisdictional aquatic resources, including wetlands, as defined by Section 404 of the Clean Water Act (**Impacts JAR-A** through **JAR-C**)**. Impacts JAR-A** through **JAR-C** will be reduced to less than significant through implementation of **M-BI-C** and **M-BI-D**.

8.3 Cumulative Impact Analysis

Cumulative impacts are discussed in the EIR prepared for the Project. Please refer to Section 2.3of the EIR. For purposes of assessing cumulative impacts related to the Project, an appropriate geographic scope would include the Peninsular Ranges of the California floristic province, as defined by the Jepson Flora project (2018).

8.4 Mitigation Measures and Design Considerations

Mitigation measures applicable to County Guideline 4.3 are discussed in Sections 7.4.1 and 7.4.2 of the Report.

8.5 Conclusions

Refer to Section 7.5, Conclusions, for the conclusions related to **Impacts JAR-1** through **JAR-4** for Boulder Brush Facilities and **Impacts JAR-A** through **JAR-C** for Campo Wind Facilities.

9 WILDLIFE MOVEMENT AND NURSERY SITES

9.1 Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources (County of San Diego 2010a) are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The following guidelines for the determination of significance come directly from the County's guidelines (County of San Diego 2010a):

Guideline 4.4: The project would interfere substantially with the movement of a native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

A. The project would impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

B. The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage. For example, if the project proposes roads that cross corridors, fencing that channels wildlife to underpasses located away from interchanges will be required to provide connectivity. Wildlife underpasses shall have dimensions (length, width, height) suitable for passage by the affected species based on a site-specific analysis of wildlife movement. Another example is increased traffic on an existing road that would result in significant road-kill or interference with an existing wildlife corridor/linkage.

C. The project would create artificial wildlife corridors that do not follow natural movement patterns; for example, constraining a corridor for mule deer or mountain lion to an area that is not well-vegetated or that runs along the face of a steep slope instead of through the valley or along the ridgeline.

D. The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels likely to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

E. The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor

width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path. The adequacy of the width shall be based on the biological information for the target species, the quality of the habitat within and adjacent to the corridor, topography, and adjacent land uses. Where there is limited topographic relief, the corridor should be well-vegetated and adequately buffered from adjacent development. Corridors for bobcats, deer, and other large animals should reach rim-to-rim along drainages.

F. The project does not maintain adequate visual continuity (i.e., long lines of site) within wildlife corridors or linkage. For example, development (such as homes or structures) sited along the rim of a corridor could present a visual barrier to wildlife movement. For stepping-stone/archipelago corridors, a project does not maintain visual continuity between habitat patches.

9.2 Analysis of Project Effects

9.2.1 Project Effects Relevant to Guideline 4.4.A (Wildlife Access to Key Habitat Areas)

Boulder Brush Facilities

Impact WLC-1: Temporary Direct Impacts to Habitat Connectivity and Wildlife Corridors

Temporary direct impacts to potential foraging and breeding habitat for species that use the Boulder Brush Corridor would primarily result from construction activities associated with the Boulder Brush Facilities. Clearing, trampling, or grading of foraging and breeding habitat outside designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to foraging and breeding habitat on site would be significant, absent mitigation (**Impact WLC-1**). However, these temporary, direct impacts would be mitigated to less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or fencing), and **M-BI-7** (restoration of temporary impacts), which would mitigate for this impact through construction-related measures to reduce impacts outside of the development footprint and through restoration of temporarily impacted areas. Implementation of these mitigation measures would reduce temporary direct impacts to habitat connectivity and wildlife corridors to **less than significant**. The full text of the mitigation measures is presented in Section 6.4.1 of this Report.

Permanent Direct Impacts

Implementation of the proposed Boulder Brush Facilities is not expected to result in permanent direct impacts to habitat connectivity and wildlife corridors. See Section 5.5.1 for a detailed discussion regarding impacts to habitat connectivity and wildlife corridors. Installation of the Boulder Brush Facilities would result in **less than significant** impacts.

Campo Wind Facilities

Impact WLC-A: Temporary Direct Impacts to Habitat Connectivity and Wildlife Corridors

There are no temporary direct impacts associated with the Campo Wind Facilities. Construction-related impacts to vegetation communities, such as clearing, trampling, or grading of vegetation outside designated construction zones, could occur in the absence of avoidance and mitigation measures, and thus could impede access to important resources. Potential temporary direct impacts to foraging and breeding habitat on site would be significant, absent mitigation (**Impact WLC-A**). However, these temporary, direct impacts would be mitigated to less than significant through implementation of **M-BI-C** (General Avoidance and Minimization Measures). The full text of these mitigation measures is presented in Section 6.4.2 of this Report.

Permanent Direct Impacts

Implementation of the proposed Campo Wind Facilities is not expected to result in permanent direct impacts to habitat connectivity and wildlife corridors. See Section 5.5.1 for a detailed discussion regarding impacts to habitat connectivity and wildlife corridors. Installation of the Campo Wind Facilities would result in **less than significant** impacts.

9.2.2 Project Effects Relevant to Guideline 4.4.B (Connectivity Between Blocks of Habitat)

Boulder Brush Facilities

As stated in Section 5.5.1.2, implementation of the Boulder Brush Facilities is not expected to result in permanent direct impacts to habitat connectivity and wildlife corridors. Although construction of the Boulder Brush Facilities would impact areas where wildlife may generally move through, it is not anticipated to hinder wildlife movement through the surrounding undeveloped landscapes. Additional human activity from occasional O&M activities is not expected to significantly impact wildlife movement throughout the Boulder Brush Corridor. Therefore, installation of the gen-tie poles, high-voltage substation, switchyard, and other

associated facilities is not anticipated to constrain any wildlife movement (either terrestrial) corridor within the region. The Boulder Brush Facilities would have **less-than-significant** direct impacts on connectivity between blocks of habitat.

Campo Wind Facilities

As stated in Section 5.5.2.2, implementation of the Campo Wind Facilities is not expected to result in permanent direct impacts to habitat connectivity and wildlife corridors. Although construction of the Campo Wind Facilities would impact areas where wildlife may generally move through, it is not anticipated to hinder wildlife movement through the surrounding undeveloped landscapes, particularly for terrestrial species. Additional human activity from O&M activities is not expected to significantly impact wildlife movement throughout the Project Site. Therefore, installation of the turbines, towers, gen-tie poles, and other associated features is not anticipated to constrain any wildlife movement (either terrestrial or avian) corridor within the region. The Campo Wind Facilities would have **less-than-significant** direct impacts on connectivity between blocks of habitat.

9.2.3 Project Effects Relevant to Guideline 4.4.C (Creation of Unnatural Movement Corridors)

Boulder Brush Facilities

The Project would not result in the creation of unnatural movement corridors. Wildlife can freely move through the Project Site and would continue to move freely through the site following Project construction, particularly terrestrial species. The towers, gen-tie poles and lines would not create a barrier to ground-based wildlife movement, nor would they constrain a corridor such that natural wildlife movement would be interrupted. Therefore, impacts to terrestrial wildlife movement from the Project would be **less than significant**.

The presence of gen-tie poles and lines would not preclude the use of the Pacific Flyway for avian species, nor would it artificially constrain avian species to a modified or "un-natural" movement corridor. The Project would involve placement of structures and poles within the landscape, which generally not be considered barriers that would interfere with the movement of avian species within and throughout the Project Site. However, there is a potential for collision or electrocution impacts absent mitigation measures. Impacts related to collisions and electrocution from resident or migratory birds and bats are described in Section 6.2.2 as well as below.

Impact W-4: Impacts to Wildlife Species from Collisions and Electrocution

Migrating birds would be at risk for electrocution from the overhead power lines (**Impact W-4**). The Boulder Brush Facilities would ensure that all transmission towers and lines are designed to conform to Avian Power Line Interaction Committee (APLIC) standards (**M-BI-8**). The Boulder Brush Facilities shall implement recommendations by the APLIC (2006), which will protect raptors and other birds from electrocution. These measures are sufficient to protect even the largest birds that may perch or roost on transmission lines or towers from electrocution. Specifically these measures will include guidance on proper pole and crossmember dimensions, phasing, and insulator design and dimensions to preclude wire to wire contact with a goal of providing 150-cm of separation between energized conductors and energized hardware and ground wire. In addition, bird diverters or other means to make lines more visible to birds will be installed to help avoid collisions. In addition, the Boulder Brush Facilities will be required to move any dead carcasses which may attract carrion-consuming birds of prey to the Boulder Brush Corridor **(M-BI-9**). Therefore, impacts to wildlife species from collisions and electrocution would be **less than significant** with implementation of mitigation. The full text of these mitigation measures is presented in Section 6.4.1 of this Report.

As described in Section 5.5, potential Project-related impacts to bats related to collision or electrocution would be considered **less than significant**. However, in order to comply with the USFWS Land-Based Wind Energy Guidelines, Tier 4 post-construction studies will be conducted to estimate mortality rates and ensure impacts to individual bats are at a minimum. Similarly, the golden eagle data suggests that the Boulder Brush Corridor and surrounding area (i.e., 10 mile buffer) receives little use by eagles and is not the core territory of any eagles, therefore the chance for collision or electrocution is low and **less than significant**.

Campo Wind Facilities

The Project would not result in the creation of unnatural movement corridors. Wildlife can freely move through the Project Site and would continue to move freely through the site following Project construction, particularly terrestrial species. The turbines, towers, and gen-tie poles and lines would not create a barrier to ground-based wildlife movement, nor would they constrain a corridor such that natural wildlife movement would be interrupted. Therefore, impacts to terrestrial wildlife movement from the Project would be **less than significant**.

The presence of turbines, gen-tie poles, and lines would not preclude the use of the Pacific Flyway for avian species, nor would it artificially constrain avian species to a modified or "un-natural" movement corridor. The Project would involve placement of structures and poles within the landscape which generally not be considered barriers that would interfere with the movement of avian species within and throughout the Project Site. However, there is a potential for collision or electrocution impacts absent mitigation measures. Impacts related to collisions and electrocution from resident or migratory birds are described in Section 6.2.2 as well as below.

Impact W-D: Impacts to Wildlife Species from Collisions and Electrocution

Birds would be at risk for collisions and/or electrocution with the turbines and towers and these impacts would be significant, absent mitigation (**Impact W-D**). **M-BI-B** recommends implementing APLIC standards, preparing a Bird and Bat Conservation Strategy, requires preparation of a BBCS that includes recommended avoidance and minimization measures, monitoring program, and removing carcasses within the development site to reduce increased attraction of carrion-consuming birds of prey to the turbine and tower areas. Therefore, impacts would be **less than significant**. The full text of these mitigation measures is presented in Section 6.4.2 of this Report.

Direct impacts to bats could result in mortality or injury due to collisions at wind turbines. However, potential effects of the Project on the meta-community of bats in the region, including those species known to be susceptible to collision with turbine blades, would be negligible, and **less than significant**.

9.2.4 Project Effects Relevant to Guideline 4.4.D (Noise and Lighting Impacts to Wildlife Corridors)

Boulder Brush Facilities

Impacts WLC-2 and WLC-3: Temporary and Permanent Indirect Impacts to Habitat Connectivity and Wildlife Corridors (Boulder Brush Corridor)

Some localized security-related lighting may be required during construction and/or operation. Lighting would conform to County outdoor lighting requirements and therefore, lighting associated with the Project is not expected to result in significant impacts to wildlife corridors related to lighting. Permanent lighting associated with the Project would consist of the operation and maintenance facility, Federal Aviation Administration lighting on selected turbines, and parking areas. These areas would include security lighting designed to minimize light pollution and preserve dark skies, while enhancing safety, security, and functionality.

Project construction would result in noise and ground vibrations through the use of mechanized equipment and increased traffic. Noise would most likely only be a disturbance to those species that are active during the day, since noise levels are less at night. Most wildlife species, such as cougars and bobcats, that would use the area as a habitat corridor or live-in habitat are nocturnal, and, therefore, would not be impacted by Project construction while foraging and moving at night.

Boulder Brush Facilities implementation and operation would create stationary noise sources (Appendix G to the EIR (*Acoustical Analysis Report for the Campo Wind Project with Boulder Brush Facilities*)). These sources would include the substation and switchyard, gen-tie line, and maintenance and inspection activities. Boulder Brush Facilities would be unmanned and routine O&M would require a single pickup truck visiting the high-voltage substation and switchyard periodically for inspections, as well as maintenance/repair trucks visiting the substation several times a year for equipment maintenance. The Boulder Brush Facilities would feature two 150 kW emergency generators: one at the high-voltage substation and one at the switchyard. The noise from the generators is negligible; for example, at 15,000 feet, the expected one-hour noise exposure level would be less than 10 dBA. Aboveground electrical transmission lines associated with the Boulder Brush Facilities may produce corona during normal operation, but even under "foul" weather conditions that would moisten or wet the conductor surfaces, the resulting noise would only be audible at very close distances and thus not result in an adverse effect. Based on the Caltrans findings and generally low levels of sound emission associated with the Project, long-term noise effects are considered **less than significant**.

Because the Boulder Brush Facilities would be unmanned, increased human activity is not expected to impact wildlife species. No pets are allowed on site. However, there are potential temporary and permanent indirect impacts associated with increased vehicle collisions, predation from exotic species and altering natural drainage (**Impact WLC-2** and **Impact WLC-3**). Implementation of **M-BI-2** (biological monitoring), **M-BI-4** (SWPPP and construction vehicle speed limits), **M-BI-7** (revegetation of temporarily impacted areas) and **M-BI-11** (erosion and runoff control) would mitigate these impacts to **less than significant** because it would restore ephemeral channels to pre-Project contours and ensure the construction site remains trash free and the hydrology is not altered in a way that negatively impacts the drainage. The full text of these mitigation measures is presented in Section 6.4.1 of this Report.

Campo Wind Facilities

Impacts WLC-B and WLC-C: Temporary and Permanent Indirect Impacts to Habitat Connectivity and Wildlife Corridors (Campo Corridor)

Construction-related noise and vibration could occur from equipment used during site preparation and grading, including vegetation clearing, and construction of the Project. Construction noise and vibration levels would vary from hour-to-hour and day-to-day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor. Construction would occur during the day, and no construction is anticipated to take place at night.

No nighttime lighting is proposed for the Campo Wind Facilities during construction (see BMPs listed in Table 5-3). All lighting associated with the operations would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties.

Campo Wind Facilities implementation and operation would create stationary noise sources on the Reservation. These sources would include the wind turbines, O&M Facility, Project collector substation, gen-tie lines, and maintenance and inspection activities. Campo Wind Facilities would employ approximately 10 to 12 full-time employees, generating up to 24 daily two-way trips, 7 days per week. While these activities would increase noise levels immediately adjacent to the access road during vehicle pass-bys, these events would not result in a substantial increase in ambient noise. The O&M facility could result in noise impacts during the summer months when rooftop air-cooled condenser units are used. At peak use, the maximum estimated noise levels produced are less than 48 dBA L_{eq} at approximately 200 feet from the building. The collector substation, which would feature a single 35 kV/230 kV transformer (for purposes of this analysis, a continuous source of noise emission as compared to other ancillary systems and equipment at this site that may only produce noise intermittently). At a source-to-receptor distance of at least 300 feet from this transformer, the expected sound pressure level would be less than 48 dBA L_{eq}. The On-Reservation gen-tie line associated with the Boulder Brush Facilities may produce corona during normal operation, but even under foul weather conditions that would moisten or wet the conductor surfaces, the resulting noise would only be audible at very close distances and thus are considered **less than significant**.

Based on the noise contour modeling in Appendix G to the EIR (*Acoustical Analysis Report for the Campo Wind Project with Boulder Brush Facilities*), the operational noise levels at 60 dBA range from 300 feet to 1,800 feet from the turbine locations, depending on the average wind speed. Based on the Caltrans findings and generally low levels of sound emission associated with the Project, long-term noise effects are considered **less than significant**. Therefore, the operational noise associated with the traffic, O&M facility, substation, and gen-tie line would not result in an adverse noise effect.

While the Campo Wind Facilities will have full-time employees, they will be limited to the O&M Facility building and increased human activity is not expected to occur outside of the building, parking lot and roads; therefore, it would not impact wildlife species. No pets are allowed on site. However, there are potential temporary and permanent indirect impacts associated with increased vehicle collisions, predation from exotic species and altering natural drainage (**Impact WLC-B** and **Impact WLC-C**). Incorporation of the BMPs outlined in Table 5-3 and implementation of **M-BI-C** (General Avoidance and Minimization Measures) would mitigate these impacts to **less than significant** because it would ensure the construction site, provides speed limits for vehicles,

remains trash free and the hydrology is not altered in a way that negatively impacts the drainage. The full text of these mitigation measures is presented in Section 6.4.2 of this Report.

9.2.5 Project Effects Relevant to Guideline 4.4.E (Width of Wildlife Corridors)

Wildlife can move throughout the Project Site, which does not contain defined narrow wildlife corridors; therefore, the development footprints would not further constrain an already narrow corridor. Although the Project would involve placement of structures and poles within the landscape, these features would not be considered barriers that would interfere with the movement of wildlife through the area.

9.2.6 Project Effects Relevant to Guideline 4.4.F (Visual Continuity within Wildlife Corridors)

The Project would not create a barrier to visual continuity within a wildlife corridor or linkage. No structures would be placed along the rim of a corridor that would present a visual barrier to wildlife movement; therefore, this impact is **less than significant**.

9.3 Cumulative Impact Analysis

Cumulative impacts are discussed in the EIR prepared for the Project. Please refer to subsection 2.3.4 of Section 2.3, Biological Resources. For purposes of assessing cumulative impacts related to the Project, an appropriate geographic scope would include the Peninsular Ranges of the California floristic province, as defined by the Jepson Flora project (2018).

9.4 Mitigation Measures and Design Considerations

9.4.1 Boulder Brush Facilities

Mitigation for temporary direct impacts to potential foraging and breeding habitat includes **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or fencing), **M-BI-7** (restoration of temporary impacts), **M-BI-8** (APLIC standards), **M-BI-9** (removal of carcasses), and **M-BI-11** (erosion and runoff control), which are described in Section 6.4, are applicable for the Boulder Brush Facilities.

9.4.2 Campo Wind Facilities

Mitigation for temporary direct impacts to potential foraging and breeding habitat, impacts to wildlife species from collisions and electrocution, and temporary and permanent indirect impacts to habitat connectivity and wildlife corridors includes **M-BI-B** and **M-BI-C**, which are described in Section 6.4.2, are applicable for the Campo Wind Facilities.

9.5 Conclusions

Boulder Brush Facilities

Impact WLC-1: Temporary Direct Impacts to Habitat Connectivity and Wildlife Corridors (Boulder Brush Corridor)

The significant temporary direct impacts to potential habitat connectivity and wildlife corridors from the Boulder Brush Facilities would be reduced to a level that is less than significant through implementation of **M-BI-2**, **M-BI-3**, and **M-BI-7**, which require biological monitoring, temporary construction flagging and/or fencing, and restoration of temporary impacts.

There would be no permanent significant direct impacts to wildlife corridors or habitat linkages as a result of the Project.

Impacts WLC-2 and WLC-3: Temporary and Permanent Indirect Impacts to Habitat Connectivity and Wildlife Corridors (Boulder Brush Corridor)

There are some temporary and permanent indirect impacts to habitat connectivity and wildlife corridors from the Boulder Brush Facilities would be reduced to a level that is less than significant through implementation of **M-BI-2** (biological monitoring), **M-BI-4** (SWPPP), **M-BI-7** (revegetation of temporarily impacted areas) and **M-BI-11** (erosion and runoff control) would mitigate these impacts to **less than significant** because it would restore ephemeral channels to pre-Project contours and ensure the construction site remains trash free and the hydrology is not altered in a way that negatively impacts the drainage.

Impact W-4: Impacts to Wildlife Species from Collisions and Electrocution

Migratory birds could be injured or killed through electrocution from transmission lines (gen-tie). The Boulder Brush Facilities impacts would be reduced to **less than significant** through implementation **M-BI-8** (APLIC standards) and **M-BI-9** (removal of dead carcasses).

Campo Wind Facilities

Impact WLC-A: Temporary Direct Impacts to Habitat Connectivity and Wildlife Corridors (Campo Corridor)

The significant temporary direct impacts to potential habitat connectivity and wildlife corridors from the Campo Wind Facilities would be reduced to a level that is less than significant through implementation of **M-BI-C** (General Avoidance and Minimization Measures).

Impacts WLC-B and WLC-C: Temporary and Permanent Indirect Impacts to Habitat Connectivity and Wildlife Corridors (Campo Corridor)

There are potential temporary and permanent indirect impacts associated with increased predation from exotic species and altering natural drainage (**Impact WLC-B** and **Impact WLC-C**). Incorporation of the BMPs outlined in Table 5-3 and implementation of **M-BI-C** (General Avoidance and Minimization Measures) would mitigate these impacts to **less than significant** because it would ensure the construction site remains trash free and the hydrology is not altered in a way that negatively impacts the drainage.

Impact W-D: Impacts to Wildlife Species from Collisions and Electrocution

The Campo Wind Facilities could impact birds through collisions with the turbines and towers or electrocution with transmission lines (gen-tie). These impacts would be significant, absent mitigation (**Impact W-D**). These impacts would be reduced to **less than significant** through implementation of **M-BI-B**.

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10 LOCAL POLICIES, ORDINANCES, AND ADOPTED PLANS

10.1 Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources (County of San Diego 2010a) are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The following guidelines for the determination of significance come directly from the County's guidelines (County of San Diego 2010a):

Guideline 4.5: The project would conflict with one or more local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and/or would conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

A. For lands outside of the Multiple Species Conservation Plan (MSCP), the project would impact coastal sage scrub (CSS) vegetation in excess of the County's 5% habitat loss threshold as defined by the Southern California Coastal Sage Scrub Natural Communities Conservation Planning Process (NCCP) Guidelines.

B. The project would preclude or prevent the preparation of the subregional Natural Communities Conservation Planning Process (NCCP). For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat Preserves.

C. The project will impact any amount of wetlands or sensitive habitat lands as outlined in the Resource Protection Ordinance (RPO).

D. The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the Natural Communities Conservation Planning Process (NCCP) Guidelines.

E. The project does not conform to the goals and requirements as outlined in any applicable Habitat Conservation Plan (HCP), Habitat Management Plan (HMP), Special Area Management Plan (SAMP), Watershed Plan, or similar regional planning effort.

F. For lands within the Multiple Species Conservation Program (MSCP), the project would not minimize impacts to Biological Resource Core Areas (BRCAs), as defined in the Biological Mitigation Ordinance (BMO).

G. The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub Natural Communities Conservation Planning Process (NCCP) Guidelines.

H. The project does not maintain existing movement corridors and/or habitat linkages as defined by the Biological Mitigation Ordinance (BMO).

I. The project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.

J. The project would reduce the likelihood of survival and recovery of listed species in the wild.

K. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (Migratory Bird Treaty Act).

L. The project would result in the take of eagles, eagle eggs, or any part of an eagle (Bald and Golden Eagle Protection Act).

10.2 Analysis of Project Effects

10.2.1 Project Effects Relevant to Guideline 4.5.A (Coastal Sage Scrub Habitat Loss)

The Boulder Brush Facilities and Campo Wind Facilities development footprints do not support, and therefore would not impact, coastal sage scrub vegetation.

10.2.2 Project Effects Relevant to Guideline 4.5.B (NCCP Planning)

The Campo Wind Facilities are not subject to NCCP planning and therefore not discussed below.

Although the County and Wildlife Agencies (i.e., USFWS and CDFW) have developed a list of covered species and have created a preliminary draft map of the focused conservation areas, the East County MSCP Plan currently has no current schedule for completion. The Project would not preclude or prevent the preparation of the subregional NCCP because the Project has been planned in accordance with the general planning principles of the MSCP and in consideration of future preparation of the East County MSCP Plan. The Project design has been evaluated according to the Preliminary Conservation Objectives outlined in the Planning Agreement for East County MSCP (County of San Diego 2014), which is in effect until January 2020. For example, numerous surveys conducted over the years have identified biologically sensitive areas and plant and wildlife species on site. The mitigation required for the Project (described in Section 6.4 above) ensures

that habitat is protected throughout the Planning Area, special-status plant and wildlife species are protected, reduce the need to list additional species because the Boulder Brush Corridor does not support candidate or species in peril, and the Boulder Brush Facilities analysis and mitigation is consistent with the County's guidelines. These objectives, and Project applicability/compliance, are listed in Table 10-1, East County MSCP Planning Agreement Conservation Objectives.

Table 10-1
East County MSCP Planning Agreement Conservation Objectives

Conservation Objective	Consistency with the Planning Agreement
Provide for the protection of species, natural communities, and ecosystems on a landscape level;	The Boulder Brush Facilities, with mitigation, would provide for protection and conservation of special-status species and natural communities.
Preserve the diversity of plant and animal communities throughout the Planning Area;	The Boulder Brush Facilities, with mitigation, would preserve the diversity of plant and animal communities throughout the Planning Area.
Protect threatened, endangered, or other special status plant and animal species, and minimizes and mitigate the take or loss of proposed Covered Species;	The Boulder Brush Facilities, with mitigation, would provide for protection and conservation of special-status species and natural communities.
Identify and designate biologically sensitive habitat areas;	Biological studies have been conducted for the Boulder Brush Corrdidor to determine sensitive habitat areas. Mitigation follows the County guidelines.
Preserve habitat and contribute to the recovery of Covered Species;	The Boulder Brush Facilities, with mitigation, would provide for protection and conservation of special-status species and natural communities.
Reduce the need to list additional species;	The Boulder Brush Corridor does not support candidate or species in peril. The Boulder Brush Facilities is consistent with the County's guidelines and provides mitigation for County listed plant and wildlife species and therefore is expected to be consistent with the future East County MSCP Plan.
Set forth species-specific goals and objectives; and	Although there is no draft East County MSCP Plan to provide species-specific goals and objectives, the proposed Boulder Brush Facilities is consistent with the County's guidelines and provides mitigation for County listed plant and wildlife species and therefore is expected to be consistent with the future East County MSCP Plan.

Table 10-1
East County MSCP Planning Agreement Conservation Objectives

Conservation Objective	Consistency with the Planning Agreement
Set forth specific habitat-based goals and objectives expressed in terms of amount, quality, and connectivity of habitat	Although there is no draft East County MSCP Plan to provide specific habitat-based goals and objectives expressed in terms of amount, quality, and connectivity of habitat, the Boulder Brush Facilities is consistent with the County's guidelines and provides mitigation for County listed plant and wildlife species and sensitive habitats and therefore is expected to be in compliance.

10.2.3 Project Effects Relevant to Guideline 4.5.C (RPO Wetlands)

Boulder Brush Facilities

There are RPO wetlands along Tule Creek and Ribbonwood Road within the Boulder Brush Corridor. These impacts are discussed in Section 7.2.5, Project Effects Relevant to Guideline 4.2.E (Resource Protection Ordinance Buffers) (**Impact V-5**). Absent mitigation, impacts to RPO wetlands and wetland buffers would be significant. Impacts to these resources would be mitigated through **M-BI-2** (biological monitoring), **M-BI-3** (temporary construction flagging and/or fencing), **M-BI-4** (SWPPP), **M-BI-5** (habitat preservation), **M-BI-7** (restoration of temporary impacts), **M-BI-11** (erosion and runoff control), **M-BI-12** (regulation of chemical pollutants), and **M-BI-16** (federal and state agency permits). Within implementation of these mitigation measures the impacts would be less than significant.

Campo Wind Facilities

The Reservation is not subject to the County's RPO. It is not known whether there are RPO resources within the Campo Corridor. These impacts are discussed in Section 7.2.5, Project Effects Relevant to Guideline 4.2.E (Resource Protection Ordinance Buffers) (**Impact V-D**). Therefore mitigation is not proposed. This impact would remain **significant and unavoidable**.

10.2.4 Project Effects Relevant to Guideline 4.5.D (Coastal Sage Scrub)

The Project development footprint does not support, and therefore would not impact, coastal sage scrub vegetation.

10.2.5 Project Effects Relevant to Guideline 4.5.E (Regional Planning Efforts)

The Boulder Brush Facilities conforms to the goals and requirements as outlined in the East County MSCP Planning Agreement Conservation Objectives (Table 10-1); therefore, the Boulder Brush Facilities conforms to the goals and requirements as outlined in the regional planning effort. The Reservation and Campo Wind Facilities are not subject to these regional planning efforts. The Campo Wind Facilities are subject to the land use and permitting jurisdiction of the Tribal government and BIA. However, under the Campo Lease, Tribal regulations, and plans such as the Campo Land Use Code and Campo Land Use Plan are not applicable to the Campo Wind Facilities.

10.2.6 Project Effects Relevant to Guideline 4.5.F (Biological Mitigation Ordinance)

Since there is no approved East County MSCP Plan and no associated BMO, this guideline does not apply to the Boulder Brush Facilities and therefore no impacts would occur. The Reservation and the Campo Wind Facilities are not subject to the County's MSCP.

10.2.7 Project Effects Relevant to Guideline 4.5.G (Connectivity between Areas of High Habitat Value)

Although construction of the Boulder Brush Facilities would impact areas where wildlife may generally move through, it is not anticipated to hinder wildlife movement through the surrounding undeveloped landscapes because the gen-tie line support poles would be widely spaced and linear components would not be fenced. Therefore, installation of the gen-tie line support poles, and other associated features is not anticipated to constrain any wildlife movement corridor or movement between high habitat values as defined in the NCCP Guidelines within the region. The Boulder Brush Facilities would have **less than significant** direct impacts on connectivity between habitats.

The Campo Wind Facilities are not expected to result in permanent direct impacts to habitat connectivity and wildlife corridors, as they would not hinder wildlife movement through the surrounding landscapes. It is also noted there are already existing roads and structures in the Campo Corridor, including the I-8 freeway. Additional human activity from O&M activities is not expected to significantly impact wildlife movement throughout the Campo Corridor. Therefore, installation of the turbines, met towers, gen-tie line support poles, and other associated features is not anticipated to constrain any wildlife movement corridor within the region. The Campo Wind Facilities would have **less than significant** direct impacts on connectivity between blocks of habitat.

10.2.8 Project Effects Relevant to Guideline 4.5.H (Movement Corridors Defined in the BMO)

Since there is no approved East County MSCP Plan and no associated BMO, this guideline does not apply to the Boulder Brush Facilities and therefore **no impacts** would occur. The Campo Wind Project is not subject to the County's MSCP.

10.2.9 Project Effects Relevant to Guideline 4.5.I (Narrow Endemics)

Narrow endemic species are evaluated under the County Guidelines for Determining Significance for Biological Resources. There are none within the Boulder Brush Corridor; therefore, **no impacts** would occur. There are no narrow endemics identified in the Campo Corridor.

10.2.10 Project Effects Relevant to Guideline 4.5.J (Listed Species)

Boulder Brush Facilities

No federally or state-listed plant species have been observed within the Boulder Brush Corridor.

Quino checkerspot butterfly is known to occur in the Boulder Brush Corridor and there are impacts to occupied habitat (**Impact W-5**). This impact would be reduced to **less than significant** through implementation of mitigation measure **M-BI-1**, which describes the Section 7 consultation process with the USFWS, off-site mitigation for permanent impacts to Quino checkerspot butterfly habitat, fencing and signage around occupied Quino checkerspot butterfly habitat, and working in suitable habitat areas when the adult and larval activity is low.

Campo Wind Facilities

Quino checkerspot butterfly is known to occur in the Campo Corridor and there are impacts to potentially occupied habitat (**Impact W-A**). This impact would be reduced to **less than significant** through implementation of the **M-BI-A**, which describes the Section 7 consultation process with the USFWS, off-site mitigation for permanent impacts to Quino checkerspot butterfly habitat, fencing and signage around occupied Quino checkerspot butterfly habitat, and working in suitable habitat areas when the adult and larval activity is low. The full text of these mitigation measures is presented in Section 6.4.2 of this Report.

10.2.11 Project Effects Relevant to Guideline 4.5.K (Migratory Birds)

Boulder Brush Facilities

Temporary construction-related impacts to migratory birds and active migratory bird nests and/or eggs would be significant, absent mitigation (**Impact W-3**). This impact would be mitigated through **M-BI-6** (preconstruction surveys for nesting birds and setbacks), which prevents direct loss of active nests and indirect disturbance to active nests.

Campo Wind Facilities

The Campo Wind Facilities could impact nesting birds protected under the MBTA (**Impact W-C**). These impacts would be reduced to **less than significant** through implementation of **M-BI-B** (Avian-Specific Avoidance, Minimization, and Mitigation Measures). The full text of these mitigation measures is presented in Section 6.4.2 of this Report.

10.2.12 Project Effects Relevant to Guideline 4.5.L (Eagles)

Boulder Brush Facilities

The Boulder Brush Facilities would not have site-specific impacts on golden eagle nesting. Impacts to 69.8 acres of suitable foraging habitat for eagles would be significant, absent mitigation (included with raptor foraging impacts, **Impact W-2**). This impact would be mitigated through **M-BI-5** (habitat preservation and management), which requires conservation of 133.2 acres of suitable raptor foraging habitat, of which, 79.1 acres is suitable eagle foraging habitat. Based on the low golden eagle use on site for foraging, potential collision impacts while foraging are considered less than significant. Since the Boulder Brush Facilities development footprint is not located within 4,000 feet of nesting golden eagle, the Boulder Brush Facilities would not have site-specific impacts on golden eagle nesting. The Boulder Brush Corridor is not expected to cause take of eagles pursuant to the Bald and Golden Eagle Protection Act.

Campo Wind Facilities

The Campo Wind Facilities would result in impacts to 785.7 acres of suitable foraging habitat for raptors, including eagles that would be less than significant because the overall impacts are less than 5% of the total Reservation Boundary (see Section 6.2.6, **Impact W-B**). Based on the low golden eagle use on site for foraging, potential collision impacts are considered less than significant.

10.3 Cumulative Impact Analysis

Cumulative impacts are discussed in the EIR prepared for the Project. Please refer to Section 2.3, Biological Resources, of the EIR. For purposes of assessing cumulative impacts related to the Project, an appropriate geographic scope would include the Peninsular Ranges of the California floristic province, as defined by the Jepson Flora project (2018).

10.4 Mitigation Measures and Design Considerations

No other mitigation is proposed for impacts to local policies, ordinances, and plans because the proposed Project remains consistent with all applicable approved planning documents/plans.

10.5 Conclusions

Implementation of the Project would not conflict with currently established applicable local policies, ordinances, or plans. Biological resources protected under these documents are expected to remain safeguarded given the compliance of the Project with the stipulations indicated in these regulations.

Boulder Brush Facilities

Impact W-2: Permanent Direct Impacts to Golden Eagle Foraging Habitat

Impacts to golden eagle foraging habitat would be mitigated through the preservation of habitat within an off-site location (**M-BI-5**). These impacts would be reduced to **less than significant** levels through implementation of **M-BI-5** (habitat preservation).

Impact W-3: Permanent Direct Impacts to Special-Status Wildlife Species (Nesting Birds)

The Boulder Brush Facilities could impact nesting birds protected under the MBTA and California Fish and Game Code. These impacts would be reduced to **less than significant** through implementation of **M-BI-6** (preconstruction surveys for nesting birds).

Impact W-5: Permanent Direct Impacts to Potentially Occupied Quino Checkerspot Butterfly

The significant permanent direct impacts to 54.8 acres of potentially occupied Quino checkerspot butterfly habitat would be reduced to less than significant through implementation of mitigation measure **M-BI-1**, which describes the Section 7 consultation process with the USFWS, off-site mitigation for permanent impacts to Quino checkerspot butterfly habitat, fencing and signage around occupied Quino checkerspot butterfly habitat, and working in suitable habitat areas when the adult and larval activity is low.

Impact V-5: Permanent Direct Impacts to RPO Wetland and Wetland Buffer within the Boulder Brush Corridor

The significant permanent, direct impacts to RPO wetland and wetland buffer (Table 7-2) would be reduced to less than significant through implementation of M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging/fencing), M-BI-4 (SWPPP), M-BI-5 (habitat preservation), M-BI-7 (restoration of temporary impacts), M-BI-11 (erosion and runoff control), M-BI-12 (regulation of chemical pollutants), and M-BI-16 (federal and state agency permits). Campo Wind Facilities

Impact W-A: Permanent Direct Impacts to Potentially Occupied Quino Checkerspot Butterfly Habitat

Permanent direct impacts to 272.8 acres of potentially occupied Quino checkerspot butterfly habitat would be reduced to **less than significant** through implementation **M-BI-A**, which describes the Section 7 consultation process with the USFWS, off-site mitigation for permanent impacts to Quino checkerspot butterfly habitat, fencing and signage around occupied Quino checkerspot butterfly habitat, and working in suitable habitat areas when the adult and larval activity is low.

Impact W-B: Permanent Direct Impacts to Golden Eagle Foraging Habitat

Based on the low golden eagle use within the Campo Corridor for foraging are considered **less than significant**. The Campo Wind Facilities would result in impacts to approximately 785.7 acres of suitable foraging habitat for raptors, including eagles. Based on the low golden eagle use on site for foraging there is low potential for collision impacts while foraging. Impacts to eagle foraging (and therefore eagles themselves) would be **less than significant** because the overall impacts would be less than 5% of the total Reservation Boundary.

Impact W-C: Impacts to Active Nests

The Project could impact nesting birds protected under the MBTA. These impacts would be reduced to **less than significant** through implementation of **M-BI-B** (the Avian-Specific Avoidance, Minimization, and Mitigation Measures).

Impact V-D: Permanent Direct Impacts to RPO Wetland and Wetland Buffer within the Campo Corridor

The Campo Wind Facilities On-Reservation is not subject to the County RPO. It is not known whether there are biological resources subject to that County's RPO within the Campo Corridor. Therefore, no mitigation measures are proposed. Impacts to such resources, if they exist, are considered to be **significant and unavoidable.**

11 SUMMARY OF PROJECT IMPACTS AND MITIGATION

Sections 6.5, 7.5, 8.5, 9.5, and 10.5 summarize the impacts and associated mitigation for each significant impact that may occur as a result of the Project. Table 11-1, Summary of Impacts and Mitigation, summarizes the impacts and mitigation required for impacts to special-status species, vegetation communities, and jurisdictional areas.

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
Guideline 4.1: The project would have a substantial adverse effect, either directly or through habitat modifications, on a candidate, sensitive, or special status species listed in local or regional plans, policies, or regulations, or by California Department of Fish and Game or U.S. Fish and Wildlife Service.						
6.2.1	Boulder Brush Impact W-5	Federally listed wildlife (Quino checkerspot butterfly)	Permanent direct	M-BI-1 (Quino Checkerspot Butterfly-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.1A
6.2.1	Campo Wind Impact W-A	Federally listed wildlife (Quino checkerspot butterfly)	Permanent direct	M-BI-A (Quino Checkerspot Butterfly-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.1A
6.2.2	Boulder Brush Impact SP-1	Special-status plants	Temporary direct	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), and M-BI-4 (SWPPP BMPs, including restrictions on plantings, temporary equipment staging and storage, and construction vehicle speed limits)	Less than significant	4.1B
6.2.2	Boulder Brush Impact SP-2	Special-status plants	Permanent direct	M-BI-5 (habitat preservation)	Less than significant	4.1B
6.2.2	Campo Wind Impact SP-A	Special-status plants	Permanent direct	None. Mitigation for County listed special status plants not required on the Reservation.	Significant and unavoidable	4.1B

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
6.2.2	Boulder Brush Impact W-1	Special-status wildlife	Temporary direct	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-6 (nesting bird surveys), and M-BI-7 (restoration of temporary impacts)	Less than significant	4.1B
6.2.2	Boulder Brush Impact W-2	Special-status wildlife	Permanent direct	M-BI-5 (habitat preservation)	Less than significant	4.1B
6.2.2	Boulder Brush Impact W-3	Special-status wildlife (active nests)	Permanent direct	M-BI-6 (nesting bird surveys)	Less than significant	4.1B
6.2.2	Boulder Brush Impact W-4	Special-status wildlife (bird collisions)	Permanent direct	M-BI-8 (APLIC standards) and M-BI-9 (carcass removal)	Less than significant	4.1B
6.2.2	Campo Wind Impact W-B	Special-status wildlife (habitat)	Permanent direct	None. Impact is considered less than significant	Less than significant	4.1B
6.2.2	Campo Wind Impact W-C	Special-status wildlife (active nests)	Permanent direct	M-BI-B (Avian-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.1B
6.2.2	Campo Wind Impact W-D	Special-status wildlife (bird collisions)	Permanent direct	M-BI-B (Avian-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.1B
6.2.3	Campo Wind Impact SP-A	Special-status plants	Permanent direct	None	Significant and unavoidable	4.1C
6.2.3	Boulder Brush Impact W-2	Special-status wildlife (habitat for Group 2 species)	Permanent direct	M-BI-5 (habitat preservation)	Less than significant	4.1C

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
6.2.3	Campo Wind Impact W-B	Special-status wildlife (raptor foraging habitat)	Permanent direct	None. Impact is considered less than significant.	Less than significant	4.1C
6.2.6	Boulder Brush Impact W-2	Special-status wildlife	Permanent direct	M-BI-5 (habitat preservation)	Less than significant	4.1F
6.2.6	Campo Wind Impact W-B	Special-status wildlife (raptor foraging habitat)	Permanent direct	None. Impact is considered less than significant.	Less than significant	4.1F
6.2.8	Boulder Brush Impact SP-3	Special-status plants	Temporary indirect	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-10 (fugitive dust control), M-BI-11 (erosion and runoff control), and M-BI-12 (regulation of chemical pollutants)	Less than significant	4.1H
6.2.8	Boulder Brush Impact SP-4	Special-status plants	Permanent indirect	M-BI-4 (SWPPP), M-BI-10 (fugitive dust control), M-BI-11 (erosion and runoff control), M-BI-12 (regulation of chemical pollutants), and M-BI-13 (prevention of invasive plant species)	Less than significant	4.1H
6.2.8	Campo Wind Impact SP-B	Special-status plants	Temporary indirect	M-BI-C (General Avoidance and Minimization Measures)	Less than significant	4.5L
6.2.8	Campo Wind Impact SP-C	Special-status plants	Permanent indirect	M-BI-C (General Avoidance and Minimization Measures)	Less than significant	

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
6.2.8	Boulder Brush Impact W-6	Special-status wildlife	Temporary indirect	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-6 (nesting bird survey), M-BI-7 (replanting temporarily impacts areas), M-BI-10 (fugitive dust control), M-BI-11 (erosion and runoff control), M-BI-12 (regulation of chemical pollutants), and M-BI-13 (prevention of invasive species)	Less than significant	4.1H
6.2.8	Boulder Brush Impact W-7	Special-status wildlife	Permanent indirect	M-BI-10 (fugitive dust control), M-BI-11 (erosion and runoff control), M-BI-13 (prevention of invasive species), M-BI-14 (fire protection), and M-BI-15 (access control)	Less than significant	4.1H
6.2.8	Campo Wind Impact W-E	Special-status wildlife	Temporary indirect	M-BI-C (General Avoidance and Minimization Measures)	Less than significant	4.1H
6.2.8	Campo Wind Impact W-F	Special-status wildlife	Permanent indirect	M-BI-C (General Avoidance and Minimization Measures)	Less than significant	4.1H
6.2.12	Boulder Brush Impact W-2, Impact W-6, Impact W-7	Special-status wildlife (sensitive bird nesting)	Temporary and Permanent indirect	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-5 (habitat preservation), M-BI-6 (nesting bird survey), M-BI-7 (replanting	Less than significant	4.1L

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				temporarily impacts areas), M-BI-10 (fugitive dust control), M-BI-11 (erosion and runoff control), M-BI-12 (regulation of chemical pollutants), M-BI-13 (prevention of invasive species), M-BI-14 (fire protection), and M-BI-15 (access control)		
6.2.12	Campo Wind Impact W-B	Special-status wildlife (sensitive bird nesting)	Permanent direct	None. Impact is considered less than significant.	Significant and unavoidable	4.1L
6.2.12	Campo Wind Impact W-E, Impact W-F	Special-status wildlife (sensitive bird nesting)	Temporary and Permanent indirect	M-BI-C (General Avoidance and Minimization Measures)	Less than significant	4.1L
Guideline 4.2: The project would have a substantial adverse effect on riparian habitat or another sensitive natural community identified in local or regional plans, policies, regulations, or by California Department of Fish and Game or U.S. Fish and Wildlife Service.						
7.2.1	Boulder Brush Impact V-1	Sensitive vegetation communities	Temporary direct	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-5 (habitat preservation), M-BI-7 (restoration of temporary impacts), and M-BI-16 (federal and state agency permits)	Less than significant	4.2A
7.2.1	Boulder Brush Impact V-2	Sensitive vegetation communities	Permanent direct	M-BI-5 (habitat preservation) and M-BI-16 (federal and state agency permits)	Less than significant	4.2A

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
7.2.1	Campo Wind Impact V-A	Sensitive vegetation communities	Permanent direct	None. Impacts to vegetation communities or land covers on the Reservation are not subject to the mitigation requirements in the County guidelines.	Significant and unavoidable	4.2A
7.2.2	Boulder Brush Impact JAR-1	Jurisdictional aquatic resources	Temporary direct	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-5 (habitat preservation), M-BI-7 (restoration of temporary impacts), and M-BI-16 (federal and state agency permits)	Less than significant	4.2B
7.2.2	Boulder Brush Impact JAR-2	Jurisdictional aquatic resources	Permanent direct	M-BI-5 (habitat preservation) and M-BI-16 (federal and state agency permits)	Less than significant	4.2B
7.2.2	Boulder Brush Impact JAR-3	Jurisdictional aquatic resources	Temporary indirect	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-11 (erosion and runoff control), M-BI-12 (regulation of chemical pollutants), and M-BI-16 (federal and state agency permits)	Less than significant	4.2D
7.2.2	Boulder Brush Impact JAR-4	Jurisdictional aquatic resources	Permanent indirect	M-BI-4 (SWPPP), M-BI-11 (erosion and runoff control), M-BI-12 (regulation of chemical	Less than significant	4.2B

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				pollutants), M-BI-13 (prevention of invasive plant species), M-BI-14 (fire protection), and M-BI-16 (federal and state agency permits)		
7.2.2	Campo Wind Impact JAR-A	Jurisdictional aquatic resources	Permanent direct	M-BI-D (Jurisdictional Waters and Wetlands-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.2B
7.2.2	Campo Wind Impact JAR-B	Jurisdictional aquatic resources	Temporary indirect	M-BI-C (General Avoidance and Minimization Measures), and M-BI-D (Jurisdictional Waters and Wetlands-Specific Avoidance, Minimization, and Mitigation Measures).	Less than significant	4.2B
7.2.2	Campo Wind Impact JAR-C	Jurisdictional aquatic resources	Permanent indirect	M-BI-C (General Avoidance and Minimization Measures), and M-BI-D (Jurisdictional Waters and Wetlands-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.2B
7.2.4	Boulder Brush Impact V-3	Sensitive vegetation communities	Temporary indirect	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-7 (replanting temporarily impacts areas), M-BI-10 (fugitive dust control), M-	Less than significant	4.2D

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				BI-11 (erosion and runoff control), and M-BI-12 (regulation of chemical pollutants)		
7.2.4	Boulder Brush Impact V-4	Sensitive vegetation communities	Permanent indirect	M-BI-4 (SWPPP), M-BI-11 (erosion and runoff control), M-BI-12 (regulation of chemical pollutants), M-BI-13 (prevention of invasive plant species), M-BI-14 (fire protection), and M-BI-16 (federal and state agency permits)	Less than significant	4.2D
7.2.4	Campo Wind Impact V-B	Sensitive vegetation communities	Temporary indirect	M-BI-C (General Avoidance and Minimization Measures)	Less than significant	4.2D
7.2.4	Campo Wind Impact V-C	Sensitive vegetation communities	Permanent indirect	M-BI-C (General Avoidance and Minimization Measures)	Less than significant	4.2D
7.2.5	Boulder Brush Impact V-5	RPO wetland and wetland buffer	Permanent direct	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-5 (habitat preservation), M-BI-7 (replanting temporarily impacts areas), M-BI-11 (erosion and runoff control), M-BI-12 (regulation of chemical pollutants), and M-BI-16 (federal and state agency permits).	Less than significant	4.2E

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
7.2.5	Campo Wind Impact V-D	RPO wetland and wetland buffer	Permanent direct	None. The Campo Wind Facilities On-Reservation are not subject to the County RPO.	Significant and unavoidable	4.2E
Guideline 4.3: The project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.						
8.2	Boulder Brush Impact JAR-1, Impact JAR-2, Impact JAR-3, and Impact JAR-4	Jurisdictional aquatic resources	Temporary and Permanent direct and indirect	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-5 (habitat preservation), M-BI-7 (restoration of temporary impacts), M-BI-11 (erosion and runoff control), M-BI-12 (regulation of chemical pollutants), M-BI-13 (prevention of invasive plant species), and M-BI-16 (federal and state agency permits)	Less than significant	4.3
8.2	Campo Wind Impact JAR-A, Impact JAR-B, and Impact JAR-C	Jurisdictional aquatic resources	Temporary and Permanent direct and indirect	M-BI-C (General Avoidance and Minimization Measures) M-BI-D (Jurisdictional Waters and Wetlands-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.3

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
Guideline 4.4: The project would interfere substantially with the movement of a native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.						
9.2.1	Boulder Brush Impact WLC-1	Wildlife Movement	Temporary direct	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), and M-BI-7 (restoration of temporary impacts)	Less than significant	4.4A
9.2.1	Campo Wind Impact WLC-A	Wildlife Movement	Temporary direct	M-BI-C (General Avoidance and Minimization Measures)	Less than significant	4.4A
9.2.3	Boulder Brush Impact W-4	Special-status wildlife (bird collisions)	Permanent direct	M-BI-8 (APLIC standards) and M-BI-9 (carcass removal)	Less than significant	4.4C
9.2.3	Campo Wind Impact W-D	Special-status wildlife (bird collisions)	Permanent direct	M-BI-B (Avian-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.4C
9.2.4	Boulder Brush Impact WLC-2 and Impact WLC-3	Habitat Connectivity and Wildlife Corridors	Temporary and Permanent indirect	M-BI-2 (biological monitoring), M-BI-4 (SWPPP), M-BI-7 (replanting temporarily impacts areas), and M-BI-11 (erosion and runoff control)	Less than significant	4.4D
9.2.4	Campo Wind Impact WLC-B and Impact WLC-C	Habitat Connectivity and Wildlife Corridors	Temporary and Permanent indirect	M-BI-C (General Avoidance and Minimization Measures)	Less than significant	4.4D

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
Guideline 4.5: The project would conflict with one or more local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and/or would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state HCP.						
10.2.3	Boulder Brush Impact V-5	RPO wetland and wetland buffer	Permanent direct	M-BI-2 (biological monitoring), M-BI-3 (temporary construction flagging and/or fencing), M-BI-4 (SWPPP), M-BI-5 (habitat preservation), M-BI-7 (replanting temporarily impacts areas), M-BI-11 (erosion and runoff control), M-BI-12 (regulation of chemical pollutants), and M-BI-16 (federal and state agency permits).	Less than significant	4.5C
10.2.3	Campo Wind Impact V-D	RPO wetland and wetland buffer	Permanent direct	None. TheCampo Wind Facilities On-Reservation are not subject to the County RPO.	Significant and unavoidable	4.5C
10.2.10	Boulder Brush Impact W-5	Federally listed wildlife (Quino checkerspot butterfly)	Permanent direct	M-BI-1 (Quino Checkerspot Butterfly-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.5J
10.2.10	Campo Wind Impact W-A	Federally listed wildlife (Quino checkerspot butterfly)	Permanent direct	M-BI-A (Quino Checkerspot Butterfly-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.5J
10.2.11	Boulder Brush Impact W-3	Migratory birds	Temporary direct	M-BI-6 (nesting bird surveys)	Less than significant	4.5K

Table 11-1
Summary of Significant Impacts and Mitigation

Section of Report Analysis Is Described	Facilities/Impact	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
10.2.11	Campo Wind Impact W-C	Migratory birds	Permanent direct	M-BI-B (Avian-Specific Avoidance, Minimization, and Mitigation Measures)	Less than significant	4.5K
10.2.12	Boulder Brush Impact W-2	Special-status wildlife (raptor foraging habitat)	Permanent direct	M-BI-5 (habitat preservation)	Less than significant	4.5L
10.2.12	Campo Wind Impact W-B	Special-status wildlife (raptor foraging habitat)	Permanent direct	None. Impact is considered less than significant.	Less than significant	4.5L

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