

**Biological Habitat Assessment For  
California Correctional Institution Solar Project**

**(APN #376-013-02-5)  
Cummings Mountain 7.5 Minute Quadrangle,  
Section 29, Township 32 S, Range 32 E  
Tehachapi, Kern County, California**

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### Executive Summary:

At the request of Forefront Power, LLC (Forefront), Phoenix Biological Consulting (Phoenix) initiated a biological habitat assessment on the approximately 62-acre property, of which ~32 acres, located on assessor's parcel number (APN) 376-013-02-5, is proposed for development of an approximately 4.375 megawatt (MWac) photovoltaic (PV) solar energy generation facility and associated underground gen-tie line (the project).

The site is located on highly disturbed land in Tehachapi, Kern County, California, along Highway 202 within the California Correctional Institution. The site is a highly disturbed rubber rabbitbrush scrub vegetation community within the prison perimeter. Representative photographs and maps of the site are included in this report.

This report was completed following a site visit by Phoenix on September 19th, 2018. The entire site was evaluated for potential impacts from the proposed project, including sensitive plant and animal species as well as potential jurisdictional drainages that could be affected by the project.

The conclusions of this report are summarized as follows:

- Due to the habitat and occasional birds on site, the solar array footprint and parcel boundary are both considered potential or suitable habitat for nesting birds. A nesting bird survey is required if ground disturbing activities are to be performed during nesting season.
- Two occurrences for California condor are within the nine-quad CNDDDB database search. The occurrences are both over 10 miles away and suitable nesting habitat is not present on site. Minimal impacts are anticipated as the project proposes the installation of underground power lines. Measures are proposed to further limit any potential impacts. In the unlikely event of California condor's presence on site, operators will contact the U.S. Fish and Wildlife Service.
- The CNDDDB search indicated the presence of twelve rare plant species within the nine-quad search area. No rare plant species listed has the potential to occur on site due to land usage and proximity of occurrences. A botanical survey is not required.
- Potential jurisdictional features are located in the northeastern and southern portion of the study area. The greatest possible extents of this feature are mapped in this report (Exhibit 7). The site plan currently avoids impacts to this potential feature, with solar panels staying at least 50 feet from the edge of the potential features (Exhibit 8). If the site plan is modified to intrude on this potential feature, a jurisdictional delineation would be required to determine the precise extent, if any, of jurisdictional waters.

Recommended mitigation measures based on the results of this habitat assessment are provided at the end of this report.

### **Introduction and Purpose:**

At the request of Forefront Power, LLC (Forefront), Phoenix Biological Consulting (Phoenix) initiated a biological habitat assessment on the approximately 62-acre property, of which ~32 acres, located on assessor's parcel number (APN) 376-013-02-5, is proposed for development of an approximately 4.375 megawatt (MWac) photovoltaic (PV) solar energy generation facility and associated underground gen-tie line (the project).

The site is located on highly disturbed land in Tehachapi, Kern County, California, along Highway 202 within the California Correctional Institution (CCI). The site is a highly disturbed rubber rabbitbrush scrub vegetation community within the prison perimeter. Representative photographs and maps of the site are included in this report.

Per the California Environmental Quality Act (CEQA), the lead agency required a habitat assessment be prepared to identify sensitive biological resources that may have the potential to occur within a site. This report was completed following a site visit by Phoenix on September 19th, 2018. The entire site was evaluated for potential impacts from the proposed project, including sensitive plant and animal species as well as potential jurisdictional drainages that could be affected by the project.

Several sensitive species that are known to occur within a nine-quad search of the area were identified through the California Natural Diversity Database (CNDDB) literature/database search. The results of the habitat assessment indicate that portions of the site may have potential habitat for nesting birds but no listed sensitive species.

#### **Project Description:**

Forefront Power is proposing to develop an approximately 4.375 MWac PV solar energy generation facility (the project) on approximately 32 acres located in Tehachapi, Kern County. The project will include perimeter chain link and barbed wire fencing. The project will generate renewable energy utilizing photovoltaic panels, which will be interconnected to the adjacent Southern California Edison distribution circuits.

#### **Location:**

The site is located along Highway 202 within CCI on the Cummings Mountain 7.5-minute quadrangle topographic map (Exhibit 1). The legal description of the parcel is the northwest quarter of southeast quarter of Section 29, Township 32 S, Range 32 E, City of Tehachapi, and Kern County.

#### **Habitat and Land Use:**

The parcel is situated at approximately 3,950 feet within the Cummings Valley. Agricultural production land use surrounds the study area. The site is within the City of Tehachapi. A solar energy facility borders the site to the north. The Tehachapi Mountains border the site to the south. The entire site is located within the CCI perimeter.

The 62-acre study area consists of highly disturbed rubber rabbit brush scrub vegetation community used as perimeter to CCI. There is no evidence of recent disking within or adjacent to the site, per the site visit or aerial photo review. There is one ornamental tree within the site. The soils consist of Tehachapi sandy loam and Havala sandy loam. The soils on the majority of the site consist of Tehachapi sandy loam (2-15% slope). The soils on the small northwestern section consist of Havala sandy loam (2-5% slope). Existing vegetation is a rubber rabbit brush vegetation community throughout the site. A complete list of vegetation and photos can be found on Table 4 & Exhibit 8.

### **Target Sensitive Species Natural History Description:**

#### **Burrowing Owl**

Burrowing owls (*Athene cunicularia*) are a small, long-legged, ground-dwelling owl that occurs from British Columbia, throughout North America and portions of Central and South America. They are typically nocturnal but are also known to be crepuscular (active dawn and dusk). Typical prey items include invertebrates, small mammals, lizards, snakes and small birds. They nest underground in burrows and clutches range between 9-11 eggs. Burrow entrances and nests area adorned with cow chips, feathers, grass, food items and dog feces. They are typically monogamous and tend to exist in colonies. They exhibit high nest fidelity and will return to the same burrow nest site for multiple years.

Burrowing owls occur in a variety habitat types throughout California; such as, annual and perennial grasslands, agriculture fields, deserts and scrublands characterized by low-growing vegetation (CBOC, 1993). Suitable owl habitat may also include areas with trees and shrubs where canopy cover is less than 30% of ground surface. Suitable burrows may include both artificial and natural burrows that provide shelter from the elements as well as protection from predators. Burrowing owls also use burrows for nesting during spring and early summer months. California ground squirrel (CGS; *Spermophilus beecheyi*) is known to provide suitable burrows as well as inactive coyote, kit fox, badger and desert tortoise burrows. Burrowing owls can also create and/or modify existing burrows. Artificial burrows may include culverts, concrete pipes, wood debris piles and openings beneath cement or asphalt.

In desert scrub habitat, they are usually associated with canid (i.e. fox and coyote) and CGS burrows along mounds that provide vistas for viewing prey and predators. They are also found along washes and wash banks where small mammal and invertebrate abundance is higher.

Burrowing owls are a BLM sensitive species and a California species of special concern. They are also protected under the Migratory Bird Treaty Act (MBTA) and within sections 3503, 3503.5 and 3800 of the California Department of Fish and Game Code which prohibits the take, possession, or destruction of birds, their nests or eggs (CBOC, 1993).

### **San Joaquin Kit Fox**

The San Joaquin kit fox (*Vulpes macrotis mutica*) is a federally threatened and State-endangered species that is a permanent resident of arid grasslands or open scrubland in the San Joaquin Valley, where friable soils are present. Dens are required year-round for reproduction, shelter, temperature regulation, and protection from predators. They require open grassland and savannah habitats for foraging and dispersal. Historically their habitat included native alkali marsh and saltbush scrub of the valley floor, but the availability of such habitats has diminished markedly due to agricultural conversion. Grasslands with friable soils are considered the principal habitat for denning, foraging, and dispersal, while open oak woodlands provide lower quality foraging and dispersal habitat. Kit foxes will use habitats that have been extensively modified by humans, including grasslands and scrublands with active oil fields, wind turbines, and agricultural matrices.

### **Blunt-nosed Leopard Lizard**

The blunt-nosed leopard lizard is a relatively large lizard of the Iguanidae family. It has a long, regenerative tail; long, powerful hind limbs; and a short, blunt snout. Adult males are slightly larger than females, ranging in size from about 9 to 12 cm (3.4 to 4.7 inches) in length, excluding tail. Females are about 9 to 11 cm (about 3.4 to 4.4 inches) long. Males weigh about 37 to 43 g (1.3 to 1.5 ounces); and females weigh about 23 to 34 g (0.8 to 1.2 ounces).

Although blunt-nosed leopard lizards are darker than other leopard lizards, they exhibit tremendous variation in color and pattern on their backs. Their background color ranges from yellowish or light gray-brown to dark brown, depending on the surrounding soil color and vegetation. Their undersides are uniformly white. They have rows of dark spots across their backs, alternating with white, cream-colored or yellow bands.

Leopard lizards use small rodent burrows for shelter from predators and temperature extremes. Burrows are usually abandoned ground squirrel tunnels or occupied or abandoned kangaroo rat tunnels. Each lizard uses several burrows without preference but will avoid those occupied by predators or other leopard lizards. In areas of low mammal burrow density, lizards will construct shallow, simple tunnels in earth berms or under rocks.

### **Rare Plants**

There is no rare plant that was identified in the CNDDDB database having suitable habitat on site.

## CNDDDB Rarefind Database and Literature Review Results:

A thorough California natural diversity database (CNDDDB) literature review was conducted to determine which species occur within a nine-quad search area of the site (Exhibit 4; Table 1). 21 sensitive species were detected within the nine-quad search area. Multiple habitat types fall within the search area; annual/ruderal grassland, valley oak woodland, pasture, cropland, vernal pool, alkali scrub, orchard-vineyard, and valley-foothill riparian. Therefore, several species fall out of range/habitat limits given the specific characteristics of the site (See Table 1 for habitat potential for all species).

No species known to occur within nine-quad search have potential habitat type on site.

### **Burrowing Owl**

Four burrowing owl records occur within the nine-quad CNDDDB search. The burrowing owl occurrences are sparse and over 10 miles away from the survey area. Due to disturbance level and land usage, potential burrowing owl habitat does not occur on site.

### **San Joaquin Kit Fox**

Only one record for San Joaquin kit fox occurs within the nine-quad CNDDDB search. The occurrence is over 10 miles away from the survey area. Due to disturbance level, land usage, and physical barriers, potential San Joaquin kit fox habitat does not occur on site.

### **Blunt-nosed Leopard Lizard**

Two blunt nosed leopard lizard records occur within the nine-quad CNDDDB search. The closet blunt nose leopard lizard occurrence is 9.8 miles west of the survey area. Due to disturbance level, land usage, and physical barriers, potential blunt nose leopard lizard habitat does not occur on site.

### **Birds**

A theory called the “lake effect” hypothesizes that PV facilities attract migrating birds, particularly wading birds and waterfowl, because the reflective surfaces of the PV panels appear to them as bodies of water (Kagan et al. 2014). According to this hypothesis, upon landing, the birds are either killed instantly by direct impact, injured and directly preyed upon, or are unable to become airborne again and die of exposure and starvation. The potential for avian injuries or death to result from lake effect at the proposed project is negligible due to the use of non-reflective solar panels and an array spacing layout that includes bare ground between the solar arrays. The array design, which incorporates trackers, leaves approximately 6 feet between rows of panels when they are closest to each other, parallel to the ground (a condition that would not

occur routinely, as the panels would be tilted to the south to maximize exposure to the sun). When the panels are tilted, the distance between rows is larger and the amount of earth visible is increased. This design ensures that, from the air, the site would be visually distinct from a lake or other body of water.

No threatened or endangered avian species has suitable habitat present and CNDDDB occurrences that are within the nine-quad search of the site. There is some nesting habitat on the site and foraging habitat may exist. All nesting birds are covered under the Migratory Bird Treaty Act (MBTA). All potential bird species should be included in a nesting bird survey if the project occurs during the spring.

Two occurrences for California condor are within the nine-quad CNDDDB database search. The occurrences are both over 10 miles away and suitable nesting habitat is not present on site. However, the following measures should be implemented into the design.

- Site workers should be educated about microtrash and the need to contain all trash (even small pieces) within closed trash containers, and what to do if a condor shows up at the site. See below.
- In the unlikely event that California condors begin using the facility on a regular basis, the operator should contact the U.S. Fish and Wildlife Service for advice on how to address these birds.

### **Wildlife Corridors**

The site is relatively isolated due to surrounding agriculture land use, paved roads, and Highway 202 to the north. Due to the limited, existing wildlife corridors present it is not anticipated that the project development will have a significant impact to wildlife corridors.

### **Rare Plants**

The California Native Plant Society (CNPS) has created 5 lists (or ranks) in an effort to categorize degrees of concern. Plants that fall under list 2 are plants that are rare, threatened, or endangered in California, but are more common elsewhere. All of the plants constituting California Rare Plant Rank 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code and are eligible for state listing. (Tibor, ed. 2001). It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA. The CNPS Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment by a .1 to .3 ranking with .1 being the most threatened, .2 being fairly threatened, and .3 being not very threatened. The potential rare plant rankings for plants with suitable habitat and within the CNDDDB database are provided on Table 1.

There were 12 rare plant species within the database: round-leaved filaree (*California macrophylla*), Palmer's mariposa-lily (*Calochortus palmeri var. palmeri*), Kern mallow (*Eremalche*

*kernensis*), Tejon poppy (*Eschscholzia lemmonii* ssp. *kernensis*), striped adobe-lily (*Fritillaria striata*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), pale-yellow layia (*Layia heterotricha*), Comanche Point layia (*Layia leucopappa*), Madera leptosiphon (*Leptosiphon serrulatus*), calico monkeyflower (*Mimulus pictus*), Baja navarretia (*Navarretia peninsularis*), and Piute Mountains navarretia (*Navarretia setiloba*). Due to the land usage and vegetation community type, no suitable habitat is present on site. No focused botanical surveying is required.

#### Proximity to Conservation Areas:

Tejon Ranch Conservancy is situated approximately 22 miles to the southwest. At 270,000 acres, Tejon Ranch is the largest contiguous private property in California. Straddling the Tehachapi Mountains, it lies at the convergence of four of California's ten major ecological regions: Great Central Valley, Sierra Nevada, Mojave Desert, and Southwestern California. Tejon Ranch provides the only corridor for wildlife movements between vast tracts of protected lands. The site is not within nor does it border a conservation area.

#### Jurisdictional Drainages:

The U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) collectively regulate jurisdictional waters of the U.S. and state. An ephemeral stream runs into the northeastern boundary of the survey area and terminates to sheet flow on site (Exhibit 7). Additionally, two freshwater emergent wetlands included with the National Hydrography Dataset are depicted in the southeastern portion of the survey area. During the pedestrian survey of the site, no evidence of these features including vegetation was present and therefore do not require delineation. The project site plan, as depicted in Exhibit 8, does not impact these features, and no jurisdictional delineation is therefore required.

**Table 1: CNDDDB Ten Miles Search Results & Habitat Potential**

	Scientific Name	Common Name	Federal Status	State Status	CNPS Ranking	Habitat Potential
Reptiles	<i>Anniella pulchra pulchra</i>	silvery legless lizard	None	Species of Special Concern	N/A	Habitat is not present on site.
	<i>Gopherus agassizii</i>	desert tortoise	Threatened	Threatened	N/A	Habitat is not present on site.
	<i>Gambelia sila</i>	blunt-nosed leopard lizard	Endangered	Endangered	N/A	Habitat is not present on site.
	<i>Masticophis flagellum ruddocki</i>	San Joaquin whipsnake	None	Species of Special Concern	N/A	Habitat is not present on site.

	<i>Phrynosoma blainvillii</i>	coast horned lizard	None	Species of Special Concern	N/A	Habitat is not present on site.
	<i>Thamnophis hammondii</i>	two-striped garter snake	None	Species of Special Concern	N/A	Habitat is not present on site.
Amphibians	<i>Batrachoseps stebbinsi</i>	Tehachapi slender salamander	None	Threatened	N/A	Habitat is not present on site.
	<i>Ensatina eschscholtzii croceator</i>	yellow-blotched salamander	None	Species of Special Concern	N/A	Habitat is not present on site.
	<i>Spea hammondii</i>	western spadefoot	None	Species of Special Concern	N/A	Habitat is not present on site.
Birds	<i>Agelaius tricolor</i>	tricolored blackbird	None	Species of Special Concern	N/A	Habitat is not present on site.
	<i>Aquila chrysaetos</i>	golden eagle	None	Species of Special Concern	N/A	Potential foraging habitat is present on site. No nesting habitat on site.
	<i>Athene cunicularia</i>	burrowing owl	None	Species of Special Concern	N/A	Habitat is not present on site.
	<i>Falco mexicanus</i>	prairie falcon	None	Species of Special Concern	N/A	Potential foraging habitat is present on site. No nesting habitat on site.
	<i>Gymnogyps californianus</i>	California condor	Endangered	Endangered	N/A	Habitat is not present on site.
	<i>Lanius ludovicianus</i>	loggerhead shrike	None	Species of Special Concern	N/A	Habitat is not present on site.
	<i>Progne subis</i>	purple martin	None	Species of Special Concern	N/A	Habitat is not present on site.
	<i>Toxostoma lecontei</i>	Le Conte's thrasher	None	Species of Special Concern	N/A	Habitat is not present on site.
Mammals	<i>Onychomys torridus tularensis</i>	Tulare grasshopper mouse	None	Species of Special Concern	N/A	Habitat is not present on site.
	<i>Perognathus alticolus inexpectatus</i>	Tehachapi pocket mouse	None	Species of Special Concern	N/A	Habitat is not present on site.
	<i>Taxidea taxus</i>	American badger	None	Species of Special Concern	N/A	Potential foraging habitat is present on site. No suitable burrows on site.
	<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Endangered	Threatened	N/A	Habitat is not present on site.

Plants	<i>California macrophylla</i>	round-leaved filaree	None	None	1B.2	Habitat is not present on site.
	<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	None	None	1B.2	Habitat is not present on site.
	<i>Eremalche kernensis</i>	Kern mallow	Endangered	None	1B.1	Habitat is not present on site.
	<i>Eschscholzia lemmonii</i> ssp. <i>kernensis</i>	Tejon poppy	None	None	1B.1	Habitat is not present on site.
	<i>Fritillaria striata</i>	striped adobe-lily	None	Threatened	1B.1	Habitat is not present on site.
	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	None	None	1B.1	Habitat is not present on site.
	<i>Layia heterotricha</i>	pale-yellow layia	None	None	1B.1	Habitat is not present on site.
	<i>Layia leucopappa</i>	Comanche Point layia	None	None	1B.1	Habitat is not present on site.
	<i>Leptosiphon serrulatus</i>	Madera leptosiphon	None	None	1B.2	Habitat is not present on site.
	<i>Mimulus pictus</i>	calico monkeyflower	None	None	1B.2	Habitat is not present on site.
	<i>Navarretia peninsularis</i>	Baja navarretia	None	None	1B.2	Habitat is not present on site.
<i>Navarretia setiloba</i>	Piute Mountains navarretia	None	None	1B.1	Habitat is not present on site.	

### **Habitat Assessment Results:**

The results of the habitat assessment indicate that the site is a highly disturbed rubber rabbitbrush scrub vegetation community. The site is within the CCI perimeter. There is no suitable nesting habitat for raptors. There is no evidence of disking.

The habitat assessment determined no potential for rare plants exists on site. A botanical survey is not required to determine presence/absence.

None of the listed special status species have the potential to occur on site. A nesting bird survey is required if ground disturbing activities are to occur during the nesting season of February 15 to August 15.

Specific design measures should be implemented (listed above) to reduce the potential impact to foraging California condors.

The project site plan does not impact any potentially jurisdictional areas, and no jurisdictional delineation is required. If the site plan is modified to bring development into areas that are potentially jurisdictional, a jurisdictional delineation would be needed to confirm whether the project would encroach on any State or federal jurisdictional waters

**Table 2: Survey Recommendations:**

Below are survey recommendations based on the results of the habitat assessment.

Species	Federal Status	State Status	Survey Requirements	Legal Authority
<b><u>Nesting Birds</u></b>	N/A	Species of Special Concern	No ground disturbance to occur during nesting season (between February 15 and August 15) without a clearance survey by a qualified biologist to ensure that no nesting birds are impacted.	Migratory Bird Species Act. California Environmental Quality Act.

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This concludes the habitat assessment for the approximately 28.4-acre survey (Correctional Institution Tehachapi, Drawing #W-111) within City of Tehachapi, Kern County, California.

**Certification:** *I hereby certify that the statements furnished above and in the attached exhibits present the data and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this report was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project. Any federally and/or state threatened/endangered species cannot be taken under State and Federal law. The report and recommended mitigation measures included in this report do not constitute authorization for incidental take of the any sensitive species.*

Field Work Performed BY:

Date: October 14, 2018

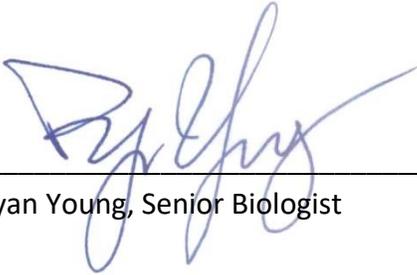
Signature:   
Mikaila Buchanan, Senior Biologist

Biological Technical Report Prepared BY:

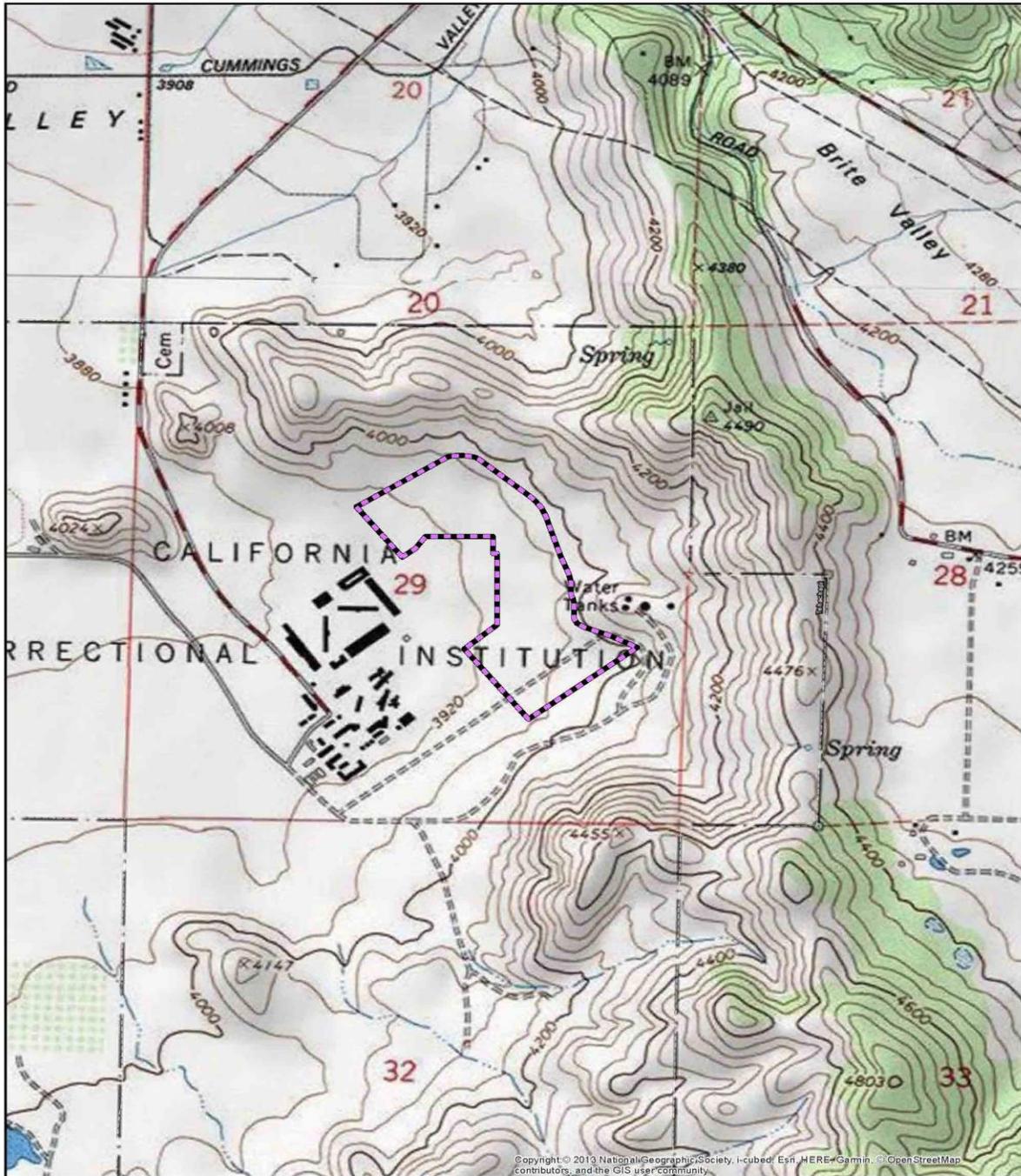
Date: October 14, 2018

Signature:   
Mikaila Buchanan, Senior Biologist

Date: July 1, 2019

Signature:   
Ryan Young, Senior Biologist

### Exhibit 1: Topographic View



#### Topographic Map - CL-CA-14-0583-DGS Prisons-CCI - Solar Project

##### Legend

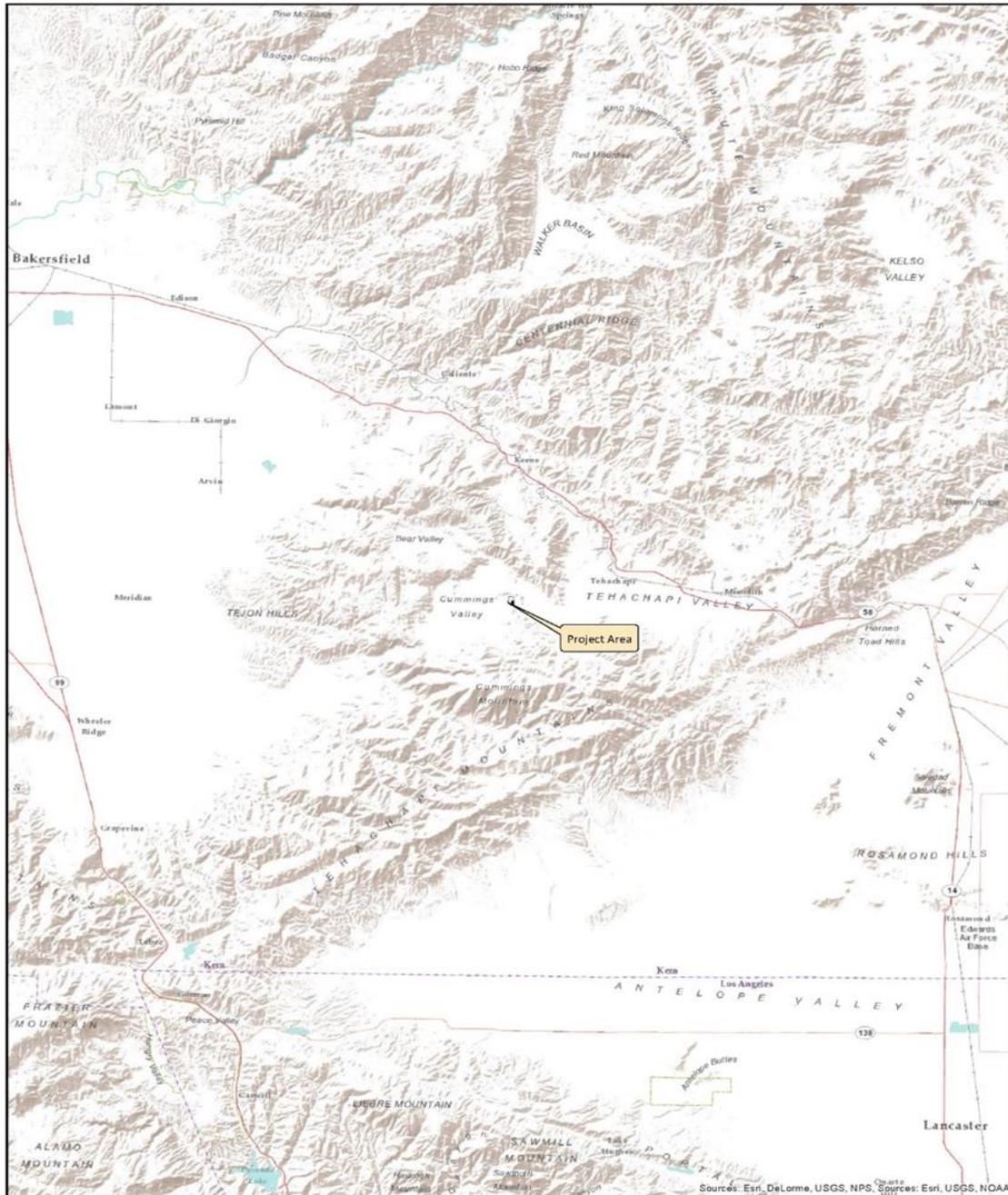
 CCI Tehachapi Solar Array Boundary



Source: ESRI ArcGIS, EPD Solutions, March 22, 2019



Exhibit 2: Regional View



**Regional Map - CL-CA-14-0583-DGS Prisons-CA Correctional Inst - Solar Project**

**Legend**

Tehachapi CCI Solar Area

0 3.5 7 14 21 Miles

Source: ESRI ArcGIS, EPD Solutions, CNDD, 2018




### Exhibit 3: Aerial View



Source: Esri, Garmin, USGS, NPS, Source Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

#### Aerial View - CL-CA-14-0583-DGS Prisons-CA Correctional Institution

##### Legend

 CCI Solar Array Boundary



Source: ESRI ArcGIS, EPD Solutions.  
March 22, 2019



### Exhibit 4: Soils Classification



Basemap: HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**USDA Soils Map - CL-CA-14-0583-DGS Prisons-CA Correctional Inst - Solar Project**

**Legend**

<b>USDA Soil Data Results</b>	 179 Tehachapi sandy loam, 2-15% slope
 141 Havala sandy loam, 2-5% slope	 211 Xerorthents-Rock outcrop complex, steep
 176 Steuber sandy loam, 5-9% slope	 CCI Tehachapi Solar Array Boundary

0 205 410 820 1,230 Feet

Source: USDA, ESRI ArcGIS, EPD Solutions. March 22, 2019




### Exhibit 5: USFWS Wetland Inventory



**USFWS Wetland Inventory Map - CL-CA-14-0583-DGS Prisons-CCI**

**Legend**

-  CCI Tehachapi Solar Array Boundary
-  USFWS Wetlands Inventory Data

0      435      870      1,740      2,610  
Feet

Source: ESRI ArcGIS, USFWS, EPD Solutions, March 22, 2019






### Exhibit 7: Potential Drainage Features



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Aerial View - Potential Drainage Features**  
**CL-CA-14-0583-DGS Prisons-CCI - Solar Project**

**Legend**

- 50 Ft Buffer
- Potential Drainages
- CCI Tehachapi Solar Array Boundary

0 420 840 1,680 2,520 Feet

Source: ESRI ArcGIS, EPD Solutions, March 25, 2019

### Exhibit 8: PV Solar Array Site

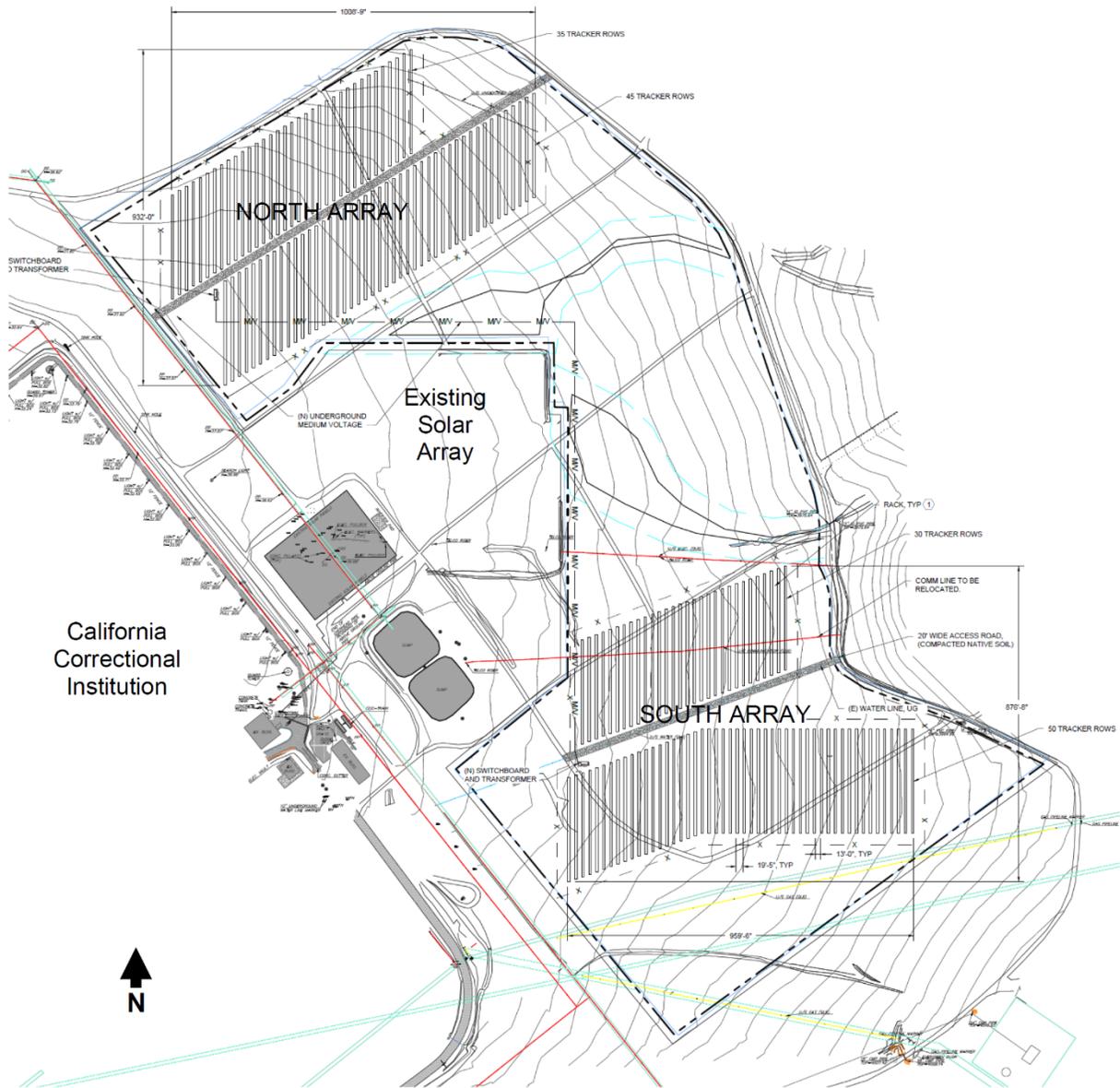


Exhibit 9: Site Photos

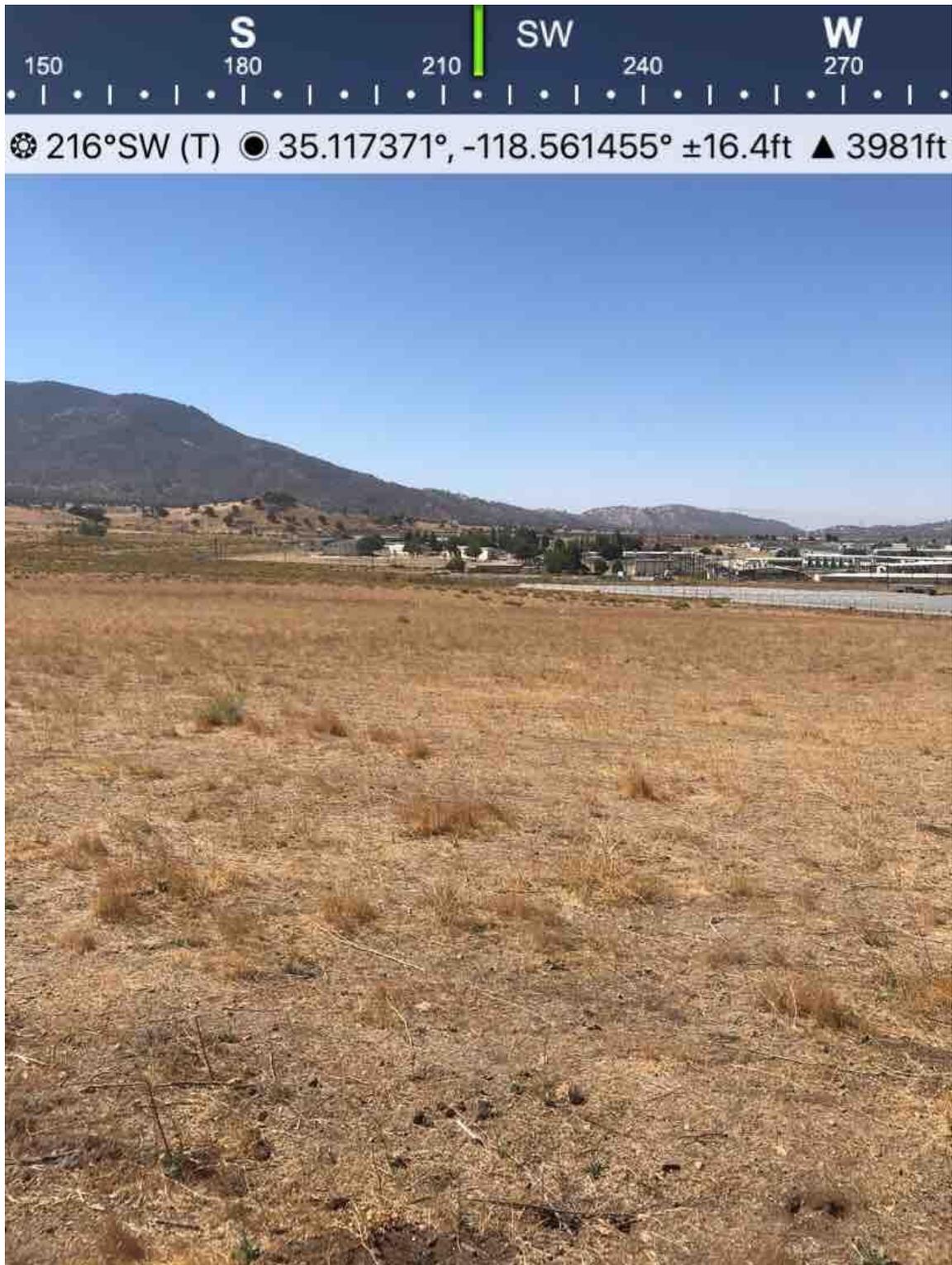


Photo 1: view looking southwest from northeast corner.

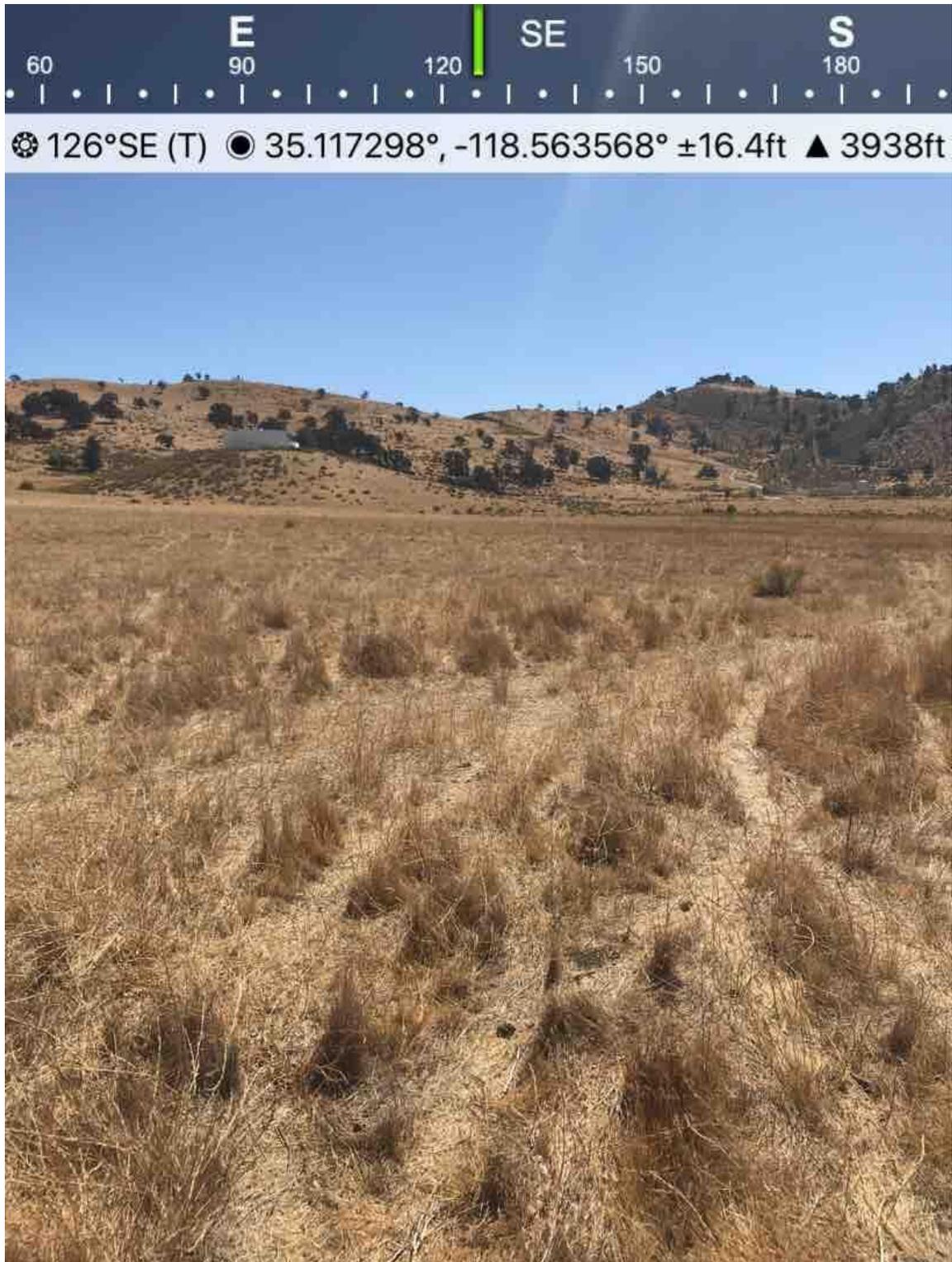


Photo 2: view looking southeast from northwest corner.

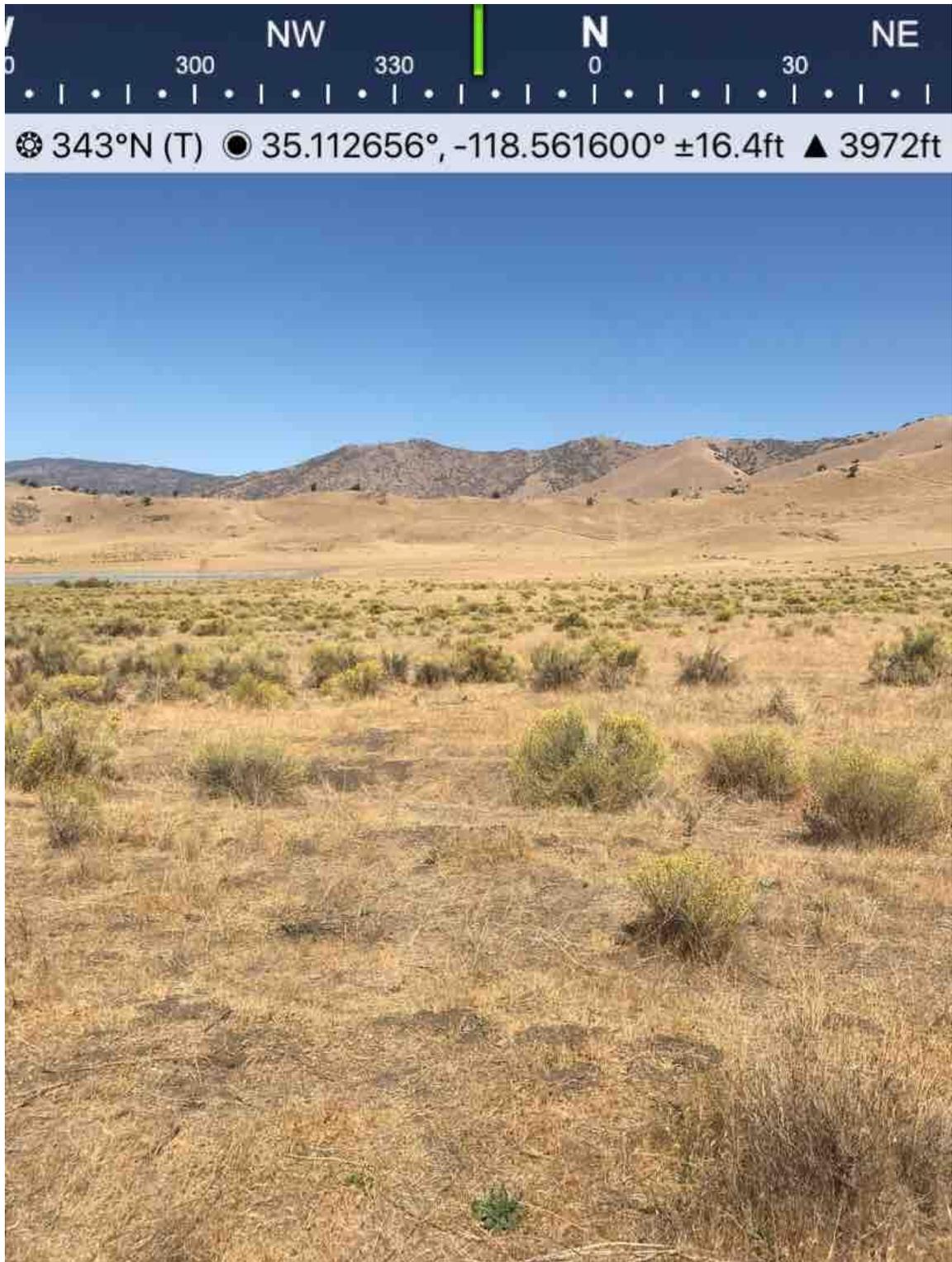


Photo 3: view looking northwest from southeast corner.

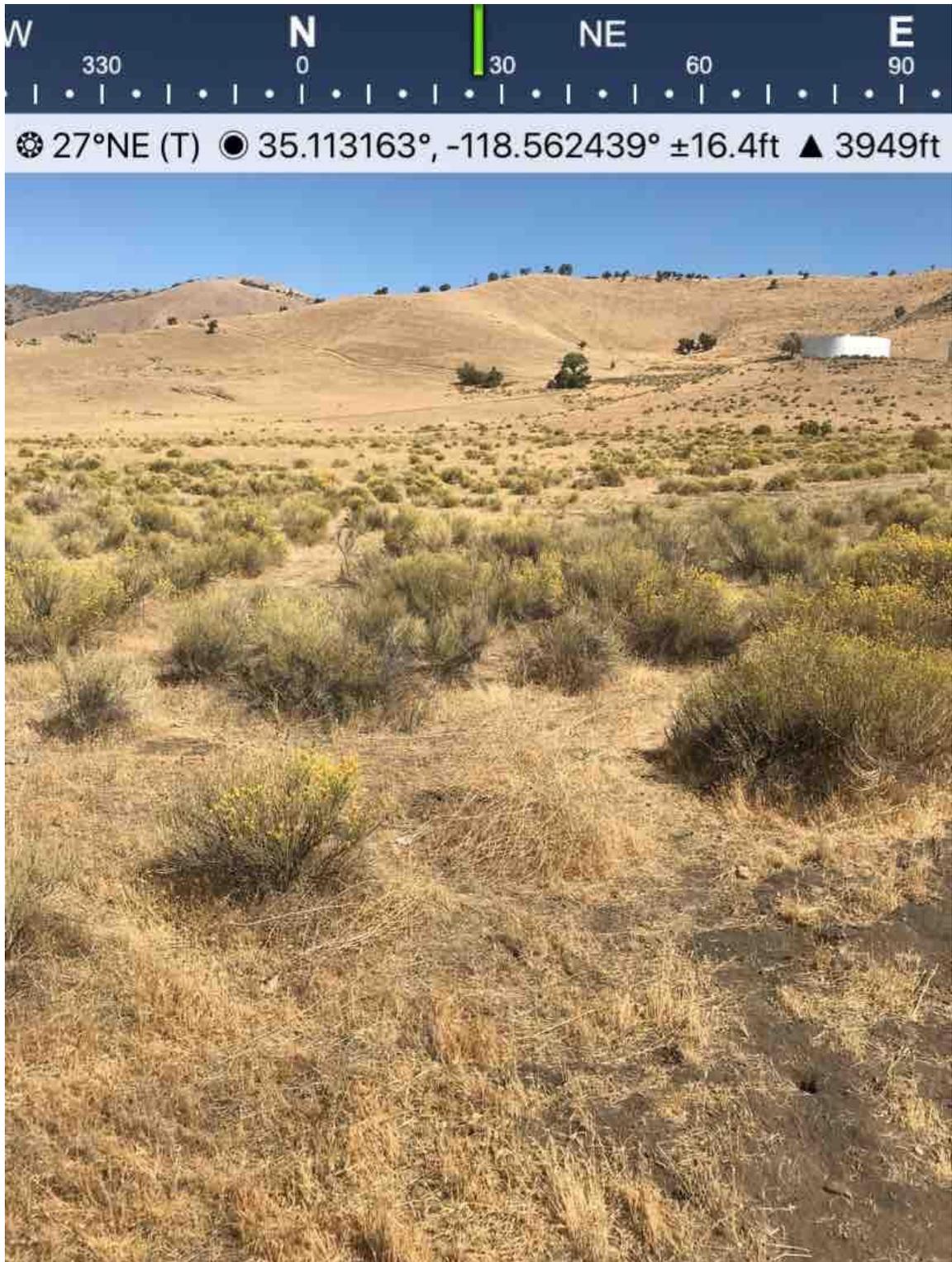


Photo 4: view looking northeast from southwest corner.

**Table 3: Vertebrates Detected During Site Visit**

<b>Birds</b>
Common raven ( <i>Corvus corax</i> )
<b>Mammals</b>
Black-tailed jackrabbit ( <i>Lepus californicus</i> )

Table 4: Vascular Plants Detected During Site Visit

FAMILY Species	Common Name	Habit
<b>POACEAE</b>		
<i>Bromus madritensis</i>	Red brome	non-native perennial grass
<i>Cynodon dactylon</i>	Bermuda grass	non-native perennial grass
<b>ASTERACEAE</b>		
<i>Ericameria nauseosa</i>	rubber rabbitbrush	shrub

## Appendix A: IPAC Search Results

### Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

#### Birds

NAME

STATUS

**Spotted Towhee** *Pipilo maculatus clementae*

Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA.

<https://ecrs.fws.gov/ecp/species/4243>

**Tricolored Blackbird** *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecrs.fws.gov/ecp/species/3910>

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

California Condor <i>Gymnogyps californianus</i>	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat.	
<a href="https://ecos.fws.gov/ecp/species/8193">https://ecos.fws.gov/ecp/species/8193</a>	

## Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard <i>Gambelia silus</i>	Endangered
No critical habitat has been designated for this species.	
<a href="https://ecos.fws.gov/ecp/species/625">https://ecos.fws.gov/ecp/species/625</a>	

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i>	Threatened
There is final critical habitat for this species. Your location is outside the critical habitat.	
<a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	

## Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i>	Threatened
There is final critical habitat for this species. Your location is outside the critical habitat.	
<a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	

## Crustaceans

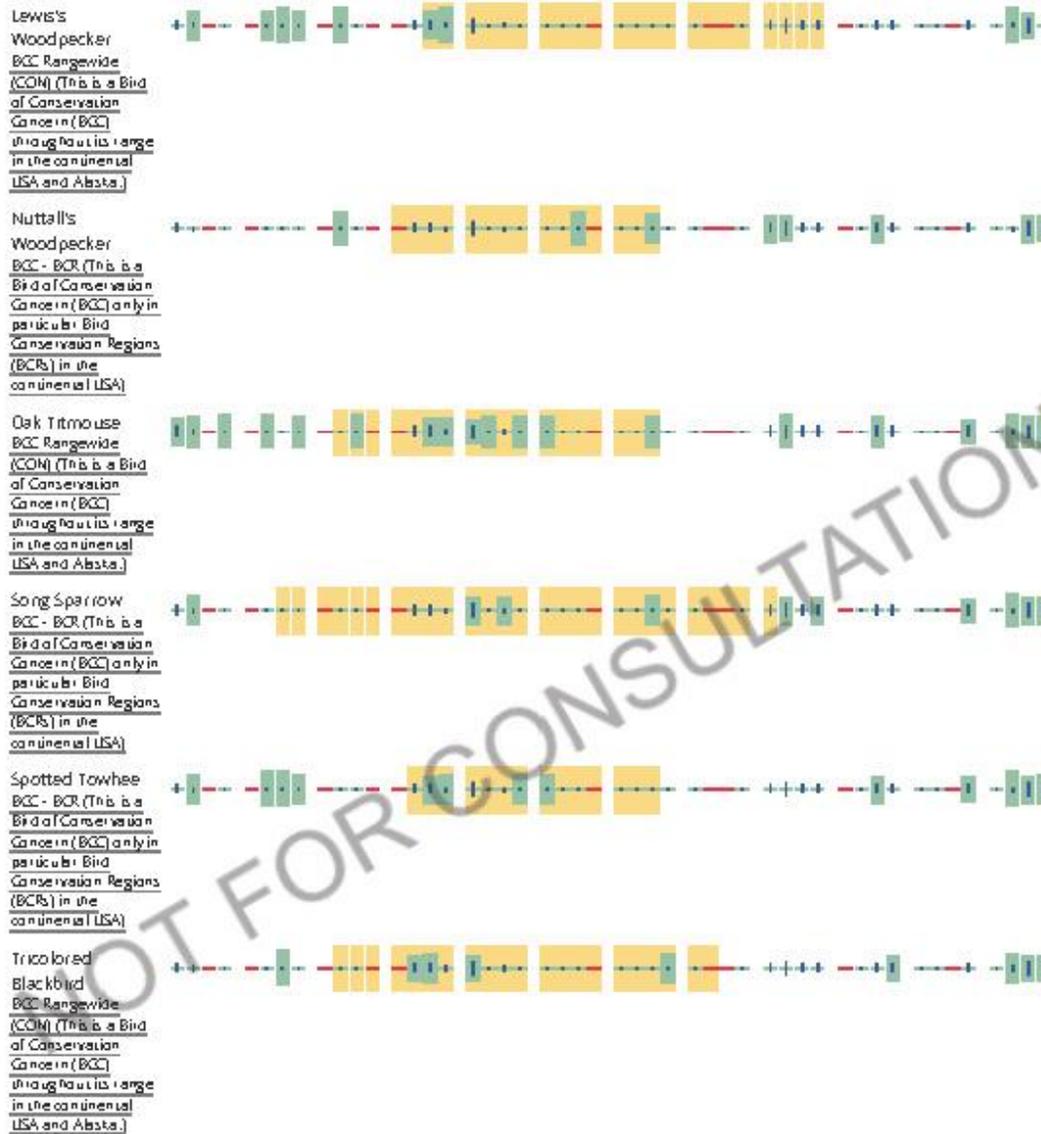
NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i>	Threatened
There is final critical habitat for this species. Your location is outside the critical habitat.	
<a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

	<u>'BREEDS ELSEWHERE' INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)</u>
<p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a></p>	Breeds Jan 1 to Aug 31
<p>Clark's Grebe <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Jan 1 to Dec 31
<p>Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a></p>	Breeds Jan 1 to Aug 31
<p>Lawrence's Goldfinch <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9464">https://ecos.fws.gov/ecp/species/9464</a></p>	Breeds Mar 20 to Sep 20
<p>Lewis's Woodpecker <i>Melanerpes lewis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9408">https://ecos.fws.gov/ecp/species/9408</a></p>	Breeds Apr 20 to Sep 30
<p>Nuttall's Woodpecker <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9410">https://ecos.fws.gov/ecp/species/9410</a></p>	Breeds Apr 1 to Jul 20
<p>Oak Titmouse <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9656">https://ecos.fws.gov/ecp/species/9656</a></p>	Breeds Mar 15 to Jul 15
<p>Song Sparrow <i>Melospiza melodia</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Feb 20 to Sep 5



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern \(BCC\)](#) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the [FAQ below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE.

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

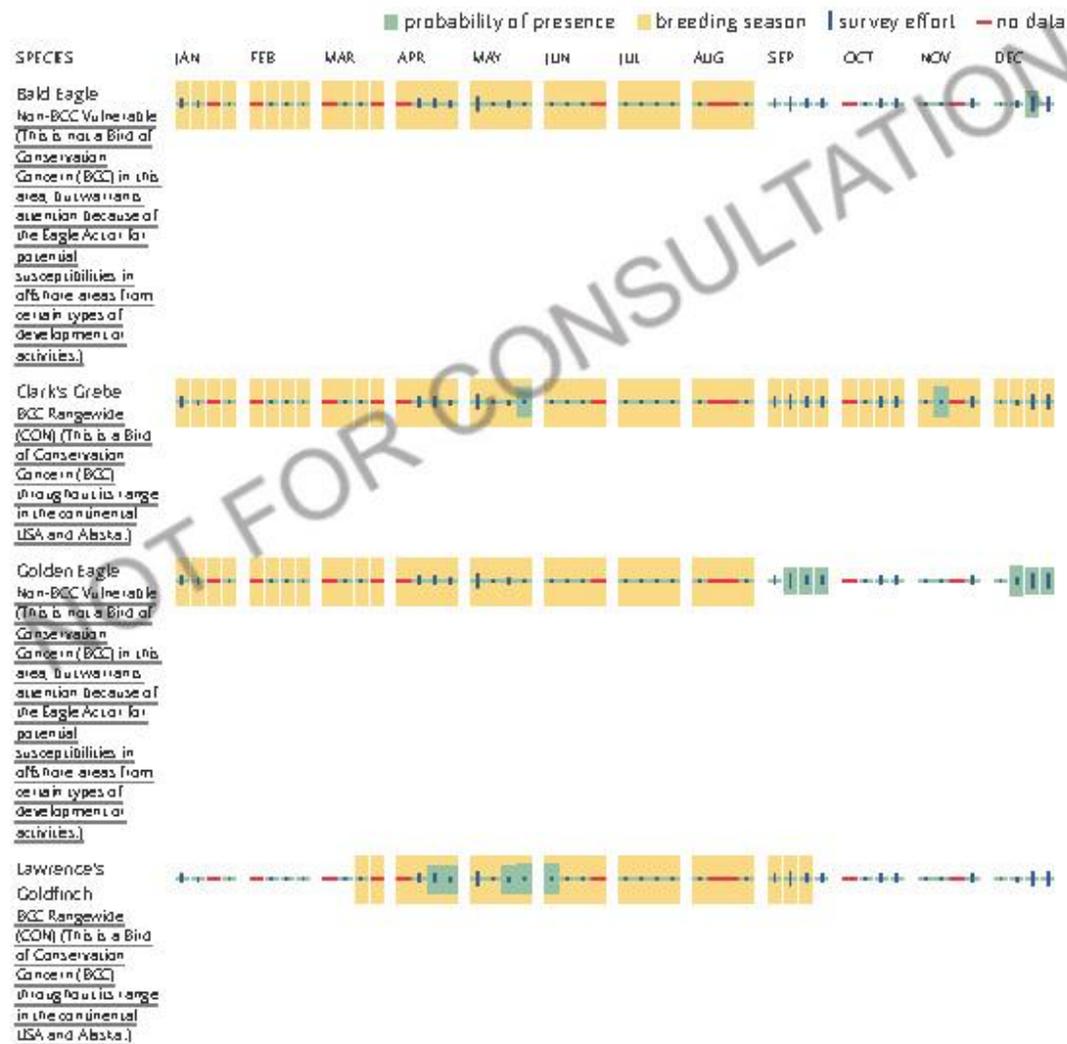
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

#### No Data (-)

A week is marked as having no data if there were no survey events for that week.

#### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanolog studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

#### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cells that overlap your project, not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

### Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

#### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

#### Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

#### Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.