Burrowing Owl Non-Breeding and Breeding Season Surveys Report

Heber 1 Parasitic Solar Project

Prepared for ORMAT

August 13, 2025

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ENVIRONMENTAL SOLUTIONS

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SECTION 1 Introduction

Ormat Technologies, Inc. (ORMAT) is proposing to develop a new, approximately 15 megawatt (MW) solar energy facility that will provide parasitic load to the existing Heber 1 geothermal complex in Imperial County, California.

The Project Site is part of the year-round range of the western burrowing owl (*Athene cunicularia hypugaea*) and suitable habitat for the species was identified during the Biological Reconnaissance Survey for the Project conducted in October 2023; therefore, focused surveys for burrowing owl were conducted in coordination with California Department of Fish and Wildlife (CDFW) and following the methods provided in the 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2012).

Catalyst Environmental Solutions (Catalyst) biologists performed two burrowing owl surveys, a non-breeding season survey in January 2025 and a breeding season survey in February 2025 for the Project. These surveys were conducted per CDFW guidance because suitable habitat and burrowing owl presence was identified during reconnaissance-level biological surveys which were conducted by Catalyst in the fall of 2023. This report was prepared to present the findings of the non-breeding and breeding season burrowing owl surveys conducted in 2025 which followed the survey methods of CDFW's Staff Report on Burrowing Owl Mitigation (CDFG 2012)[1].

On October 10, 2024, the California Fish and Game Commission (Commission) approved naming the western burrowing owl as a candidate for potential listing as a protected species under the California Endangered Species Act (CESA). Prior to October 2024, burrowing owl was designated as a Species of Special Concern in California. The Commission provided public notice that burrowing owl is now a candidate species under CESA and as such, receives the same legal protection afforded to an endangered or threatened species. It is also legally protected under the federal Migratory Bird Treaty Act and California Fish and Game Codes 3503, 3503.5, and 3513 (Native Bird Protection). CDFW has initiated a status review for burrowing owl and a final listing decision is expected in late 2025 or early 2026. CDFW is expected to publish a "Report to the Fish and Game Commission California Endangered Species Act Status Review of Western Burrowing Owl (*Athene cunicularia hypugaea*)" in late 2025, at which time the Commission will make a final determination on whether to list western burrowing owl as threatened or endangered under CESA.

To determine the presence or potential absence of burrowing owls and their habitat within the Project site, two surveys were performed. In California, the breeding season for the burrowing owl is typically between February 1 and August 31 (CDFG 2012, Appendix A). The peak of the breeding season occurs between April 15 and July 15. The remainder of the year (September 1 through January 31) constitutes the non-breeding season where burrowing owls may still be present within their year-round range.

[1] CDFW's Staff Report on Burrowing Owl Mitigation recommends four surveys be completed during the breeding season. However, due to direct guidance received from CDFW staff for this Project, only one breeding season survey was required.

In coordination with CDFW, Catalyst biologists conducted a non-breeding season burrowing owl survey on January 28-30, 2025, and a breeding season burrowing owl survey on February 18-20, 2025. The results of the surveys are reported herein.

1.1 Project Location and Description

The proposed Project is located on approximately 127 acres of private lands, in southern Imperial County (Figure 1-1). The proposed project is situated in Township 17 South, Range 14 East of the U.S. Geographical Survey (USGS) Heber 7.5-minute topographic quadrangle.

The Project proposes to develop a 12MW solar energy facility that would provide parasitic load to the existing Heber 1 Geothermal Energy Facility. The proposed solar energy facilities will be developed immediately south of the proposed Dogwood/Heber 2 parasitic solar fields and will be connected by a buried medium-voltage interconnection line to the existing Heber 1 Geothermal Facility. The proposed Project footprint is shown in Figure 1-2.

The proposed Project would occur on Assessor's Parcel No. 059-020-001, which consists of a residence, geothermal pipeline, storage/laydown area, and alfalfa cultivation. The property is zoned as A2GU for agricultural use and is within the Heber geothermal unit and Imperial County renewable energy (GU) overlay zone.

Surrounding land uses in the Project vicinity are dominated by agricultural cultivation with solar facilities, a construction/aggregates company, a land and cattle company, and geothermal well pads and pipelines present throughout the local vicinity.

Interstate 8 (I-8; Kumeyaay Highway), located approximately 4 miles directly north, provides primary highway access to the Project site. Dogwood Road stems off of I-8 and provides immediate site access to the west. Additionally, East Cole Boulevard, which runs perpendicular to Dogwood Road, provides immediate site access to the south.

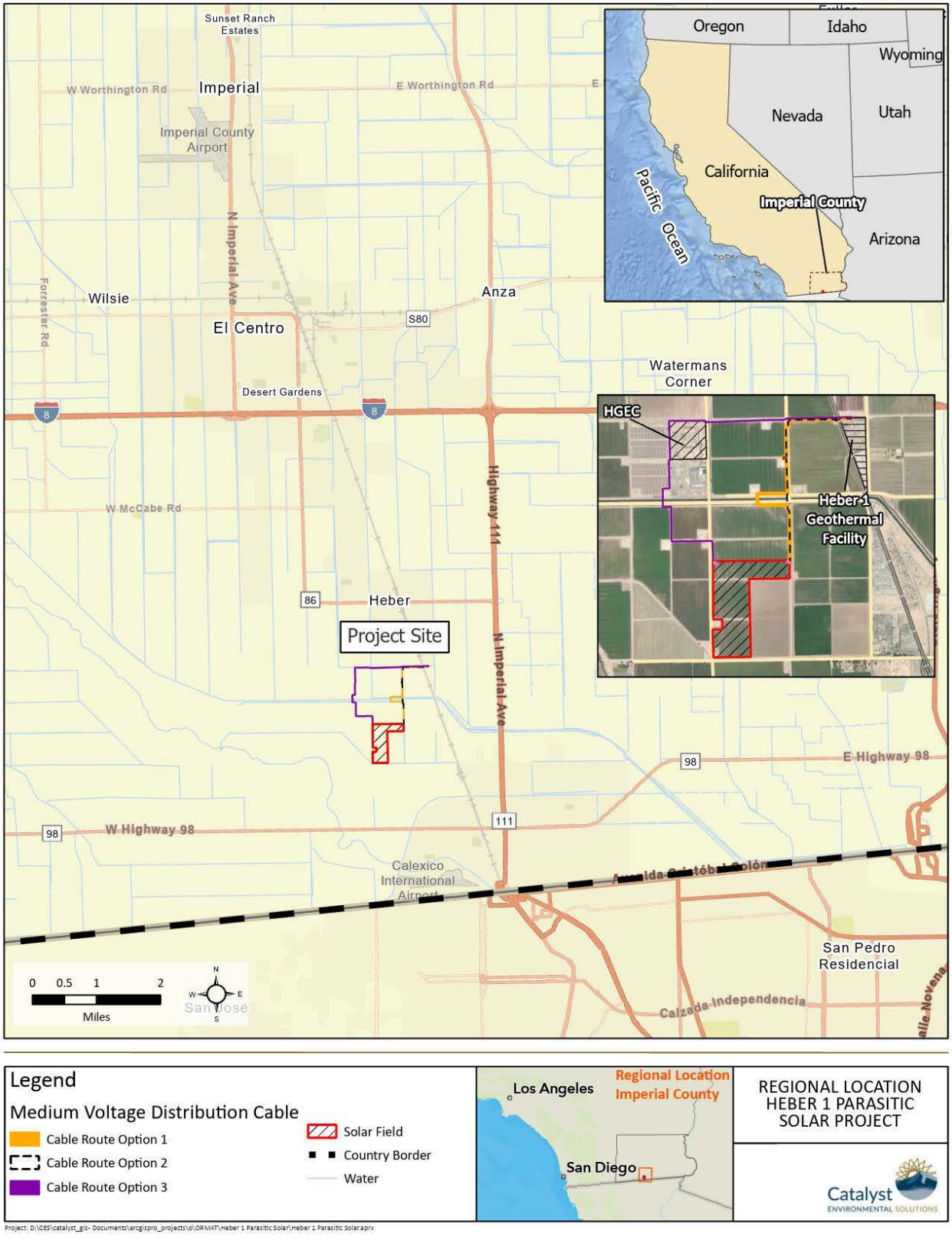


Figure 1-1. Regional Location Map

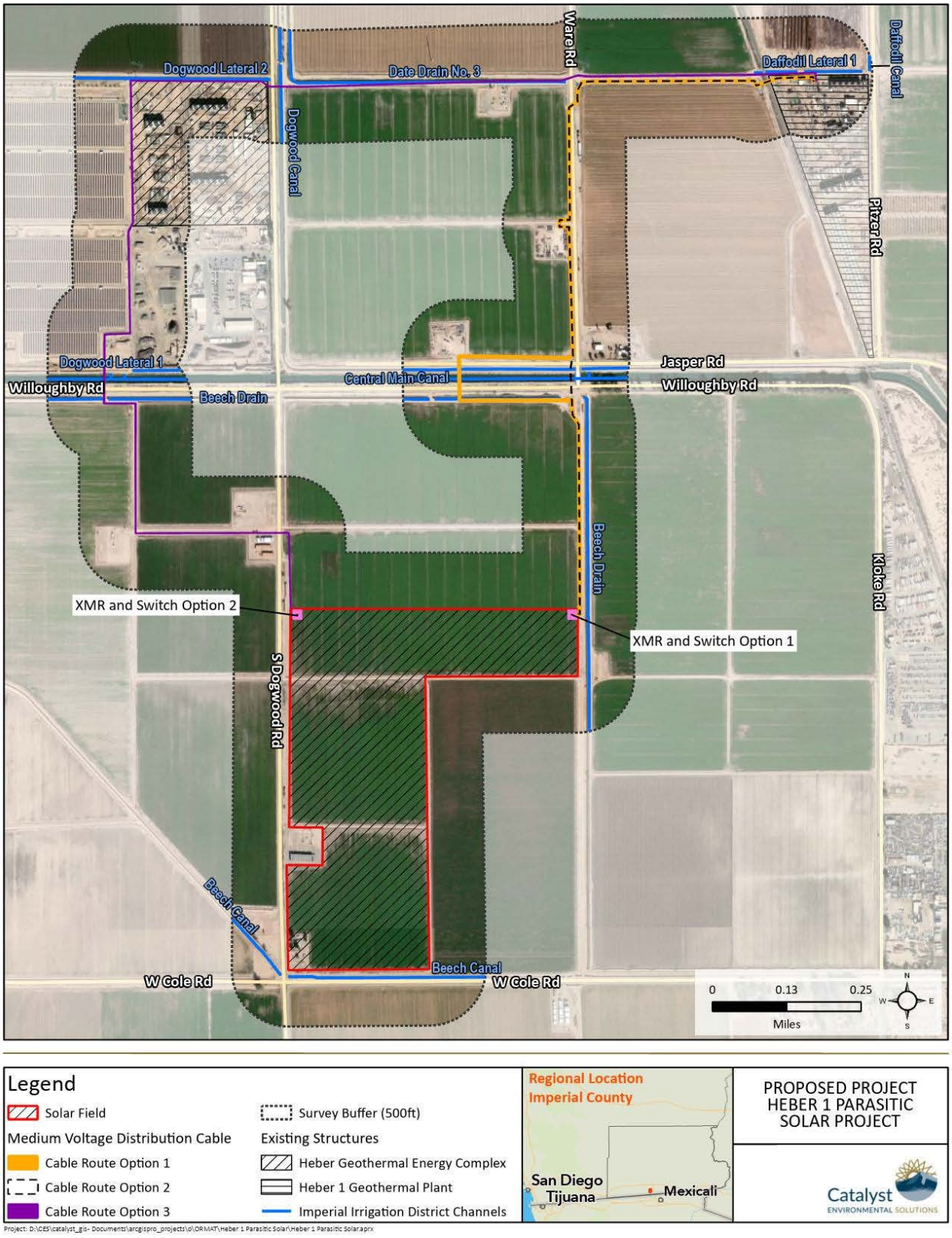


Figure 1-2. Existing Facilities and Proposed Heber 1 Components

SECTION 2

Field Methods

2.1 Non-breeding Season Survey Methods (January 28-30, 2025)

A non-breeding season survey was completed on January 28-30, 2025. Surveys were completed by three Catalyst biologists: Hannah Donaghe, MS; Adrian Gonzalez, MS; and Olivia Hogan, BS. Prior to performing surveys, Ms. Donaghe submitted a resume to Lily Mu, a Senior Environmental Scientist with Region 6 of the California Department of Fish and Wildlife (CDFW) in order to receive authorization to complete the surveys. Ms. Mu replied in an email on January 8, 2025, that Ms. Donaghe was approved to complete focused burrowing owl surveys. Ms. Donaghe planned and led the focused burrowing owl surveys, with support from Adrian Gonzalez and Olivia Hogan. Staff qualifications are provided in Appendix B.

Survey methods were consistent (Appendix C) with CDFW's Staff Report on Burrowing Owl Mitigation (CDFG 2012). Catalyst also established pre-determined vantage points from which to observe the Project Site with a spotting scope, ensuring maximum visual Project Area coverage. Surveys were completed during peak detection periods. If weather conditions were favorable, surveys were extended slightly outside these peak detection periods. Peak detection period survey windows for the week of surveys were approximately 06:15 am to 10:00 am (morning window) and 3:00 pm to 5:40 pm (afternoon window). A 500-foot survey area buffer was applied to the project footprint.

At each vantage point, all three biologists started by scanning with binoculars in all directions looking for burrowing owls. One biologist set up a spotting scope and used binoculars to observe the survey area from the identified vantage point for approximately an hour. During this time, the two other biologists walked transects along all the berms located adjacent to access roads and canals within the survey area in the vicinity of the vantage point. Biologists stopped periodically to scan the surrounding areas and area in front of them to reduce the potential to flush out any burrowing owls during the survey. Any burrows with openings larger than approximately 4 inches in diameter were mapped and biologists noted any owl sign at the entrance of observed burrows. The approximate location of observed burrowing owls was mapped as well. Data collection was completed in ArcGIS Field Maps.

A Kestrel 3000 weather meter was used to collect temperature and average wind speed data.

2.2 Breeding Season Survey Methods (February 18-20, 2025)

A breeding season survey was completed on February 18-20, 2025. Surveys were completed by Hannah Donaghe, Adrian Gonzalez, and Olivia Hogan. Ms. Donaghe, approved as qualified to perform burrowing owl surveys by CDFW staff, planned and led the focused burrowing owl surveys.

Survey methods were consistent (Appendix C) with CDFW's Staff Report on Burrowing Owl Mitigation (CDFG 2012). Peak detection period survey windows for the week of surveys, were approximately 05:55 am to 10:00 am (morning window) and 3:30 pm to 5:55 pm (afternoon window). A 500-foot survey area buffer was applied to the project footprint.

Methods were the same as during the non-breeding season survey. At each vantage point, all three biologists started by scanning with binoculars in all directions looking for burrowing owls. One biologist set up a spotting scope and used binoculars to observe the survey area from the identified vantage point for approximately an hour. During this time, the two other biologists walked transects along all the berms located adjacent to access roads and canals within the survey area in the vicinity of the vantage point. Biologists stopped periodically to scan the surrounding areas and area in front of them to reduce the potential to flush out any burrowing owls during the survey. Any burrows with sign observed near the entrance were mapped. Additionally, any new burrows observed since the previous survey, larger than approximately 4 inches in diameter were mapped. The approximate location of observed burrowing owls was mapped. Data collection was completed in ArcGIS Field Maps. A Kestrel 3000 weather meter was used to collect temperature and average wind speed data.

SECTION 3

Results

3.1 Non-Breeding Season Survey Conditions

All recorded weather conditions are provided in Table 3-1.

Table 3-1. January 2025 Survey Times and Weather Conditions during Peak Detection Periods

Date	Survey Times	Temperature (°F)		Average Cloud Cover	Average Wind Speed (mph)		Area Surveyed
		Start	End		Start	End	
1/28/25	0620-1134	41.3	74.2	Clear, 0%	0.0	0.8	Vantage points H8, H9, H11, H10
1/28/25	1500-1730	69.4	57.6	Partially cloudy, 10-30%	2.8	1.2	Vantage points H14
1/29/25	0625-1015	50.6	65.4	Sparse cloud cover, 2-5%	0.0	2.1	Vantage points H6, H7, H12, and walked along berms in survey area west of Dogwood Rd. down to southern extent of survey area
1/29/25	1455-1718	70.7	65.1	Clear, 0%	1.3	2.2	Vantage points H5, H4
1/30/25	0625-0950	47.2	62.6	Clear, 0%	0.0	0.7	Vantage points H1, H13, H3
1/30/25	1502-1713	71.9	62.2	Clear, 0%	0.9	4.2	Vantage points H2, walked along canal north of Heber 1 geothermal plant and east of railroad tracks, and area north of Dogwood geothermal plant west of Dogwood Rd.

3.2 Non-Breeding Season Survey Results

During the non-breeding season surveys, biologists observed **19 burrowing owls** within the Heber 1 project footprint and survey buffer area (Figure 3-1). The southern portion of the survey area had the highest number of burrowing owls observed, especially the berm north of E. Cole Blvd. Two pairs of burrowing owls, and two individual owls were observed at the entrances of burrows along this berm, which is adjacent to a canal and alfalfa fields. Two pairs and one individual were also observed at their respective burrow entrances located in the southern extent of Beech Lateral 2 within the survey area.

A total of three burrowing owls were observed just outside the survey area, a pair was located along the berm north of E Cole Boulevard just east of the pair located within the survey area; and one individual was observed just outside the survey area east of vantage point H14.

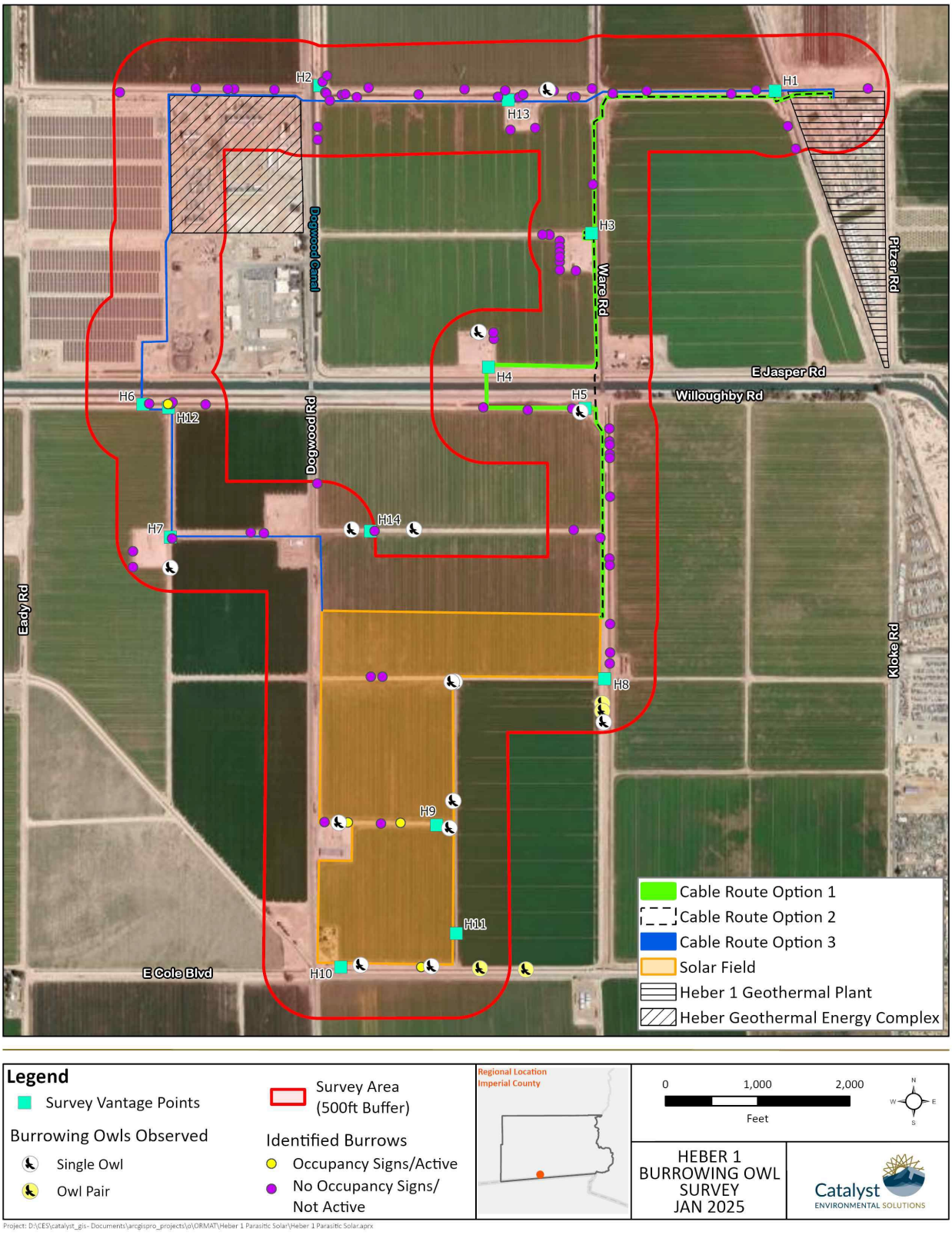


Figure 3-1. Results of Burrowing Owl Non-breeding Season Survey Conducted January 28-30, 2025.

3.3 Breeding Season Survey Conditions

All recorded weather conditions are provided in Table 3-2.

Table 3-2. February 2025 Survey Times and Weather Conditions during Peak Detection Periods

Date	Survey Times	Temperature (°F)		Average Cloud Cover	Average Wind Speed (mph)		Area Surveyed
		Start	End		Start	End	
2/18/25	0600-1015	58.4	72.5	Sparse cloud cover, 2-5%	0.6	4.7	Vantage points H8, H9, H11, H10, and southwest extent of survey area west of Dogwood Rd.
2/18/25	1515-1745	78.1	68.1	Partially cloudy, 15-20%	2.6	1.6	Vantage points H14
2/19/25	0556-1020	52.3	75.3	Sparse cloud cover, 2-5%	0.7	2.3	Vantage points H6, H7, H12, and walked along berms in survey area west of Dogwood Rd. toward southern extent of survey area
2/19/25	1525-1740	80.3	74.6	Clear, 0%	0.9	1.5	Vantage points H5, H4
2/20/25	0600-0959	53.6	73.6	Partially cloudy, 20%	0.7	1.6	Vantage points H1, H13, H3, walked along canal north of Heber 1 geothermal plant and east of railroad tracks
2/20/25	1516-1740	79.4	72.2	Partially cloudy, 15%	1.5	1.1	Vantage points H2, walked along canal north of Dogwood geothermal plant west of Dogwood Rd.

3.4 Breeding Season Survey Results

During the breeding season surveys, biologists observed **16 burrowing owls** within the Heber 1 project footprint and survey buffer area (Figure 3-2). Two pairs and two individual owls were observed at their respective burrow entrances located along a berm adjacent to a concrete-lined canal at the southern extent of Beech Lateral 2 within the survey area. One pair of burrowing owls was observed at a burrow entrance along the berm north of E. Cole Boulevard, with several owls observed in this area east of the survey area, as discussed below. The berms in this area support several large burrows which could provide suitable habitat for burrowing owls, in addition to the ones observed to be occupied by pairs. Several individual owls were observed along berms and canals which run through the proposed solar field as well as proposed cable routes.

A total of eight burrowing owls were observed outside the survey area but in the general vicinity. Two pairs and one individual were observed at burrow entrances located along the berms north of E. Cole

Boulevard, east of the pair located within the survey area; two individual owls were observed just outside the survey area east of vantage point H14; and one individual was observed south of the survey area from vantage point H7 along a berm adjacent to a canal and alfalfa field.

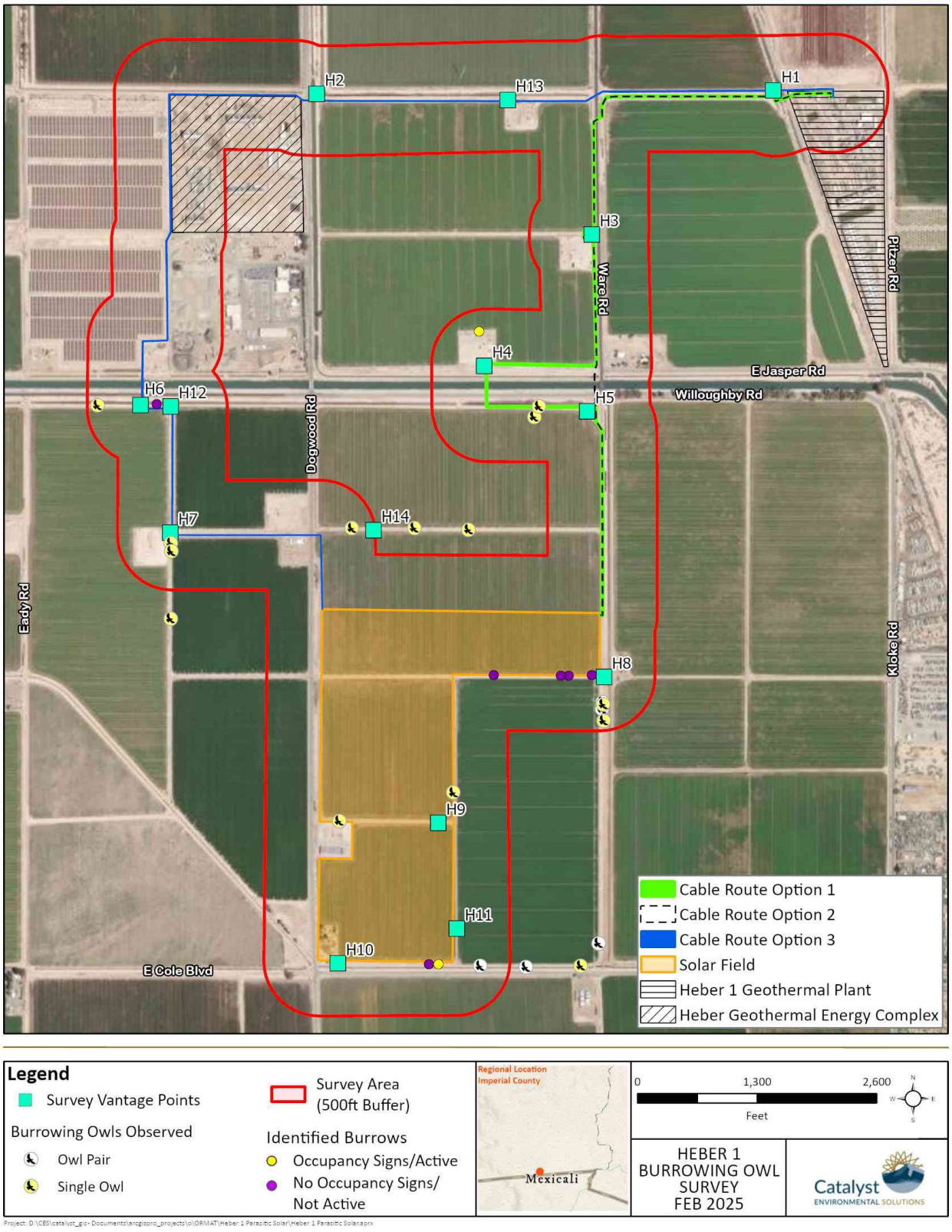


Figure 3-2. Results of Burrowing Owl Breeding Season Survey Conducted February 18-20, 2025.

3.5 Burrowing Owl Observations during Avian Point Count Surveys

Following focused surveys for burrowing owl, biologists completed avian point count surveys of the project site July 11-12, 2025. During these surveys, a total of 17 burrowing owls were observed within the fixed radius for point count surveys, which have a radius of 100 meters (Figure 3-3). Burrowing owls were observed at 4 of the 15 point count locations surveyed for the project area. In addition to the individuals observed within the point count survey area, biologists recorded any incidental observations for this species within the project footprint and vicinity, which included an additional 13 burrowing owls. During avian point count surveys, biologists observed a total of **30 burrowing owls** within the project footprint and surrounding areas. While these observations were not made during protocol-level surveys for burrowing owl, these incidental observations provide additional information about the population within the project site and surrounding area. The avian point count survey was completed during the peak of the breeding season which occurs between April 15 and July 15.

At one of the point count locations (H-1), biologists observed three juveniles at a burrow entrance along with adults along the berm located north of E. Cole Blvd adjacent to alfalfa fields which are within the proposed solar field footprint for the project. The presence of juveniles indicates that successful breeding is occurring within the project site.

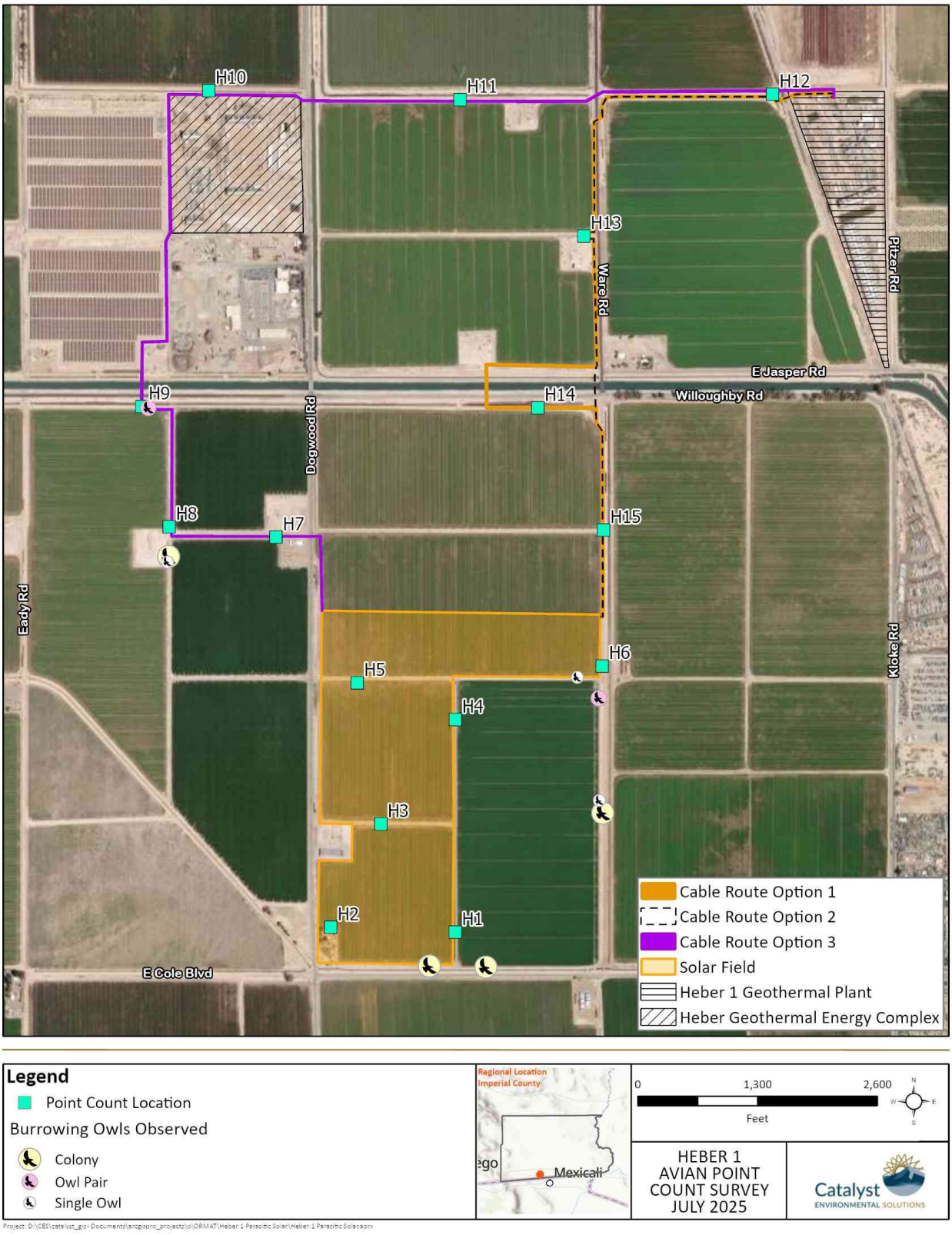


Figure 3-3. Burrowing Owl Observations during Avian Point Count Surveys Conducted July 11-12, 2025.

SECTION 4 Discussion

Catalyst biologists observed **19 burrowing owls** during the non-breeding season and **16 burrowing owls** during the breeding season survey, within the survey area. Including the individuals observed outside the survey area, a total of 22 burrowing owls and 24 burrowing owls were observed during the non-breeding and breeding season surveys, respectively. The breeding season survey was conducted in mid-February, which is relatively early in the breeding season. Peak breeding season is between April 15 and July 15 as described previously. The survey was conducted early in the breeding season, and the total number of burrowing owls onsite would likely be higher during the peak breeding season, between April 15 and July 15. Additional data on burrowing owl occupancy was collected during the avian point count survey conducted July 11-12, 2025, which is during the peak breeding season. Catalyst biologists observed **30 burrowing owls** during the point count survey. A total of 17 individuals were observed within the 100-meter fixed radius survey area for point count locations and 13 individuals were observed outside the point count survey area but within the project vicinity.

The southern portion of the survey area had the highest number of burrowing owls observed, especially the berm north of E. Cole Blvd. Several breeding pairs were observed in this area. The berms in this area support several large burrows which could provide suitable habitat for burrowing owls, in addition to the ones observed to be occupied by pairs. Another area which supports several occupied burrows within the survey area is located along a berm adjacent to a concrete-lined canal at the southern extent of Beech Lateral 2, which is immediately south of the easternmost extent of the proposed solar field. Several burrowing owls were also observed at burrow entrances near the eastern cable route and an existing geothermal pad. Several individual owls were observed along berms and canals which run through the proposed solar field as well as proposed cable routes.

Within the Project survey area, most of the burrowing owls observed were resting in or next to their burrows. Several owls were seen flying into and out of the fields from the canals and ditches, likely foraging or were potentially flushed away from burrows due to the presence of biologists surveying along the access roads and berms. None of the burrowing owls observed during the survey were visibly marked or banded; therefore, no records of these individuals are available, and their sex is unknown.

Three burrowing owl predators were present on the Project Site during the non-breeding and breeding season surveys, including northern harrier (*Circus hudsonius*), coyote (*Canis latrans*), and feral domestic cats (*Felis catus*). Catalyst biologists documented northern harriers hunting the alfalfa fields during several surveys and saw one coyote during one morning survey (2/19/25) roaming through alfalfa fields west and east of Dogwood Road and south of Willoughby Road. Signs of coyote (footprints and scat) were also ubiquitous. Other predators have been documented in the Project Area during previous surveys, including red-tailed hawk (*Buteo jamaicensis*), American crow (*Corvus brachyrhynchos*), and common raven (*Corvus corax*). Other predators that could be present on the Project Site but have not been observed include other species of hawks and falcons, snakes, raccoons (*Procyon lotor*) and American badger (*Taxidea taxus*).

SECTION 5 References

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency. 34 pp.

Appendix A Photo Log

Photo 1. The southern portion of the survey area looking south along an access road toward the berm north of E. Cole Blvd. During the non-breeding season survey, two pairs of burrowing owls, and two individual owls were observed at the entrances of burrows along this berm, which is adjacent to a canal and alfalfa fields. The berms in this area support several large burrows which could provide suitable habitat for burrowing owls, in addition to the ones observed to be occupied by pairs. During the breeding season survey, one pair was observed along the berm with several owls observed in this area east of the survey area (1/28/25).

Photo 2. Burrowing owl pair observed at a burrow entrance along the southern berm adjacent to the proposed solar field. Photo taken using spotting scope during breeding season survey from vantage point H11 (2/18/25).

Photo 3. Burrowing owls were observed during the non-breeding and breeding season surveys from H8, located within the survey area just south of the easternmost portion of the proposed solar field. Two pairs and one individual were also observed at their respective burrow entrances located in the southern extent of Beech Lateral 2 during the non-breeding season (1/28/25).

Photo 4. Burrowing owl pair observed at the entrance of a burrow along v-ditch from vantage point H8 (1/28/25).

Photo 5. Access road north of alfalfa fields, where one of the proposed cable route options could be located, and south of Beech Drain. Two burrowing owls observed in this area during the breeding season survey, one near a burrow within a small berm running through the alfalfa field and one near the edge of the access road and the berm just south of Beech Drain (shown in photos 6 and 7 below). Photo taken from vantage point H5, looking west along access road (2/19/25).

Photo 6 (left). Occupied burrow along small berm running through alfalfa field in the vicinity of vantage point H5 (2/19/25).
Photo 7 (right). Burrowing owl observed at burrow located near top of berm between the access road and Beech Drain, located along one of the proposed cable route options. Photo taken from vantage point H5 using spotting scope, looking west (2/19/25).

Photo 8. Habitat looking west from vantage point H9, along the access road running through alfalfa fields. Several burrowing owls observed along the berms in this area within the solar field footprint during the non-breeding and breeding season surveys (1/28/25).

Photo 9. Berm adjacent to concrete-lined v-ditch and alfalfa field with several burrowing owl observations at burrow entrances during the breeding season survey (see Photos 10 & 11). Photo taken from vantage point H7, looking south along berm (2/19/25).

Photos 10 & 11. Burrowing owls observed near entrances to burrows located along berm adjacent to concrete-lined v-ditch and alfalfa field. Photos taken from spotting scope set up at vantage point H7. Observations made during breeding season survey (2/19/25).

Photo 12. One burrowing owl observed during breeding season survey at a burrow entrance located along the berm between the access road and canal. Photo taken from vantage point H6, looking west (2/19/25).

Photo 13. One burrowing owl observed during the non-breeding season survey, near the burrow along berm located north of the canal and access road adjacent to the alfalfa field. Photo taken from vantage point H13, near the existing well pad, looking northeast across canal toward alfalfa fields (1/30/25).

Photos 14 & 15: Example of a perch site being used by a burrowing owl, observed perched on a hay bale located between alfalfa field and access road, within the solar field footprint for the project. Observation was made during the non-breeding season survey, closest vantage point is H8 (1/28/25).

Photo 16. Berm located between concrete v-ditch and access road located between alfalfa fields within survey area north of proposed solar site and east of cable route option, looking east. Three burrowing owls were observed along this berm area during the breeding season survey (see Photo 17) (2/18/25).

Photo 17. One of the burrowing owls observed along the berm adjacent to concrete-lined v-ditch and access road running through alfalfa fields (2/18/25). Several large burrows were observed along this berm.

Appendix B Surveyor Qualifications

Hannah Donaghe, MS

Master of Science, Earth Systems, Stanford University, 2012

Bachelor of Science, Earth Systems, Stanford University, 2011

Ms. Donaghe is a qualified biologist approved by CDFW to conduct and lead burrowing owl surveys. Ms. Donaghe is a biologist with 13 years of experience working in environmental consulting to support clients with environmental monitoring/planning and compliance. She has an interdisciplinary background in environmental and biological sciences, with a focus in marine ecosystems.

Ms. Donaghe holds a Federal Section 10(a)(1)(A) Recovery Permit for tidewater goby (*Eucyclogobius newberryi*) and California red-legged frog (*Rana draytonii*) and a state Scientific Collecting Permit. She is skilled in the following: sensitive species surveys, biological and environmental monitoring, aquatic studies in support of hydroelectric projects, nesting bird surveys, avian point count surveys, writing technical reports, California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documentation, and permitting. She has assisted clients with compliance under the Endangered Species Act, assessed impacts of development and other projects on listed species and their habitat, and developed Environmental Assessments and Biological Assessments.

Ms. Donaghe supports clients in meeting environmental regulatory requirements, identifies and solves issues proactively to maintain work schedules/budgets, and coordinates effectively with clients and regulatory agencies. She has extensive experience working with contractors to protect biological resources by ensuring permit and mitigation measure compliance for construction projects throughout Santa Barbara County. She is also skilled at performing sensitive species surveys/monitoring for the following: tidewater goby, California red-legged frog, western snowy plover (C*haradrius nivosus nivosus*), California least tern (*Sterna antillarum browni*), western burrowing owl (*Athene cunicularia hypugaea*), California tiger salamander (*Ambystoma californiense*), salmonids, and nesting birds. Ms. Donaghe has project management experience and has led various field efforts and environmental monitoring teams. She has experience with data analysis and developing technical reports in support of permit requirements.

Adrian Gonzalez, MS

Bachelor of Science, Fish and Wildlife Sciences, Oregon State University, 2013

Master of Science, Environmental Science, California State University, Monterey Bay, 2022

Mr. Gonzalez serves as a Staff Scientist for Catalyst Environmental Solutions, bringing a decade of experience working in biological resources, permitting, and geospatial analysis. His technical background is in fisheries, geospatial analysis, environmental science, and applied ecology. His primary area of practice is geospatial analysis and environmental compliance for biological assessments, critical issues

analyses, and energy and infrastructure projects. Mr. Gonzalez has assisted on Federal Biological Assessments and Environmental Impact Statements, Washington State Environmental Policy Act Environmental Impact Reports, floating offshore wind development, the siting of geothermal energy facilities, lead critical issues analyst, and California Environmental Quality Act Initial Studies and Environmental Impact Reports.

Mr. Gonzalez works closely with staff biologists and manages field data collection and curation using his technical background in geospatial data collection. He participates in field survey monitoring efforts for a variety of species using his four years of fisheries and habitat inventory experience gained while working for the Oregon Department of Fish and Wildlife and the U.S. Fish and Wildlife Service. He has experience with data analysis, coding for biological data, and geospatial data visualizations.

Olivia Hogan

Bachelor of Science, Sustainable Environmental Design, University of California, Davis, 2022

Ms. Hogan is an environmental planner with two years of experience in biological fieldwork and permitting requirements. She has participated in tidewater goby rescue and relocation efforts in Santa Barbara County, working under a permitted biologist. Additionally, she has conducted vegetation surveys/mapping at dry reservoirs, biological monitoring data analysis and recommendations for hydrologic issues related to cyanobacteria, and air quality monitoring related to point-source emission analysis, throughout Southern California. Ms. Hogan also has experience preparing critical issues analyses, which include analyzing potential impacts on biological resources, including special status species.

Ms. Hogan brings experience as an environmental planner under both state (CEQA) and federal (NEPA) jurisdictions and permitting requirements. This work includes biological assessment work, renewable energy development regulatory analysis, and compiling species lists based on IPaC and CNDDB database queries for a broad range of projects in California and the Pacific Northwest.

Appendix C Survey and Reporting Checklist

Table C-2. Breeding and Non-Breeding Season Surveys and Reports (Appendix D of CDFG 2012) Checklist

1. Date, start and end time of surveys including weather conditions (ambient temperature, wind speed, percent cloud cover, precipitation and visibility)	See Section 3.1 and 3.3
2. Name(s) of surveyor(s) and qualifications	See Appendix B
3. A discussion of how the timing of the survey affected the comprehensiveness and detection probability	See Section 2.1 and 2.2
4. A description of survey methods used including transect spacing, point count dispersal and duration, and any calls used	See Section 2.1 and 2.2
5. A description and justification of the area surveyed relative to the project area	Full Project Area Surveyed, see Section 2.1 and 2.2
6. A description that includes: number of owls or nesting pairs at each location (by nestlings, juveniles, adults, and those of an unknown age), number of burrows being used by owls, and burrowing owl sign at burrows. Include a description of individual markers, such as bands (numbers and colors), transmitters, or unique natural identifying features. If any owls are banded, request documentation from the BBL and bander to report on the details regarding the known history of the banded burrowing owl(s) (age, sex, origins, whether it was previously relocated) and provide with the report if available	See Section 3.2, 3.4, and 3.5
7. A description of the behavior of burrowing owls during the surveys, including feeding, resting, courtship, alarm, territorial defense, and those indicative of parents or juveniles	See Section 4
8. A list of possible burrowing owl predators present and documentation of any evidence of predation of owls	See Section 4
9. A detailed map (1:24,000 or closer to show details) showing locations of all burrowing owls, potential burrows, occupied burrows, areas of concentrated burrows, and burrowing owl sign. Locations documented by use of global positioning system (GPS) coordinates must include the datum in which they were collected. The map should include a title, north arrow, bar scale and legend	See Section 3.2 (Figure 3-1) and Section 3.4 (Figure 3-2)
10. Signed field forms, photos, etc., as appendices to the field survey report	Photo Log included in Appendix A
11. Recent color photographs of the proposed project or activity site	Photo Log included in Appendix A

12. Original CNDDB Field Survey Forms should be sent directly to the Department's CNDDB office, and copies should be included in the environmental document as an appendix. (http://www.dfg.ca.gov/bdb/html/cnddb.html)	Appendix D

Appendix D CNDDB Forms

CNDDB Online Field Survey Form Report

California Natural Diversity Database
Department of Fish and Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: 916.324.0475
cnddb@wildlife.ca.gov
www.dfg.ca.gov/biogeodata/cnddb/

This data has been reported to the CNDDB, but may not have been evaluated by the CNDDB staff

Source code DON25F0005
Quad code 3211565
Occ. no. _____
EO index no. _____
Map index no. _____

Scientific name: *Athene cunicularia*

Common name: burrowing owl

Date of field work (mm-dd-yyyy): 01-30-2025

Comment about field work date(s): Surveys completed January 28-30, 2025

OBSERVER INFORMATION

Observer: Hannah A. Donaghe

Affiliation: Catalyst Environmental Solutions

Address:

Email: hdonaghe10@gmail.com

Phone: (805) 674-7331

Other observers: Adrian Gonzalez, Olivia Hogan

DETERMINATION

Personal expertise: Yes

Keyed in:

Compared w/ specimen at:

Compared w/ image in:

By another person:

Other:

Identification explanation: Burrowing owls were visually identified by a senior biologist approved by CDFW to lead surveys

Identification confidence: Very confident

Species found: Yes **If not found, why not?**

Level of survey effort: 3 days

Total number of individuals: 22

Collection? No **Collection number:**

Museum/Herbarium:

ANIMAL INFORMATION

How was the detection made? Seen

Number detected in each age class:

adults	juveniles	larvae	egg mass	other
22				

Age class comment:

Bird site use:

☐ **Nesting** ☐ **Rookery** ☐ **Nesting colony** ☑ **Burrow site** ☐ **Lek**

☑ **Non-breeding (over-wintering)** ☐ **Communal roost** ☑ **Other (foraging, fly-over, etc.)**

Site use description: This survey was completed during the non-breeding season. Several pairs of burrowing owls were observed at the entrances to burrows; individual owls were observed at burrow entrances, foraging, and at perch sites.

What was the observed behavior? Most of the burrowing owls observed were resting in or next to their burrows. Several owls were seen flying into and out of the alfalfa fields from the canals and ditches, likely foraging or were potentially flushed from burrows due to the presence of biologists surveying along the access roads and berms. None of the burrowing owls observed during the survey were visibly marked or banded; therefore, no records of these individuals are available, and their sex is unknown.

Describe any evidence of reproduction:

SITE INFORMATION

Habitat description: Survey area includes alfalfa fields and associated berms along access roads, canals, and ditches.

Slope: Landowner/manager:

Aspect:

Site condition + population viability:

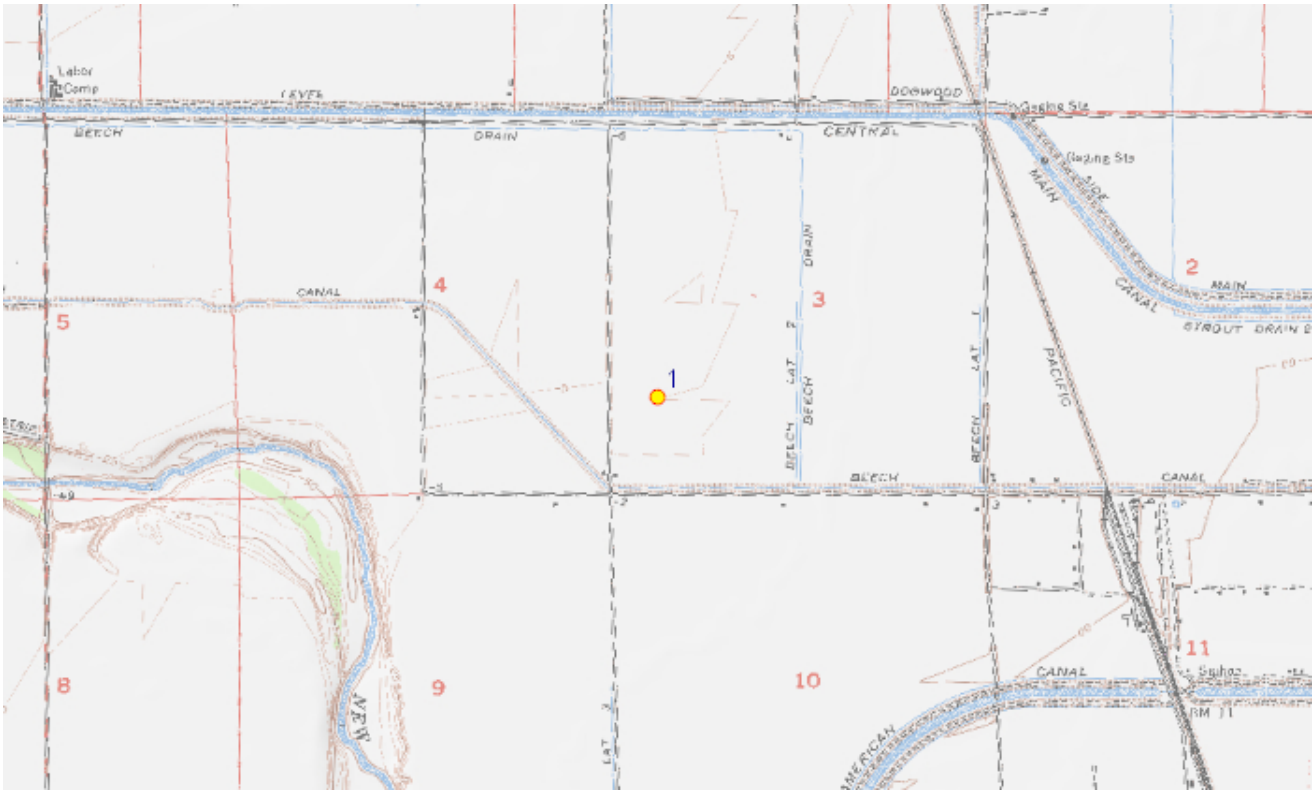
Immediate & surrounding land use: Agricultural fields used for alfalfa cultivation and associated berms along canals, concrete-lined and unlined ditches, and access roads. Existing geothermal and solar facilities are present in the area.

Visible disturbances: Vehicle traffic on roads and agricultural equipment in fields and along access roads

Threats: Northern harrier, coyote, and feral domestic cats were observed during the survey in the area. Other predators documented in previous surveys include red-tailed hawks, American crow, and common raven.

General comments:

MAP INFORMATION



ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
	Imperial	Heber	-4	32.69778	-115.53183	637622	3618737	11

1	Public Land Survey	Feature Comment
	S T17S R14E 3	

The mapped feature is accurate within: 1000 m

Source of mapped feature: CNDDB online field survey tool

Mapping notes: This point is a general location mapped within the survey area, which included a total of 660 acres in the surrounding area.

Location/directions comments:

Attachment(s):

CNDDB Online Field Survey Form Report

California Natural Diversity Database
Department of Fish and Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: 916.324.0475
cnddb@wildlife.ca.gov
www.dfg.ca.gov/biogeodata/cnddb/

This data has been reported to the CNDDB, but may not have been evaluated by the CNDDB staff

Source code DON25F0006
Quad code 3211565
Occ. no. _____
EO index no. _____
Map index no. _____

Scientific name: *Athene cunicularia*

Common name: burrowing owl

Date of field work (mm-dd-yyyy): 02-20-2025

Comment about field work date(s): Surveys completed February 18-20, 2025

OBSERVER INFORMATION

Observer: Hannah A. Donaghe

Affiliation: Catalyst Environmental Solutions

Address:

Email: hdonaghe10@gmail.com

Phone: (805) 674-7331

Other observers:

DETERMINATION

Personal expertise: Yes

Keyed in:

Compared w/ specimen at:

Compared w/ image in:

By another person:

Other:

Identification explanation: Burrowing owls were visually identified by a senior biologist approved by CDFW to lead surveys

Identification confidence: Very confident

Species found: Yes **If not found, why not?**

Level of survey effort: 3 days

Total number of individuals: 24

Collection? No **Collection number:**

Museum/Herbarium:

ANIMAL INFORMATION

How was the detection made? Seen

Number detected in each age class:

adults	juveniles	larvae	egg mass	other
24				

Age class comment:

Bird site use:

☑ **Nesting** ☐ **Rookery** ☐ **Nesting colony** ☑ **Burrow site** ☐ **Lek**

☐ **Non-breeding (over-wintering)** ☐ **Communal roost** ☑ **Other (foraging, fly-over, etc.)**

Site use description: This survey was completed during the breeding season. Several pairs of burrowing owls were observed at the entrances to burrows; individual owls were observed at burrow entrances, foraging, and at perch sites.

What was the observed behavior? Most of the burrowing owls observed were resting in or next to their burrows. Several owls were seen flying into and out of the alfalfa fields from the canals and ditches, likely foraging or were potentially flushed from burrows due to the presence of biologists surveying along the access roads and berms. None of the burrowing owls observed during the survey were visibly marked or banded; therefore, no records of these individuals are available, and their sex is unknown.

Describe any evidence of reproduction:

SITE INFORMATION

Habitat description: Survey area includes alfalfa fields and associated berms along access roads, canals, and ditches.

Slope: Landowner/manager:

Aspect:

Site condition + population viability:

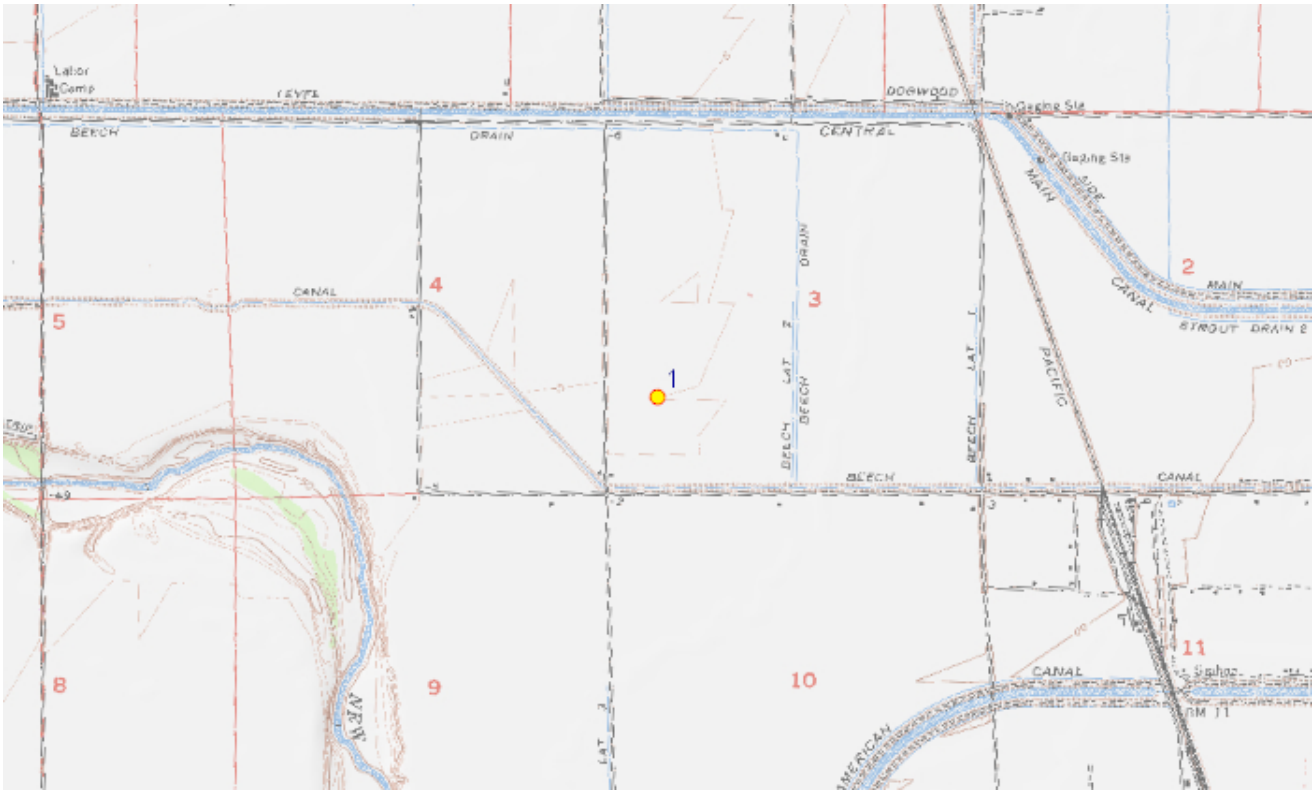
Immediate & surrounding land use: Agricultural fields used for alfalfa cultivation and associated berms along canals, concrete-lined and unlined ditches, and access roads. Existing geothermal and solar facilities are present in the area.

Visible disturbances: Vehicle traffic on roads and agricultural equipment in fields and along access roads

Threats: Northern harrier, coyote, and feral domestic cats were observed during the survey in the area. Other predators documented in previous surveys include red-tailed hawks, American crow, and common raven.

General comments:

MAP INFORMATION



ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
	Imperial	Heber	-4	32.69777	-115.53164	637639	3618736	11

1	Public Land Survey	Feature Comment
	S T17S R14E 3	

The mapped feature is accurate within: 1000 m

Source of mapped feature: CNDDB online field survey tool

Mapping notes: This point is a general location mapped within the survey area, which included a total of approximately 660 acres in the surrounding area.

Location/directions comments:

Attachment(s):