



*Heber 1 Parasitic Solar Project*

## Avian Point Count Survey Report

Imperial County, CA

August 14, 2025

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## SECTION 1 Introduction

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The Heber Field Company LLC (Applicant; a subsidiary of ORMAT) is proposing to develop a new, approximately 20 megawatt (MW) solar energy facility that will provide parasitic load to the existing Heber 1 geothermal complex in Imperial County, California.

Catalyst Environmental Solutions (Catalyst) performed one summer avian point count survey for the Heber 1 Parasitic Solar Project (proposed Project). Avian point count surveys are a method used to inventory and monitor bird populations and to measure how many birds live in an area. This report includes the methods and results of the avian point count surveys completed July 11-12, 2025, within the Project Area.

### 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 20 MW 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 1-2Error! Reference source not found..

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 A-2-GU 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, West Cole Boulevard, which runs perpendicular to Dogwood Road, provides immediate site access to the south.

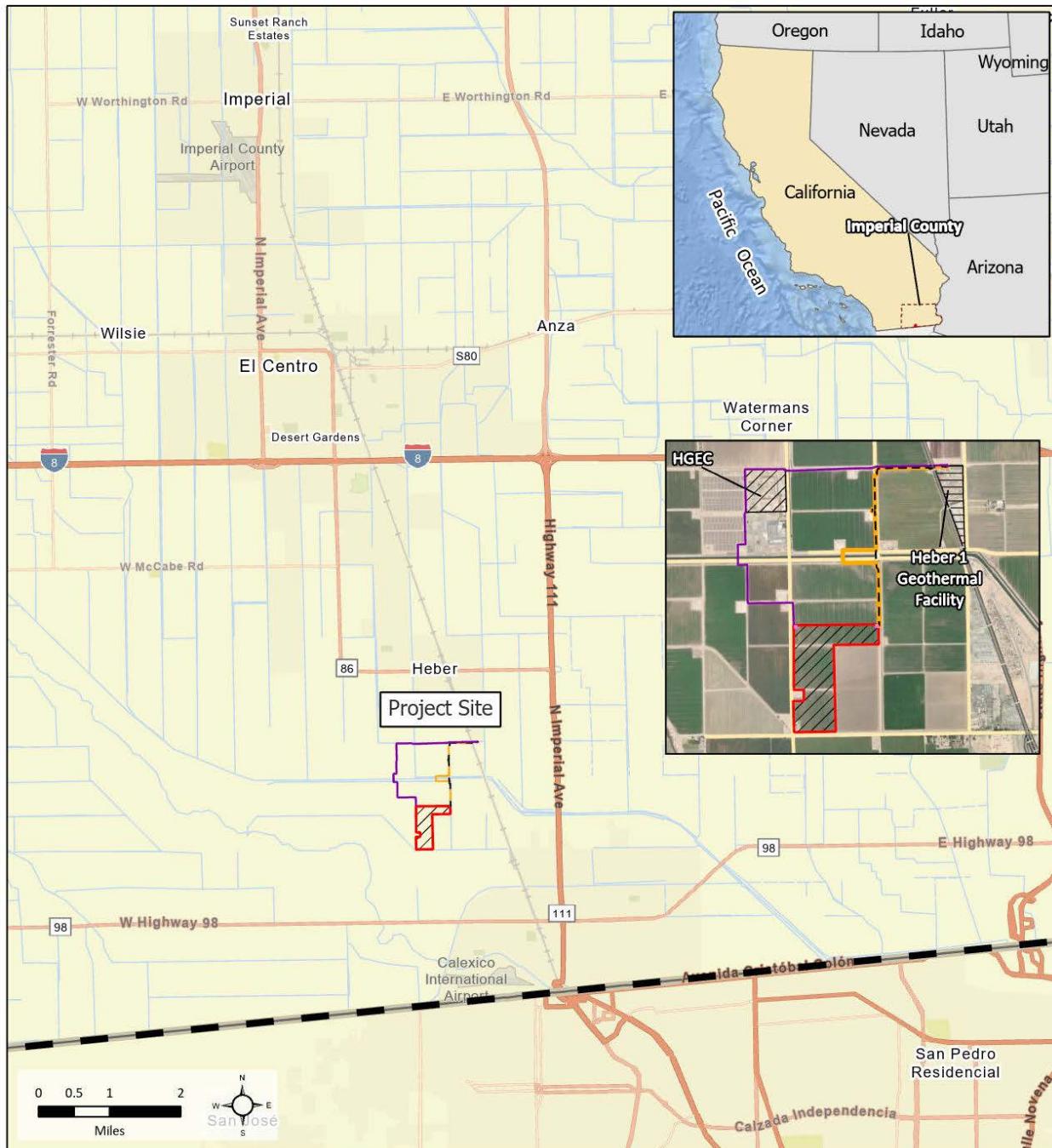


Figure 1-1. Regional Location Map

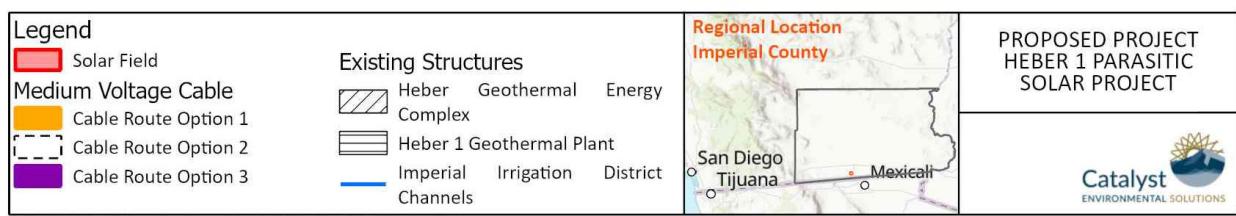
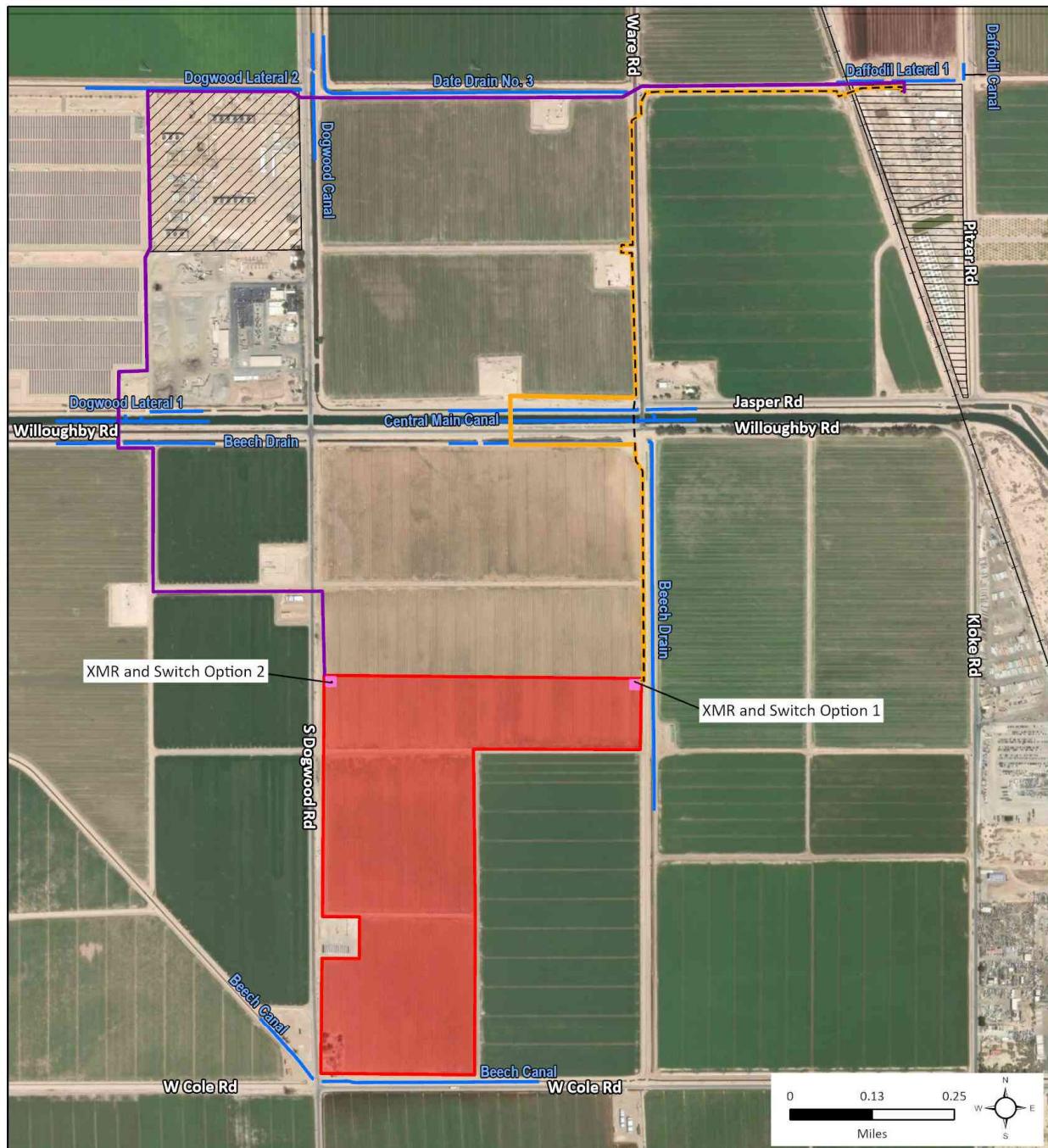


Figure 1-2. Project Location

## SECTION 2

# Methods

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### 2.1 Desktop Review

Prior to performing surveys, Catalyst staff reviewed species lists from previous biological surveys completed for the proposed Project and species occurrence data within the vicinity, including the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) species list (USFWS 2023a) and critical habitat maps (USFWS 2023b), the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (CDFW 2023), and eBird observations (GBIF.org 2025) for common and special status avian species.

Special-status bird species identified in the 2023 Biological Resources Report (Catalyst Environmental Solutions 2023) are shown in Table 2-1.

Table 2-1. Special-Status Bird Species Likelihood of Occurrence

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Habitat Description	Likelihood of Occurrence on Project Site
<b>Birds</b>						
<i>Aechmophorus occidentalis</i>	Western grebe	BCC	T	SSC	Obligate waterbird. Nest on the Salton Sea and along the Colorado River. Eat mostly fish and hunt by diving. Rest on open water, well offshore. Dive to escape danger. Nest in large stands of tall, emergent vegetation adjacent to large lakes (Kucera 2005).	<b>Low.</b> No suitable habitat present on Project Site. May fly or migrate over the area as the Project Site is within the yearlong range of the species (Hunting 2005).
<i>Agelaius tricolor</i>	Tricolored blackbird	BCC	T	SSC	Project is within the winter range for this species (Beedy 2008). Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Nests over or near fresh water in dense cattails or tules. Feeds in grassland and cropland habitats, including flooded lands, on insects and spiders as well as seeds and cultivated grains (Granholm 2008).	<b>Moderate.</b> Suitable breeding habitat is not present on the Project Site. Species could forage in the agricultural fields in the Project Area, particularly in winter.

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Habitat Description	Likelihood of Occurrence on Project Site
<i>Athene cunicularia hypugaea</i>	Burrowing owl	BCC	C	SSC	Live in open, treeless areas with sparse vegetation and gentle sloping terrain. Nests in a burrow, often dug by small mammals (CDFG 2012).	<b>Present.</b> Presence of burrowing owls confirmed on the Project Site and in the vicinity during survey.
<i>Calypte costae</i>	Costa's hummingbird	BCC	--	--	Occurs in more arid habitats than other hummingbirds in California. Primary habitats are desert wash, edges of desert riparian and valley foothill riparian, coastal scrub, desert scrub, desert succulent shrub, lower-elevation chaparral, and palm oasis (Green nd-a). Feeds on various herbaceous and woody nectar plants and small insects and spiders. Requires shrubs and trees for cover.	<b>Low.</b> Few shrubs and trees in Project vicinity, mainly restricted to canals.
<i>Melanerpes uropygialis</i>	Gila woodpecker	BCC	E	--	Occurs mostly in desert riparian and desert wash habitats but also found in orchard-vineyard and urban habitats, particularly in shade trees and date palm groves. Formerly found in farm and ranchyards throughout the Imperial Valley, but most regularly now near Brawley. Eats insects, mistletoe berries, cactus fruits, corn and occasionally contents of galls on cottonwood leaves, bird eggs, acorns, cactus pulp. Gleans from trunks and branches of trees and shrubs. Cottonwoods and other desert riparian trees, shade trees, and date palms supply cover in California (Green nd-b).	<b>Low.</b> No suitable nesting, gleaning, or cover habitat on the Project Site. Could occur in the general vicinity on adjacent properties where date palms or other trees are present.
<i>Rallus obsoletus yumanensis</i>	Yuma Ridgway's Rail	E	T	FP	Lives in freshwater marshes dominated by cattail ( <i>Typha</i> sp.) with a mix of riparian tree and shrub species. Optimal habitat consists of a mosaic of emergent vegetation averaging >2 m (6 ft tall). Diet is dominated by crayfish, with small fish, tadpoles, clams, and other aquatic invertebrates also utilized (USFWS 2009).	<b>None.</b> None observed or heard during field surveys. Dense stands of cattails or other tall emergent vegetation are not present. No suitable habitat on

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	Habitat Description	Likelihood of Occurrence on Project Site
						site or in adjacent drains.
<i>Setophaga petechia</i>	Yellow warbler	--	--	SSC	Breed in lowland and foothill riparian woodlands with cottonwoods, willows, and other small trees.	<b>None.</b> CNDB record >75 years. No suitable habitat present. Project Site is well outside of the current known range of the species (Shuford and Gardali 2008).

E = Endangered, T = Threatened, C = Candidate; BCC = Bird of Conservation Concern; FP = Fully Protected, SSC = Species of Special Concern

## 2.2 Avian Point Count Surveys

Two biologists completed avian point count surveys of the Project Area in July 2025. The first point count survey was completed from July 11-12, 2025, at locations within the project footprint (Figure 2-1). Avian point count surveys were conducted for the project footprint to document the relative abundance and diversity of birds in the project area. Surveys were conducted by a team of two biologists, Hannah Donaghe, MS, and Adrian Gonzalez, MS, with experience identifying birds in the region by sight and call.

Fixed-point count locations were established at least 300 meters apart throughout the project footprint with a focus on reducing potential overlap of the fixed radius survey areas (100 meters) and in consideration of the flat terrain, low vegetation in agricultural fields, and generally open space character of the project site. Methods generally follow those described in Ralph et al. (1995) and GBBO (2003). Additionally, Huff et al. (2000) recommends setting point locations at least 150 m from primary or secondary roads. Due to the presence of many access roads in the vicinity of the project footprint, not all point count locations could be set 150 m from secondary roads and still maintain coverage of the entire project footprint. Point count locations were buffered from roads as much as possible.

Ten-minute fixed-point count locations (with a survey defined as one complete 10-minute observation period at an individual 10-minute point location) were established within the project footprint.

Previously mapped vegetation communities were overlaid on the project footprint to ensure that all potentially affected habitat types were represented in the selection of fixed-point count locations. Vegetation types present in the project area include: (1) agricultural land, (2) developed/disturbed land, (3) arrow weed thickets, and (4) tamarisk thickets (Figure 2-2).

Surveys started within 15 minutes of local sunrise (approximately 0540 for July 11-12, 2025) and were completed by 10:00 am, at which time bird activity is likely to decline. Biologists used ArcGIS Field Maps to locate the survey sites. When a surveyor arrived at a point count location, surveyors paused to allow any disturbed birds to acclimate to the surveyor's presence as well as to record metadata (e.g., time, date, weather, point location ID, wind speed, vegetation community, etc.). Surveyors began the 10-

minute timer and quietly listened for birds and scanned the surroundings with binoculars. Birds were identified to species and recorded using avian alpha code (e.g., four-letter abbreviations based on English common names such as HOSP for house sparrow). At the end of the 10-minute survey, surveyors proceeded to the next point count location.

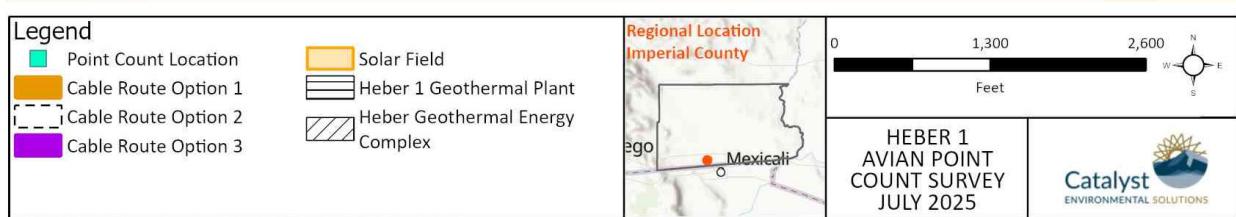
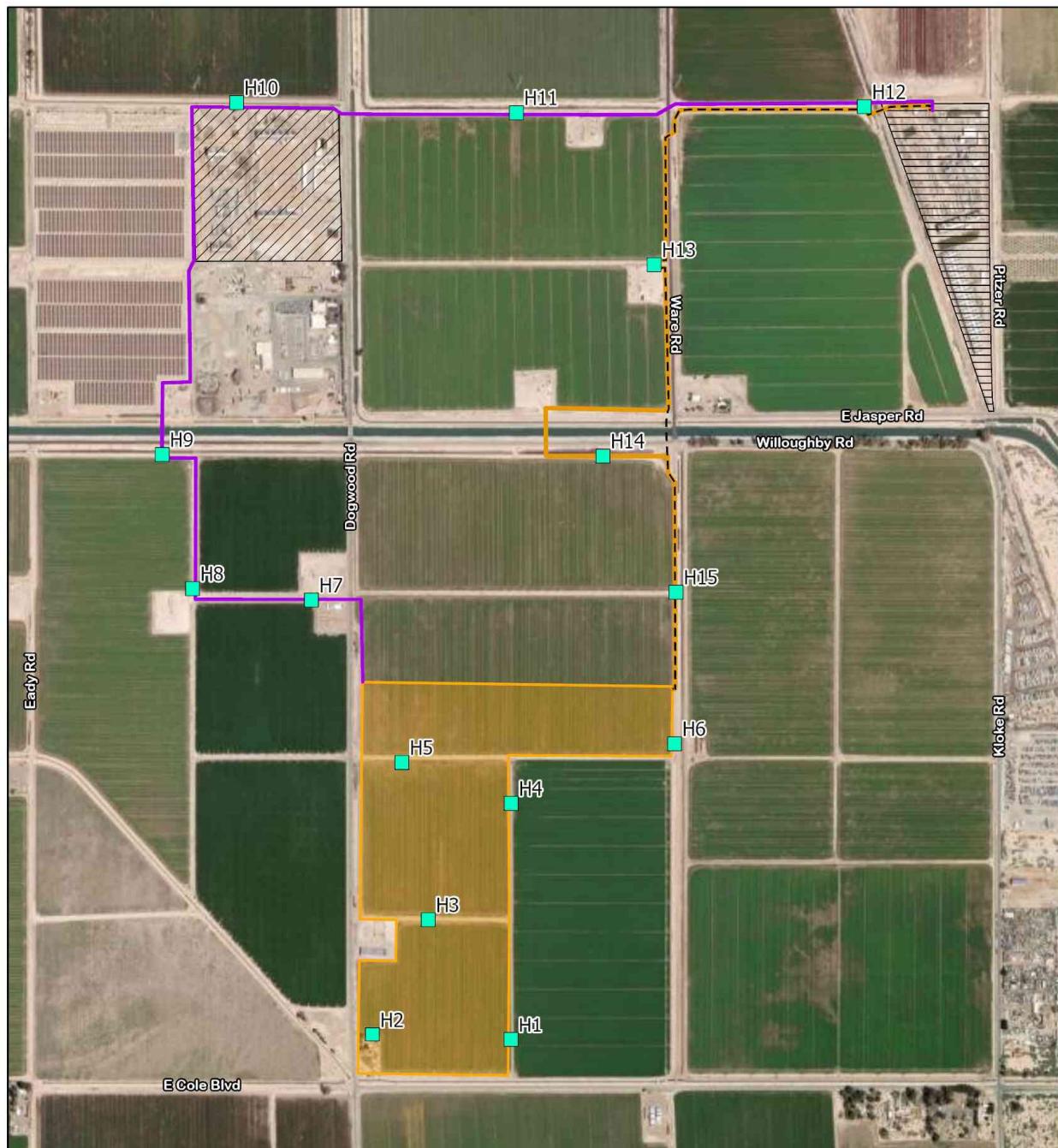


Figure 2-1. Avian Fixed-Point Count Locations.

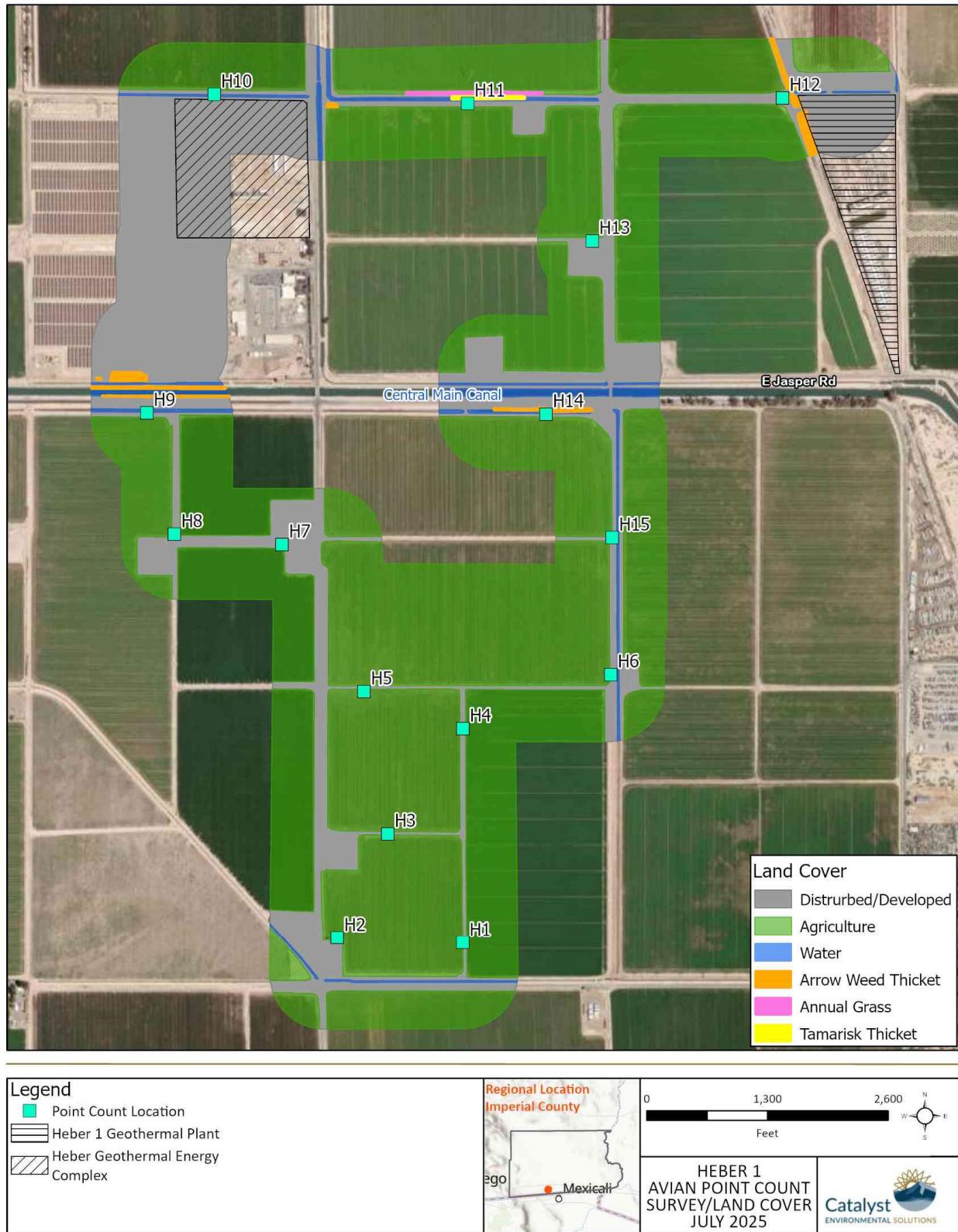


Figure 2-2. Avian Fixed-Point Count Locations and Vegetation Cover.

## SECTION 3 Results and Conclusion

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Temperatures during the survey ranged from 80.8 degrees Fahrenheit (°F) to 96.9°F on July 11, 2025, with clear skies and wind speeds between 0 and 2.4 miles per hour (mph). Temperatures ranged from 76.7°F to 91.5°F with clear skies and wind speeds between 0 and 3.9 mph on July 12, 2025. Conditions were suitable for conducting the survey on both days.

A total of 373 individual birds of 16 species were recorded during the avian point count surveys within the project site (Table 3-1). The 16 species observed during point counts are provided in Table 3-2. The Shannon-Wiener diversity index (H) for the project footprint is 1.43, which is a measure of species diversity in a community taking into account species richness and evenness.

The most common species detected during point counts of the project footprint was the red-winged blackbird (*Agelaius phoeniceus*) by a wide margin, with a total of 249 individuals observed at 12 of the 15 total point count sites. This species made up over 60 percent of the total birds observed. The next most abundant species observed during surveys was the cliff swallow (*Petrochelidon pyrrhonota*) and mourning dove (*Zenaida macroura*), with 18 individuals each, followed by the western burrowing owl (*Athene cunicularia hypugaea*) with 17 individuals observed during surveys. Each of these three species accounts for approximately 5 percent of the total birds observed. Datasheets are provided in Appendix A.

One special-status bird species was identified during the survey: western burrowing owl. Additional avian point count surveys could be conducted in fall/winter and spring to further document the use of the Project Area by birds.

Table 3-1. Avian Point Count Survey Results for the Project Area (15 sites).

Survey Period	Number of Species Observed	Number of Individuals Recorded	Shannon-Weiner Diversity Index (H)
July 11-12, 2025	16	373	1.43

Table 3-2. Number of Individual Birds Detected During Point Count Surveys for the Project Footprint.

Species Scientific Name	Species Common Name	July 11-12
<i>Agelaius phoeniceus</i>	Red-winged blackbird	249
<i>Anas platyrhynchos</i>	Mallard	7
<i>Ardea ibis</i>	Western cattle-egret	2
<i>Ardea alba</i>	Great egret	2
<i>Athene cunicularia hypugaea</i>	Western burrowing owl	17
<i>Charadrius vociferus</i>	Killdeer	1
<i>Columba livia</i>	Rock pigeon	14
<i>Falco sparverius</i>	American kestrel	2

Species Scientific Name	Species Common Name	July 11-12
<i>Himantopus mexicanus</i>	Black-necked stilt	5
<i>Passer domesticus</i>	House sparrow	1
<i>Petrochelidon pyrrhonota</i>	Cliff swallow	18
<i>Quiscalus mexicanus</i>	Great-tailed grackle	6
<i>Sayornis nigricans</i>	Black phoebe	4
<i>Streptopelia decaocto</i>	Eurasian collared-dove	16
<i>Sturnella neglecta</i>	Western meadowlark	11
<i>Zenaida macroura</i>	Mourning dove	18

## SECTION 4 **References**

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## Appendix A Data Sheets





Project Name / Number: Heber 1 Project		Point Count Site Number (Spatial location collected in AGOL) H6				Observer (s): HDAG	
Date: 7/1/25	Start Time: 7:06	Stop Time: 07110	Temperature (°F): 85.4		Coordinates: <input type="radio"/> UTM (easting, northing) <input type="radio"/> Degrees (lat, long)		
Wind Speed: 2.8	Check the metric used: <input type="radio"/> Beaufort Scale 0-12 <input checked="" type="radio"/> MPH	Cloud Cover (%): 0	Precipitation: None: 77.1 RH		Habitat Type: Alta Loma, Canal flood		
Time use 24-hr notation	Avian 4- letter Code	Distance (m) Estimate to the nearest m	Detection Method: (in priority order) S - song D - drum (woodpeckers) V - visual C - call W, T - Wings or tapping ADD FO - flyover for any flyovers		Sex M F U	# Observed (if flock)	Notes, Breeding Status code <ul style="list-style-type: none"> <li>• Other wildlife observed</li> <li>• Disturbances</li> <li>• Bird Breeding Status: CO-copulation, DI-Territorial Display, DD-Distraction</li> <li>• Display, FC-Food Carry, FL-fledglings, FS-Fecal Sac Carry, NB-nest building, NF-nest found, P-Pair</li> <li>• Notes about anything unusual or interesting, including predators, people, weather, off-road traffic, etc.</li> </ul>
0706	BUOW	100	✓		U	1	Adult point
0706	CLSW	50	V, FO		U	3	
0708	RWBL	100	V			16	
0707	GTGR	15	V		U	1	great-tailed grackle
7:10	RWBL	90	V			4	
7:11	WEME	100+	S, V			2	
7:14	RWBL	35	V, FO		2MF	3	
7:15	CLSW	50	FO, V		U	3	
7:15	CLSW	50	FO, V		U	2	
7:15	BUOW	90	V		U	1	Adult Point (Between 7:10-7:43 a truck drove down canal road disturbing 3 more adults/juveniles in total > 6 along the canal)













Project Name / Number: Heber 1 Project		Point Count Site Number (Spatial location collected in AGOL) H8				Observer(s): HD AG
Date: 7/12/25	Start Time: 0627	Stop Time: 0637	Temperature(°F): 80.8		Coordinates: <input type="radio"/> UTM (easting, northing) <input type="radio"/> Degrees (lat, long)	
Wind Speed: 1.6	Check the metric used: <input type="radio"/> Beaufort Scale 0-12 <input checked="" type="radio"/> MPH	Cloud Cover (%): None	Precipitation: 735 RH	Habitat Type: Alta; curbs, coral roads, signs, Fence wall and		
Time use 24-hr notation	Avian 4- letter Code	Distance (m) Estimate to the nearest m	Detection Method: (in priority order) S - song D - drum (woodpeckers) V - visual C - call W, T - Wings or tapping ADD FO - flyover for any flyovers	Sex M F U	# Observed (if flock)	Notes, Breeding Status code • Other wildlife observed • Disturbances • Bird Breeding Status: CO-copulation, DI-Territorial Display, DD-Distraction • Display, FC-Food Carry, FL-fledglings, FS-Fecal Sac Carry, NB-nest building, NF-nest found, P-Pair • Notes about anything unusual or interesting, including predators, people, weather, off-road traffic, etc.
0627	MELA	70	V	M	1	
0627	BUOW	60-80	V	V	~8	
0628	CLSW	80	V	V	1	
0629	MODO	90	V	V	1	
0629	RWBL	80	V	M	1	
0630	RWBL	70	V	M	2	
0634	MODO	100	V, FD	V	1	
0635	RWBL	70	V, FO	F	2	
0635	MODO	30	V, FO	V	1	
0636	MODO	100	V	V	1	
0636	RWBL	40	V, FO	V	20	









