Appendix E

Bat Habitat Assessment and Focused Survey Results

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Project No: 24-15778

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The Metropolitan Water District of Southern California
700 North Alameda Street
Los Angeles, California 90012
Via email: TAsef@mwdh2o.com

Subject: Bat Habitat Assessment and Focused Survey Results for Casa Loma Siphon No. 1 and San Jacinto Pipeline Project, Riverside County, California

Dear Ms. Asef,

This report documents the findings of a bat habitat assessment, focused emergence survey, and focused acoustic survey conducted by Rincon Consultants, Inc. (Rincon) for the Metropolitan Water District of Southern California (Metropolitan) Casa Loma Siphon No. 1 and San Jacinto Pipeline Project (Project). This report analyzes the potential for roosting and presence/absence of bats at the Project site.

Project Location and Description

The Project site encompasses approximately 20 acres within and adjacent to the San Jacinto River near the city of San Jacinto between Soboba Road and State Street, in unincorporated Riverside County, California. The Survey Area includes a 1,100-foot long and 150-foot-wide section of the San Jacinto River and the adjacent upland areas to Soboba Road with a 300-foot survey buffer around the site (Figure 1). The river was dry at the time of the survey. The upland areas of the Survey Area are characterized by Fremont cottonwood woodland, upland mustards, and fourwing saltbush scrub. Access to the site is provided via a dirt road located along Soboba Road.

During storm activity in early 2023, accelerated flows within the San Jacinto River exposed an approximate 200-foot-long segment of one of Metropolitan's Casa Loma Siphon No. 1 and San Jacinto Pipelines. In response to the emergency, Metropolitan installed protective measures to achieve temporary protection of the pipelines until a permanent solution could be developed. Metropolitan is now proposing a permanent engineering solution within the approximate 20-acre Project site to properly cover the three existing pipelines (Colorado River Aqueduct [CRA] Siphon, San Jacinto Pipeline and Casa Loma Canal Siphon).

Methodology

Regulatory authority over bat species is shared by federal, state, and/or local authorities depending on species status. For the purpose of this report, special-status bat species include:

- Species listed as threatened or endangered under the federal Endangered Species Act (ESA); species that are under review may be included if there is a reasonable expectation of listing during the Project
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA)
- California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC)

The CDFW California Natural Diversity Database (CNDDB) was reviewed for updated information on special status bats tracked near the Survey Area (within the *San Jacinto, California,* United States Geological Survey [USGS] 7.5-minute topographic quadrangle and the surrounding eight quadrangles (*Beaumont*, *Blackburn Canyon*, *Cabazon*, *El Casco*, *Hemet*, *Lake Fulmor*, *Lakeview*, *Winchester*) (CDFW 2024a). In addition, the literature review included information from Bat Conservation International (2019) and the Western Bat Working Group (2017), and the CDFW Special Animals List (CDFW 2024b).

Following the literature review, the Survey Area was assessed for the potential presence of roosting special-status bats and bat maternity colonies. One bat habitat assessment and one focused bat emergence survey were conducted by Rincon biologists Nick Julier and Alex Shepherd. Both surveys were conducted on June 26, 2024, from 1730 to 2300 (Table 1). The daytime habitat assessment survey consisted of visual inspections of the sides and undersides of structures, existing foliage and trees, and ground surfaces within the project boundaries, as well as a 300-foot survey buffer around the site (Figure 2). The entire Survey Area was accessible on foot and was visually inspected to the extent feasible. Entrances to inaccessible cavities within the hollow portions of the bridge and trees were inspected for signs of bats (e.g., urine staining, scat, or guano accumulations) with the aid of flashlights.

The bat emergence survey was conducted immediately following the habitat assessment, after ensuring acceptable weather conditions, and beginning approximately 45 minutes prior to sunset. During the observation period, the biologists scanned suitable habitat areas for emerging bats. Insect activity levels (high, medium, low) and weather conditions were recorded for each individual survey period as prey availability and seasonal weather conditions are key indicators of potential bat activity (Table 1). Levels of medium and high insect activity, along with warmer temperatures, would increase the chances of bats emerging from their roosts. In addition to recording all visual observations, a Petterson D240x ultrasound detector auto recording device, a Petterson M500 microphone and Microsoft Surface Pro equipped with Sonobat Live, and a Wildlife Acoustics EchoMeter Pro were used to detect inaudible ultrasonic calls of active bats within the area. To increase the airspace around the detectors, the microphones were placed on extension poles approximately 15 vertical feet above the ground and pointed toward potential roost locations. Acoustic recordings were subsequently downloaded to a computer and analyzed with both Sonobat 4.4.5 and Wildlife Acoustics Kaleidoscope. LED flashlights and 10x42 binoculars were used during the inspections. Observations of bats and/or bat signs were recorded.

Table 1 Survey Dates and Site Conditions

Survey	Date	Time (24 hr)	Surveyor(s)	Air Temp (°F)	Wind Speed (mph)	Relative Humidity (%)	Insect Activity
Habitat Assessment	June 26, 2024	1730 – 1920	Nick Julier, Alex Shepherd	79 - 87	4 - 6	58 - 66	High
Emergence Survey	June 26, 2024	1920 – 2300 Sunset @ 2010	Nick Julier, Alex Shepherd	74 - 80	3 - 5	59-67	High

Existing Site Conditions

The Survey Area generally contains flat, undeveloped, land at approximately 1,500 feet above mean sea level. It is located within the San Jacinto River floodplain, with the San Jacinto River flowing from southeast to northwest through the southwestern half of the site. The San Jacinto River and its upland banks contain a Fremont cottonwood woodland, and the outer floodplain contains upland mustards, fourwing saltbush scrub, disturbed fourwing saltbush scrub, and developed/disturbed land cover. Adjacent land use consists of the San Jacinto Mountains to the north and agricultural land and residential developments to the south, east, and west.

The Fremont cottonwood woodland forms dense canopies in several sections within and around the sand wash. These cottonwood stands, particularly in the southern and central parts of the site, provide roosting opportunities for bats. Both living and dead cottonwood trees in these areas have numerous openings and crevices in their bark and branches, making them potentially suitable for sensitive bat species to utilize as roosting habitat.

In addition to the cottonwoods, the site includes various other potential bat roosting features such as cracks and seeps in bark and rock, access holes, and dead trees. These features are scattered throughout the dry riverbed and surrounding terrain. Although no direct signs or observations of bat maternity roosting were recorded, the physical characteristics of these habitats indicate their potential to support bat populations as day roosts and foraging habitat. Special-status bat species known from the region and their potential to occur on site are summarized below (Table 2).

Table 2 Special-Status Bat Species Potential to Occur

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Survey Area	Habitat Suitability
Antrozous pallidus pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low	No rocky roosting areas occur within the BSA. Some woodland habitat occurs within the Survey Area. There is one recent occurrence in the CNDDB 9-quad search.
Corynorhinus townsendii Townsend's big-eared bat	None/None G4/S2 SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls and ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.	Low	No suitable roosting habitat occurs within the Survey Area. There is 1 recent occurrence within the CNDDB 9-quad search.

Scientific Name **Common Name**	**Status**	**Habitat Requirements**	**Potential to Occur in Survey Area**	**Habitat Suitability**
Lasiurus xanthinus western yellow bat	None/None G4G5/S3 SSC	Occurs in arid regions of the southwestern United States. Typically found in riparian woodlands, oak or pinyon-juniper woodland, desert wash, palm oasis habitats, and urban or suburban areas. Roosts in trees, often between palm fronds.	Present (foraging) Low (roosting)	Some suitable riparian woodland habitat occurs within the Survey Area. Species observed foraging within Survey Area. There are two recent occurrences in the CNDDB 9-quad search.

Status (Federal/State)

SSC = CDFW Species of Special Concern

Other Statuses

G1 or S1 Critically Imperiled Globally or Subnationally (state)

Results

Bat-focused habitat assessment and emergence surveys were conducted at a specific location over a single day by Rincon Biologists Nick Julier and Alex Shepherd. During this period, weather conditions varied with wind speeds between 4 and 6 miles per hour, humidity levels ranging from 58% to 66%, and temperatures spanning 79 to 87 degrees Fahrenheit. Insect activity closely correlated with these environmental factors and remained consistently high throughout the survey.

Potential bat roosting sites were documented, including cavities, holes, or cracks in trees across the Survey Area, as well as bat ingress/egress points found in trees. Fremont cottonwood woodland, characterized by dense foliage and exfoliated bark, was also assessed but showed no signs of bat roosting.

Following initial habitat assessments, acoustic recordings and emergence surveys were conducted near multiple cottonwood woodland stands in the San Jacinto River. Recording began 30 minutes before sunset, during a period of heightened insect activity. Ultrasonic recording equipment was strategically placed, focusing on identified potential roosting habitats. Analysis of acoustic recordings confirmed calls from one special status bat species, western yellow bat (*Lasiurus xanthinus*). A detailed list of identified bat species recorded during surveys is provided in Table 3.

During emergence surveys, bats were observed foraging between 2000 and 2330. No bats were observed emerging from trees or vegetation within the Survey Area. Foraging bats were consistently seen entering the area from the east and west, concentrating their activity in the center of the dry wash as night fell and temperatures dropped. Up to four bats were observed at a time, traversing the wash while foraging. The most frequently observed species during the survey was the Canyon bat (*Parastrellus hesperus*), likely due to the nearby mountains providing suitable habitat.

Foraging behavior primarily focused on the dry wash, with fewer occurrences of activity in open spaces away from the Fremont cottonwood woodland. No bats were seen roosting within the Survey Area. Observed bats returned to vegetated areas north and south outside the Survey Area. The last bat sightings within the Survey Area occurred between 2200 and 2250, and the survey concluded at 2310, with a total of approximately 30 individual bats observed throughout the night.

Table 3 Bat Species Detected

Scientific Name	Common Name	Species Status	Detection Method, Activity Observed
Parastrellus hesperus	Canyon bat	None	Acoustic, foraging
Tadarida brasiliensis	Mexican free-tailed bat	None	Acoustic, foraging
Lasionycteris noctivagans	Silver-haired bat	None	Acoustic, foraging
Lasiurus xanthinus	Western yellow bat	SSC	Acoustic, foraging
Myotis yumanensis	Yuma myotis	None*	Acoustic, foraging

SSC = CDFW Species of Special Concern

*Yuma myotis is listed as Bureau of Land Management (BLM) Sensitive, however the Survey Area does not occur within BLM jurisdiction.

Conclusions

The Survey Area provides suitable foraging habitat for bats, characterized by abundant insect activity and preferred vegetation. The acoustic surveys detected the presence of the western yellow bat, a CDFW species of special concern, and this species likely forages within the San Jacinto River. The surrounding Fremont cottonwood stands, located predominantly within the San Jacinto River, may be used as day roosts by western yellow bat. However, no night or maternity roosts were observed.

Rincon appreciates the opportunity to provide focused bat surveys for this important Project. Please do not hesitate in reaching out to the undersigned with questions related to the contents herein.

Sincerely,
Rincon Consultants, Inc.

Nick Julier
Biologist/Project Manager

Steven J. Hongola
Principal Biologist

Attachments

Attachment 1 Figures

Attachment 2 Site Photographs

References

Bat Conservation International (BCI). 2024. Retrieved July 23, 2024, from http://www.batcon.org

California Department of Fish and Wildlife (CDFW). 2024a. California Natural Diversity Data Base (CNDDB), Rare find V. 5. Accessed June 2024.

_______. 2024b. Special Animals List. Biogeographic Data Branch, California Natural Diversity Database. March 2023a. Accessed at: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/spanimals.pdf. Accessed June 2024.

_______. 2024c. California Sensitive Natural Communities. Accessed at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline. Accessed June 2024. CDFW California Natural Diversity Data Base (CNDDB), Rare find V. 5. Accessed June 2024.

Western Bat Working Group. 2017. Retrieved July 23, 2024. from http://www.wbwg.org

Attachment 1

Figures

Figure 1 Regional Location and Project Site

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Fig 1 Regional Location

Figure 2 Bat Survey Area and Observations

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Attachment 2

Site Photographs

Photograph 1. View of a dead Fremont cottonwood tree containing holes and cavities with access ports, facing northeast.

Photograph 2. Overview of San Jacinto River sand wash during bat survey with cottonwood stands, facing east.

Photograph 3. View of dead Fremont cottonwood tree with cavities and holes for potential roosting, facing northeast.

Photograph 4. Fremont cottonwood stands outside of the Project site and within Survey Area, facing south.

Photograph 5. Large Fremont cottonwood trees with cracks and exfoliated bark, facing east.

Photograph 6. Overview of San Jacinto River sand wash with cottonwood stands, with no signs or observations of bat roosting, facing southeast.