



Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Gilded Flicker Surveys on the Lower Colorado River and Tributaries 2020 Annual Report



February 2021

Work conducted under LCR MSCP Work Task D6

Lower Colorado River Multi-Species Conservation Program

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Bureau of Land Management
Bureau of Indian Affairs
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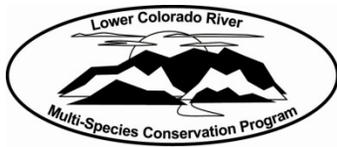
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RECLAMATION

Lower Colorado River Multi-Species Conservation Program

Gilded Flicker Surveys on the Lower Colorado River and Tributaries 2020 Annual Report

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Multi-Species Conservation Program
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ACRONYMS AND ABBREVIATIONS

ArcGIS	platform to create, manage, share, and analyze spatial data
Bill Williams River NWR	Bill Williams River National Wildlife Refuge
Cibola NWR	Cibola National Wildlife Refuge
CRIT	Colorado River Indian Tribes
eBird	a project of the Cornell Lab of Ornithology
GIFL	gilded flicker (<i>Colaptes chrysoides</i>)
GPS	Global Positioning System
km	kilometer(s)
LCR	lower Colorado River
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
N/A	not applicable
PVER	Palo Verde Ecological Reserve
Reclamation	Bureau of Reclamation

Symbols

≈	approximately
♂	male
♀	female

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EXECUTIVE SUMMARY

The purpose of this work is to determine the distribution of gilded flickers (*Colaptes chrysoides*) (GIFL) on the lower Colorado River and identify populations that may colonize created habitat within the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) planning area. Sites have been visited in recent years to determine if suitable habitat, here defined as Fremont cottonwood (*Populus fremontii*) and willow (*Salix goodingii* and *S. exigua*) habitat with adjacent saguaros (*Carnegiea gigantea*), is present. If so, additional visits are made to search for GIFL, with an emphasis on sites within 10 kilometers of LCR MSCP conservation areas.

In 2020, visits were made to the Bill Williams River National Wildlife Refuge, Palo Verde Ecological Reserve, and the Cibola Valley Conservation Area. Habitat near, but not in, conservation areas were also visited, including near the Laguna Division, the Cibola National Wildlife Refuge Unit #1 Conservation Area, and Parker Dam Camp. Sites were chosen based on the presence of GIFL in previous years, the site's proximity to LCR MSCP conservation areas, or the presence of suitable GIFL habitat.

In 2020, one pair of GIFL was detected during reconnaissance visits near Kohen Ranch on the Bill Williams River National Wildlife Refuge.

INTRODUCTION

Gilded flickers (*Colaptes chrysoides*) (GIFL) are native to the Southwestern United States. The species is covered under the Lower Colorado River Multi-Species Conservation Program (LCR MSCP), listed as a species of conservation concern in 2002 by the U.S. Fish and Wildlife Service, and was listed as endangered by the State of California in 1988. The LCR MSCP is a partnership of Federal and State stakeholders created to respond to the need to balance the use of lower Colorado River (LCR) water resources and conservation of native species and their habitats (LCR MSCP 2004). Implementation of a Habitat Conservation Plan within the LCR MSCP calls for the creation of 4,050 acres of habitat for GIFL within Reaches 3–7 (Davis Dam, near Laughlin, Nevada, to San Luis, Mexico) as defined by the LCR MSCP (LCR MSCP 2004).

Rosenberg et al. (1991) describe the habitat for this species as riparian woodlands containing Fremont cottonwood (*Populus fremontii*) and willow trees (*Salix goodingii* and *S. exigua*) and honey and screwbean mesquites (*Prosopis glandulosa* and *P. pubescens*, respectively) with tall snags, and desert washes and uplands where mature saguaros (*Carnegiea gigantea*) occur. Nest cavities in trees with soft wood and cactuses are preferred and have been found 3–8 meters high in saguaros, cottonwoods, willows, and occasionally, in tall honey mesquites. In 2013, Bureau of Reclamation (Reclamation) biologists began a multi-year study on a small population of GIFL using saguaros in desert habitat near Quartzite, Arizona. They developed and refined capture, handling, tracking, and monitoring methodology, and they gathered home range and seasonal movement data (Best 2017; Best et al. 2017).

Purpose and Objectives

The purpose of this work is to determine the distribution of GIFL on the LCR and identify populations that may colonize created habitat within the LCR MSCP boundary.

Monitoring of this species is in support of Conservation Measure GIFL1 and Monitoring and Research Measure 1 of the LCR MSCP. A survey protocol developed by Reclamation will remain a draft unless details (point spacing, detection probability, etc.) of the methods can be substantiated with a population of GIFL utilizing riparian habitat and upland desert in the LCR MSCP planning area.

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Methods and Study Area

GIFL begin pair bonding and nest site selection in February, but monitoring begins prior to this, in December and January, to establish access to sites and determine possible nesting locations. Best et al. (2017) documented the timing of nesting activity at seven cavity nests in upland desert habitat near Quartzite, Arizona, in 2014 (table 1).

Table 1.—GIFL nest chronology data, 2014 (from Best et al. 2017)

GIFL ID/radio frequency (megahertz)/GPS	Egg laying initiated¹	Clutch size (date detected)	Incubation initiated²	First egg hatch date³	First fledge date⁴	Outcome or nestlings at last check (date)
Rainbow Acres VHF: 164.223 (♀)	Nest 1: Unknown	Five eggs on 3/27/14	Unknown	Unknown	N/A	Predation confirmed on 4/14/14
	Nest 2: Unknown	Two nestlings on 5/20/14 (≈18 days old)	≈4/23/14	≈5/2/14	≈5/26/14	One fledgling confirmed (♂) on 6/7/14 (family group)
Rainbow Acres North GPS: 164.341 (♂)	≈5/2/14	One nestling on 5/20/14 (≈10 days old)	≈5/1/14	≈5/10/14	≈6/2/14	One nestling on 5/27/14
Kofa-Crystal Hills VHF: 164.217 (♀)	Unknown	Five eggs on 4/3/14	Unknown	Unknown (two nestlings on 4/14/14)	Unknown	One fledgling confirmed (♀) on 5/8/14 and again on 5/9/14
CRIT GPS: 164.332 (♂)	≈3/31/14	Two nestlings on 4/23/14 (≈12 days old)	≈4/1/14	≈4/11/14	≈5/4/14	Two fledglings confirmed (♂,♀) on 5/8/14; ♂ fledgling captured and instrumented
East Dome Rock VHF: 164.007 (♀)	Unknown	Three eggs on 4/29/14	Unknown	Unknown	N/A	Predation confirmed on 5/9/14
Cholla Valley West VHF: 164.321 (♀) GPS: 164.266 (♂)	Unknown	Two nestlings on 4/24/14	Unknown	Unknown	Unknown	Two fledglings confirmed (♂,♀) on 5/20/14 and again on 5/28/14
Cholla Valley East VHF: 164.36 (♀) GPS: 164.126 (♂)	Unknown	Three eggs on 5/4/14	Unknown	Unknown	Unknown	One fledgling confirmed (♂) on 6/16/14 (family group)

¹ Assumes 1 egg/day.

² Assumes incubation begins 1 day before last egg laid.

³ Assumes 10-day incubation prior to first egg hatch.

⁴ Assumes 24 days from hatch to fledge.

GIFL may have up to two broods per season, with the young fledging in late May and early July (Rosenberg et al. 1991, Best et al. 2017). GIFL can be confused with its rare, but present doppelganger, the yellow-shafted flicker (*Colaptes auratus auratus*), a subspecies of the northern flicker (*Colaptes auratus*) that spends winter on the LCR in low numbers. Yellow-shafted flickers arrive in early October and depart in mid-March (Rosenberg et al. 1991). Adding to the confusion, the red-shafted subspecies (*C. a. cafer*) also winters on the LCR from mid-September until early April (Rosenberg et al. 1991). A flicker seen or heard from May to August is likely a GIFL, but the yellow underwings, cinnamon coloring on the head, and red malar stripe (if male) should be seen (and noted for the record) for a positive identification; calls alone are not definitive.

To date, there are not sufficient known locations of GIFL within the habitat types found on the LCR to develop a statistically tested, standardized survey protocol; neither a detection probability nor suitable point spacing have been determined. Therefore, less intensive reconnaissance visits, which are similar to area searches, are a reasonable first step. For reconnaissance visits, rather than creating boundaries, established transects, or time constraints as in an area search or standardized protocol, the observer focuses and searches within suitable GIFL habitat and records the area and time period using a Global Positioning System (GPS) unit. Locations of visits, sightings of GIFL, and suitable habitat features, such as saguaros with cavities, are recorded using a Bad Elf GNSS Surveyor paired with an Apple iPhone 6 or iPad Mini 4 with ArcGIS Online software installed. In 2020, the draft survey protocol (Ronning et al. 2017) was used within relatively homogenous habitat at the Palo Verde Ecological Reserve (PVER). At all other sites, the less standardized reconnaissance visit was conducted.

Both reconnaissance visits and the draft survey protocol may determine the presence of GIFL, but not absence. During reconnaissance visits, observers slowly walk through areas of suitable habitat, occasionally playing a taped recording of GIFL calls. GPS points are taken to show where the observers searched, where saguaros with cavities are located, when and where the taped calls are played, and other information gathered during the visit. Suitable habitat, followed by an example, is defined here as:

- 1) Uplands containing saguaros with cavities, directly adjacent to riparian habitat (e.g., north and south of the Bill Williams River on the Bill Williams River National Wildlife Refuge [Bill Williams River NWR]).
- 2) Uplands containing saguaros with cavities within 10 kilometers (km) of LCR MSCP conservation areas planted with cottonwood and willow (e.g., along Mittry and Laguna Dam Roads near the Laguna Division Conservation Area).

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Best (2017) documented that GIFL will respond to broadcasts of their calls. As with any survey using call recordings, if the targeted species is located, the observer ceases playing the calls and moves away from the responding bird in order to avoid harassment. GIFL calls (downloaded from www.xeno-canto.org) were combined with silent listening segments to produce a recording for use during reconnaissance visits. Audio players with amplified speakers were used to broadcast the calls prior to and during the bird's known breeding season on the LCR.

The sequence of calls used for reconnaissance visits is:

- 5 minutes of silence
- 3 "peah" calls
- 10 to 15 seconds of silence
- 1 long call
- 10 to 15 seconds of silence

If no GIFL response is heard:

- 1 "wicka" call
- 30 seconds of silence

If still no response:

- 3 "peah" calls
- 10 to 15 seconds of silence
- 1 long call
- 10 to 15 seconds of silence

If no GIFL response is heard:

- 1 "wicka" call
- 30 seconds of silence

Best (2017) also documented a home range of up to 6 km from nest cavities. Based on this, reconnaissance searches for GIFL were focused on locations within 10 km of LCR MSCP conservation areas (figures 1–6). In addition, credible sightings reported within 10 km of an LCR MSCP conservation area were investigated. In 2020, habitat at the Bill Williams River NWR, south of Parker Dam Camp, the PVER, the Cibola Valley Conservation Area, a site just east of the Cibola National Wildlife Refuge (Cibola NWR), and a site just east of the Laguna Division Conservation Area were visited (figure 1, table 2). Information on all conservation areas can be found at www.lcrmsep.gov.

Sightings of GIFL from eBird between 2010–20 in counties that border the LCR, including San Bernardino, Riverside, and Imperial Counties in California and Mohave, La Paz, and Yuma Counties in Arizona were used to prioritize locations.

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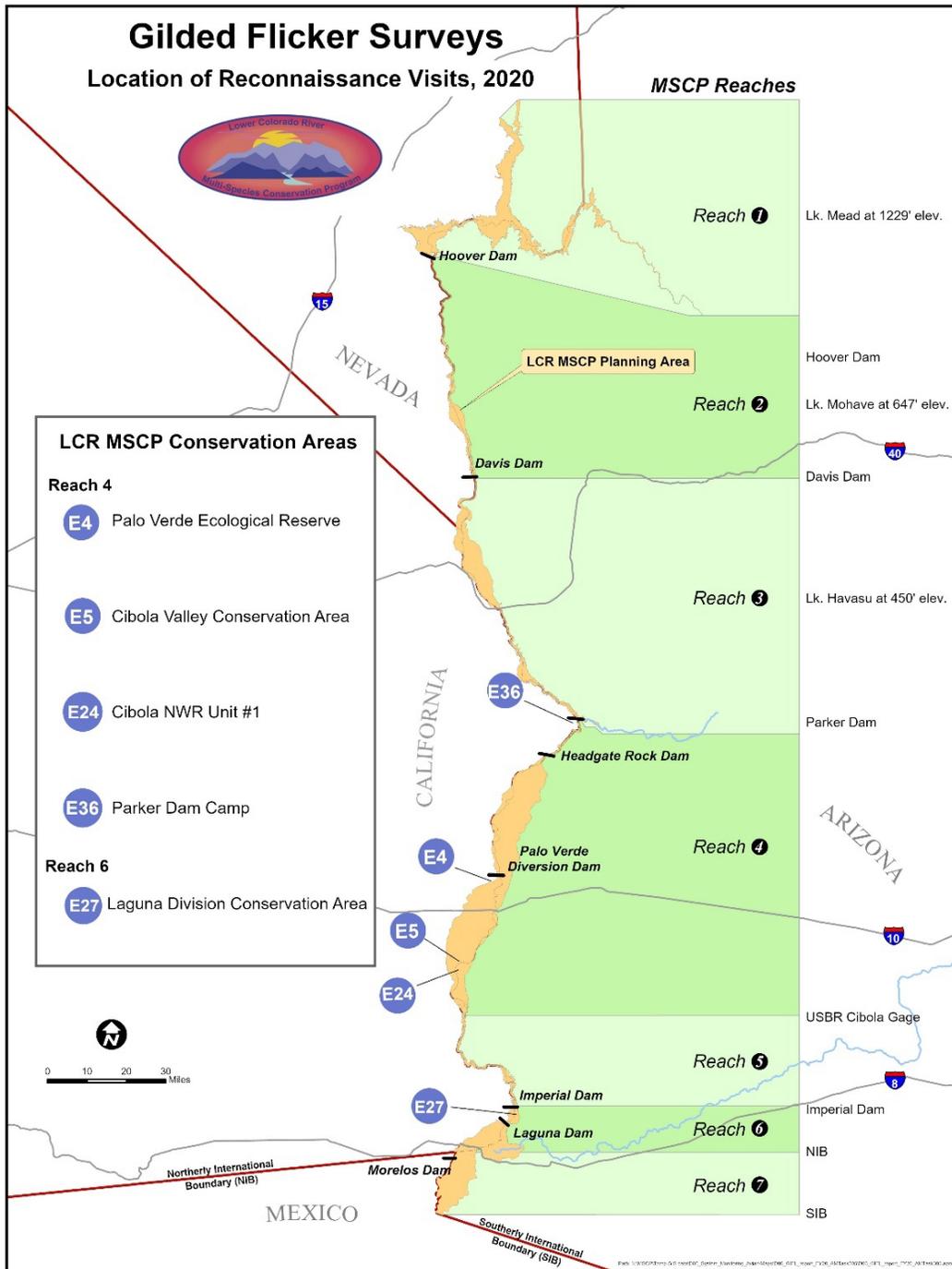


Figure 1.—GIFL monitoring locations, 2020.

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Table 2.—Study sites and dates of GIFL monitoring , 2020

Location/site name	Survey dates
Riverside County, California	
PVER, Phase 5	January 16, 2020
PVER, Phases 5 and 6	February 5, 2020
PVER, Phase 6	February 6, 2020
PVER, Phase 7	February 7, 2020
PVER, Phases 1 and 2	February 11, 2020
Mohave and La Paz Counties, Arizona	
Bill Williams River NWR	
Kohen Ranch	January 9, 2020
Kohen Ranch	January 10, 2020
Kohen Ranch	February 13, 2020
Kohen Ranch	February 14, 2020
La Paz County	
South of Parker Dam Camp	January 24, 2020
Yuma County, Arizona	
East of the Cibola NWR	January 23, 2020
Cibola Valley Conservation Area, Phases 1 and 2	January 23, 2020
East of the Laguna Division Conservation Area	February 19, 2020
East of the Laguna Division Conservation Area	February 20, 2020

RESULTS

Bill Williams River National Wildlife Refuge

The Bill Williams River, a tributary of the LCR, is the most likely place within the LCR MSCP to have nesting GIFL, as suitable habitat is present throughout the riparian zone. The Bill Williams River contains an extensive cottonwood and willow forest adjacent to mature saguaros in the surrounding uplands and is a natural corridor connecting sites further upstream in the vicinity of Lake Alamo, where there have been numerous recent sightings of GIFL (www.ebird.org). The lower portion of the Bill Williams River, from Planet Ranch downstream approximately 15 km to the delta at Lake Havasu, comprises the Bill Williams River NWR (figure 2). Between January 2010 and March 2018, there were 55 records of GIFL on the Bill Williams River NWR (www.ebird.org). It is unknown how many individual birds these records represent. On June 25, 2019, a GIFL was reported to eBird from the north side of Lincoln Ranch, approximately 39 km upstream of Lake Havasu and approximately 23 km upstream of the eastern boundary of the Bill Williams River NWR. Saguaros with cavities are numerous in the upland slopes to the north and south of the Bill Williams River.

In January and February 2020, four visits (see table 2) were made to the Kohen Ranch area, where more recent records indicate GIFL presence (figure 2). A male and female GIFL were observed adjacent to Kohen Ranch on the north side of the river on January 10, 2020. The pair responded from a power line pole when calls were broadcasted and then flew off and landed on the ground in a nearby patch of mesquite. On February 14, 2020, two GIFL were observed flying into a palo verde tree (*Parkinsonia florida*) and into a nearby field with scattered mesquites. Visits to the area were also made on February 9 and 13, but GIFL were not observed. During surveys for yellow-billed cuckoos (*Coccyzus americanus occidentalis*) in June and July 2020, GIFLs were heard and seen just west of the January and February sightings within the riparian habitat on the north side of the river.

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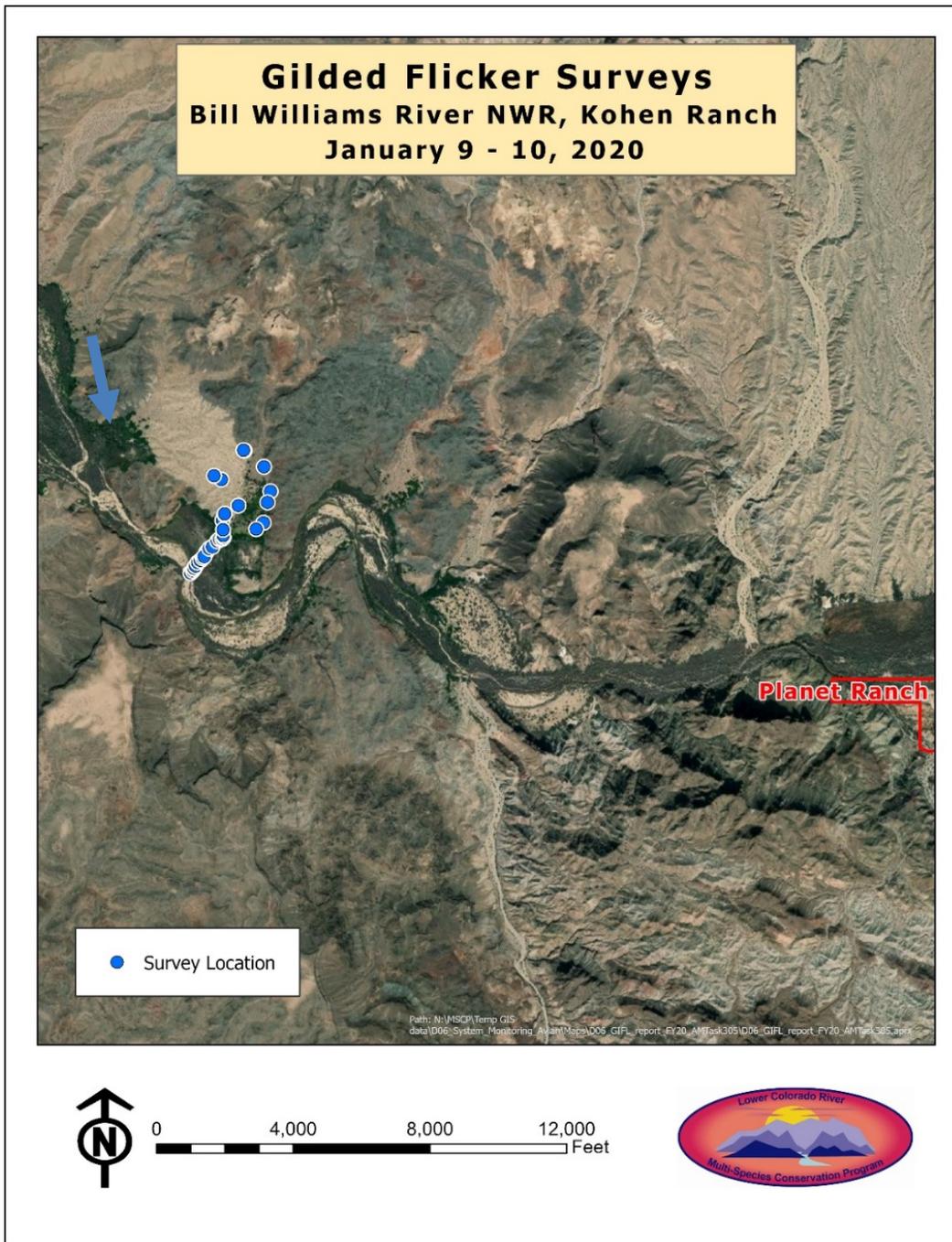


Figure 2.—Bill Williams River NWR near Kohen Ranch.
The blue arrow is the location of sightings of GIFL in June and July 2020.

South of Parker Dam Camp

This area is located just south of Parker Dam on the California side of the LCR (figures 1 and 3). The wash that was visited contained some flowing water and numerous palm trees, likely as a result of seepage from Gene Wash Reservoir. The site south of Parker Dam Camp was visited on January 24, 2020 (figures 3 and 4); no GIFL were seen or heard. Cavities in old cottonwood trees were noted. One female Gila woodpecker (*Melanerpes uropygialis*) was seen and heard calling from a large Athel tamarisk (*Tamarix aphylla*).

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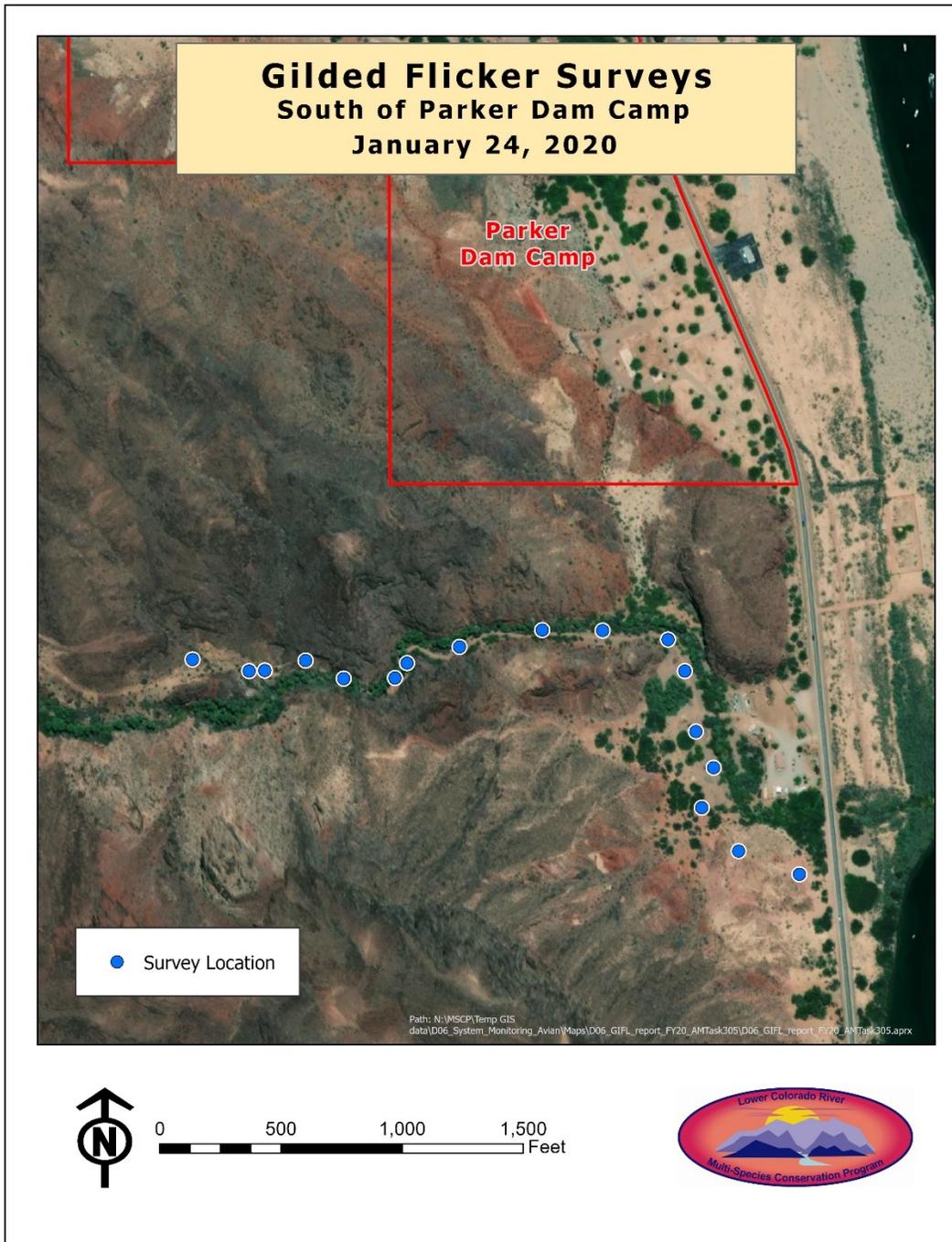


Figure 3.—South of Parker Dam Camp.

Palo Verde Ecological Reserve

One female GIFL was reported at the PVER in June and July 2019 (McLeod and Pellegrini 2020; www.eBird.org). In 2020, the PVER was visited five times in January and February (table 2), and calls were broadcast at points along the roads adjacent to the habitat and while walking within the habitat (figure 5). No GIFL were observed during these visits. Several northern flickers were visually identified when they responded to broadcast calls. On February 6, observers noted a response to the taped calls from an unknown flicker, possibly two, responding with a “peah” call. The “long” and “wicca” calls were then played, but the observers were unable to identify the flicker to species. The bird(s) then flew off toward the southwest.

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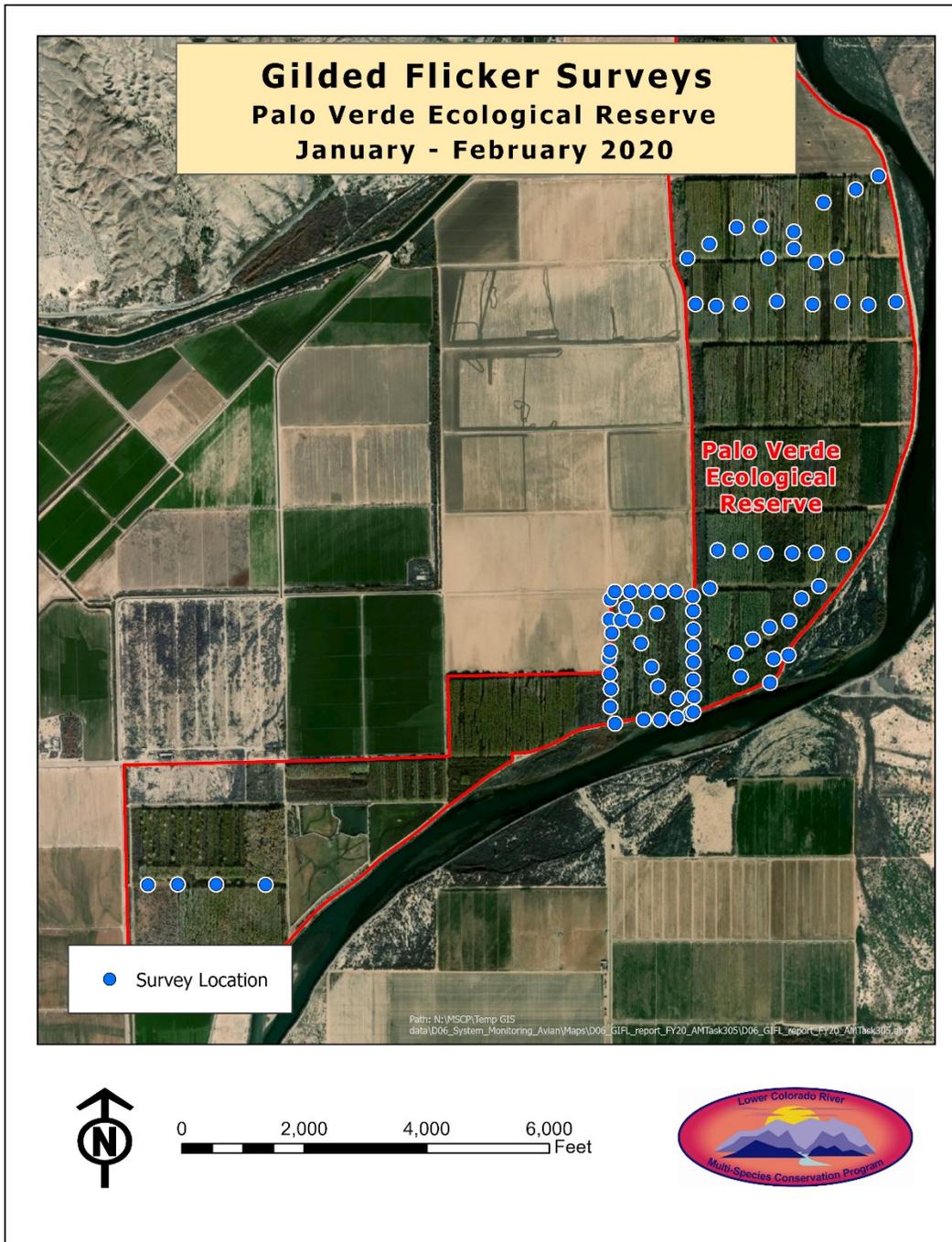


Figure 4.—PVER.

East of the Cibola NWR Unit #1 Conservation Area

On January 22, 2020, a section of Baseline Road, from its intersection with River Road east for approximately 6 km, was visited (figure 6). Ladder-backed woodpeckers (*Dryobates scalaris*) responded to the broadcast calls. Although a few saguaros are present in the area, no GIFL were detected. On January 23, an unnamed dirt road, unofficially named Rex's Road for reporting purposes, begins to the east of and directly across Cibola Lake Rd from the entrance gate to the Cibola NWR. This road was accessed and searched for GIFL from its intersection with Cibola Lake Rd to approximately 1.9 km east. Several saguaros and with cavities were noted, as well as an ironwood tree (*Olneya tesota*) with 3 cavities, and a ladder-backed woodpecker was heard calling.

Phases 1 and 2 at the Cibola Valley Conservation Area were also visited in the late afternoon of January 23. An unknown flicker was heard calling, but there were no responses by GIFL.

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Figure 5.—East of Cibola NWR Unit #1 Conservation Area.

East of the Laguna Division Conservation Area

There was one record from eBird of a GIFL at the Mittry Lake Wildlife Area in February 2019 and one reported at Fisher's Landing near the Imperial National Wildlife Refuge in April 2017. Mittry Lake Road to Laguna Dam Road was visited in February and March 2020 due to one past record in eBird in this area and the site's proximity to the nearby Laguna Division Conservation Area (figure 6). There are numerous mature saguaros along the road to the east, some within the Yuma Proving Grounds, and less to the west as the habitat becomes more mesic. Riparian habitat with scattered cottonwoods, willows, and mesquites (*Prosopis glandulosa* and *P. pubescens*) is present to the west in the Mittry Lake Wildlife Area. Suitable habitat was again noted, but no GIFL responded to broadcasts of their calls.

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Figure 6.—East of the Laguna Division Conservation Area.

DISCUSSION/SUMMARY

LCR MSCP conservation areas along the LCR are annually surveyed for a variety of species covered under the program. That work provides additional opportunities for biologists to detect GIFL. A female GIFL was observed at the PVER, north of Blythe, California, on June 12, 2019, during surveys for southwestern willow flycatchers (*Empidonax traillii extimus*) (www.eBird.org; SWCA Environmental Consultants 2020). On July 28, 2019, a female GIFL was observed by a group of 15 bird watchers near the same location. On February 5, 2019, a GIFL was reported in the Mittry Lake (www.eBird.org) Wildlife Area. Although no GIFL were observed when the PVER was visited by Reclamation staff in 2020, this area will continue to be monitored in future years.

A pair of GIFL were detected when they responded to broadcast calls at Kohen Ranch on the Bill Williams River NWR. This area will continue to be monitored, and any new sightings reported on eBird or from other Reclamation projects throughout 2020 will be visited in 2021.

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