Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

Gilded Flicker Surveys on the Lower Colorado River and Tributaries

2019 Annual Report

March 2020

Work conducted under LCR MSCP Work Task D6

Lower Colorado River Multi-Species Conservation Program Steering Committee Members

Federal Participant Group

Bureau of Reclamation
U.S. Fish and Wildlife Service
National Park Service
Bureau of Land Management
Bureau of Indian Affairs
Western Area Power Administration

Arizona Participant Group

Arizona Department of Water Resources
Arizona Electric Power Cooperative, Inc.
Arizona Game and Fish Department
Arizona Power Authority
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City of Lake Havasu City
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Mohave Water Conservation District
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Other Interested Parties Participant Group

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Desert Wildlife Unlimited

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Coachella Valley Water District
Colorado River Board of California
Bard Water District
Imperial Irrigation District
Los Angeles Department of Water and Power
Palo Verde Irrigation District
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Ducks Unlimited
Lower Colorado River RC&D Area, Inc.
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Lower Colorado River
Multi-Species Conservation Program

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Raulston, B.E. 2020. Gilded Flicker Surveys on the Lower Colorado River and Tributaries, 2019 Annual Report. Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada

ACRONYMS AND ABBREVIATIONS

ArcGIS	platform to create, manage, share, and analyze spatial data
Bill Williams River NWR	Bill Williams River National Wildlife Refuge
GIFL	gilded flicker (*Colaptes chrysoides*)
GPS	Global Positioning System
km	kilometer(s)
LCR	lower Colorado River
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
LDCA	Laguna Division Conservation Area
N/A	not applicable

Symbols

≈	approximately
♂	male
♀	female

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EXECUTIVE SUMMARY

The purpose of this work is to determine the presence and range of gilded flickers (*Colaptes chrysoides*) 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 were visited to determine if suitable habitat is present within 10 kilometers of LCR MSCP conservation areas. Visits were made into areas with suitable habitat to conduct reconnaissance for gilded flickers, including the Bill Williams River National Wildlife Refuge, Parker Dam Camp, and adjoining Desilt Wash, and the Mittry Lake Wildlife Area, near Yuma, Arizona. Suitable habitat is present at the Bill Williams River National Wildlife Refuge and the Mittry Lake Wildlife Area. There were not sufficient saguaros (*Carnegiea gigantea*) present near Parker Dam Camp, although there is riparian habitat along Desilt Wash. No gilded flickers were detected at these sites. One female gilded flicker was reported at the Palo Verde Ecological Reserve in June and July 2019, and one was reported at Mittry Lake Wildlife Area in February 2019 (McLeod and Pellegrini 2020; www.eBird.org).

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 were 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 gilded flickers within Reaches 3–7 (Davis Dam, Arizona/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*), mesquite (*Prosopis glandulosa* and *P. pubescens*) habitat 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, tall honey mesquites. In 2013, Bureau of Reclamation biologists began a multi-year study on a small population of gilded flickers using saguaros in desert habitat near Quartzite, Arizona. They developed and refined capture, handling, tracking, and monitoring methodology and gathered home range and seasonal movement data (Best 2017).

Purpose and Objectives

The purpose of this work is to determine the presence and range of gilded flickers 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 the Bureau of 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.

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 (2017) documents the timing of nesting activity at

seven cavity nests in upland desert habitat near Quartzite, Arizona, in 2014 (table 1.) GIFL may have up to two broods per season, with the young fledging in late May and early July (Rosenberg et al. 1991). The gilded flicker 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 the 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 gilded flicker, 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. Reconnaissance visits can determine presence of GIFL, but not absence. Rather than creating boundaries or time constraints as in an area search, 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 during this monitoring were recorded using the program Collector for ArcGIS.

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 [LDCA]).

Table 1.—Gilded flicker nest chronology data, 2014 (from Best 2017)

Nest	Egg laying initiated[a]	Clutch size (date detected)	Incubation initiated[b]	First egg hatch date[c]	First fledge date[d]	Last check (date)
1	*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)
2	≈ 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
3	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 5/19/14
4	≈ 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
5	Unknown	Three eggs on 4/29/14	Unknown	Unknown	N/A	Predation confirmed on 5/19/14
6	Unknown	Two nestlings on 4/24/14	Unknown	Unknown	Unknown	Two fledglings confirmed on (♂,♀) 5/20/14 and again on 5/28/14
7	Unknown	Three eggs on 5/4/14	Unknown	Unknown	Unknown	One fledgling confirmed (♂) on 6/16/14 (family group)

Note: Chronologies are calculated based on compiled northern flicker data found in Wiebe and Moore (2008).

[a] Assumes 1 egg/day.

[b] Assumes incubation begins 1 day before last egg laid.

[c] Assumes 10-day incubation prior to first egg hatch.

[d] Assumes 24 days from hatch to fledge.

Best (2017) documents 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. Gilded flicker 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 gilded flicker 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 gilded flicker response is heard:
1 "wicka" call
30 seconds of silence

Best (2017) documents a home range of up to 6 km from nest cavities. Based on this, reconnaissance searches for gilded flickers were focused on locations within 10 km of LCR MSCP conservation areas. In addition, all credible sightings reported within 10 km of an LCR MSCP conservation area were investigated. In 2019, habitat near Planet Ranch, including portions of the Bill Williams River NWR, Parker Dam Camp, and adjacent Desilt Wash, were visited. Near the LDCA, areas along Laguna Dam Road, between the Yuma Proving Grounds and the Mittry Lake Wildlife Area, were visited (figure 1.). Further information on all conservation areas can be found at www.lcrmscp.gov.

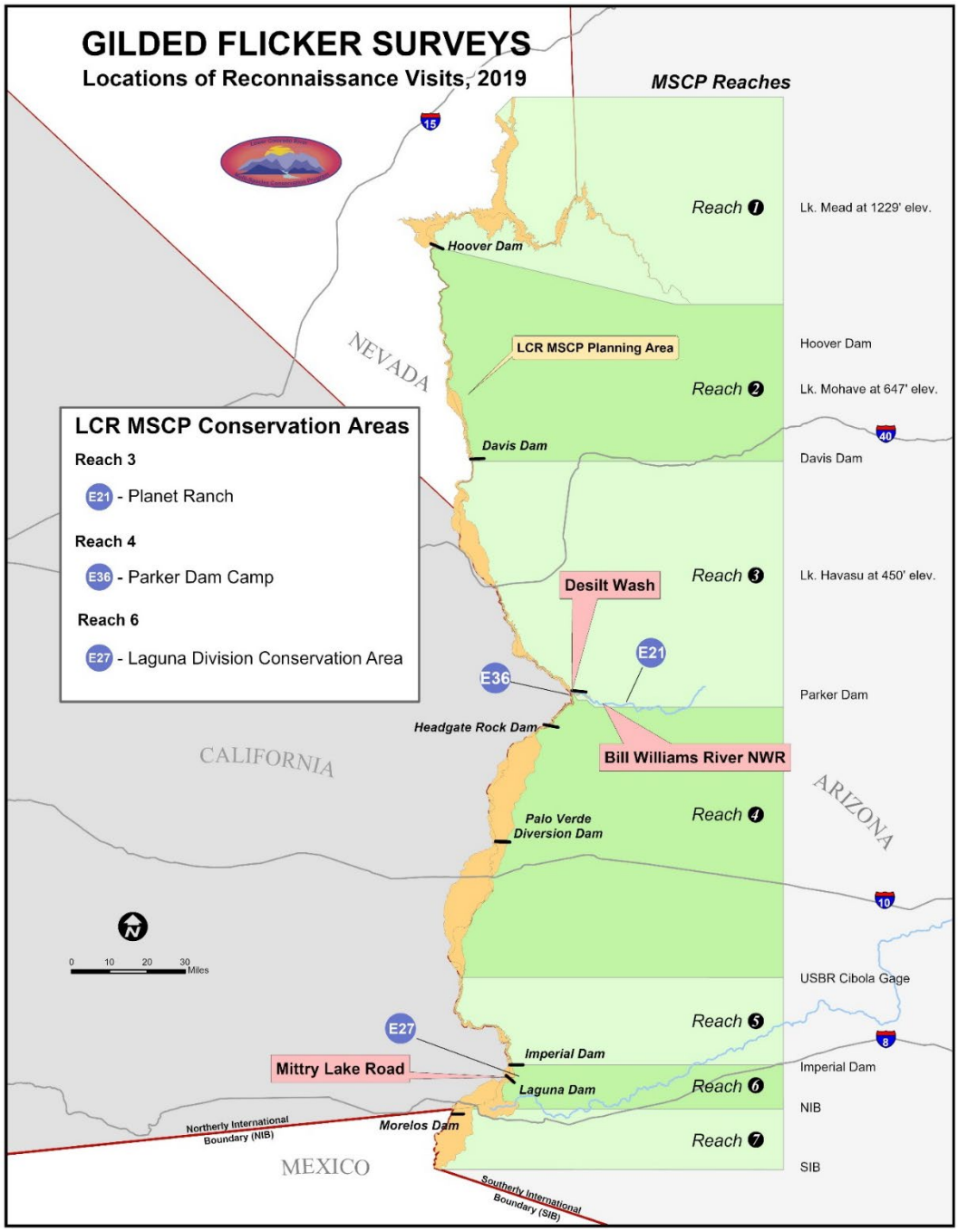

Figure 1.—Location of reconnaissance visits.

Sightings of GIFL from eBird between 2010–19 in counties that border the LCR were used to prioritize locations, including San Bernardino, Riverside, and Imperial, California, and Mohave, La Paz, and Yuma, Arizona. The total number of records from eBird are reported here along with the estimated number of individual GIFL records (i.e., records with the same observation date and time are reported as one individual).

Table 2.—Study sites and dates of GIFL surveys, 2019

Location/site name	Survey dates
San Bernardino County, California	
Parker Dam Camp and Desilt Wash	December 11, 2018
Mohave and La Paz Counties, Arizona	
Bill Williams River NWR:	
Gate to Kohen Ranch	January 16, 2019
Mineral Wash to Kohen Ranch	January 30, 2019
Mineral Wash and Esquerra Ranch	February 7, 2019
West end of Bill Williams River NWR Road to gate	February 8, 2019
Esquerra Ranch	February 20, 2019
Kohen Ranch	February 21, 2019
Yuma County, Arizona	
Mittry Lake Road	March 21, 2019

RESULTS

Parker Dam Camp and Desilt Wash, California

This site is located just south of Parker Dam, on the California side of the LCR (figure 2). It was a historical housing development for dam workers and has since been demolished. More information on the site can be found in LCR MSCP annual reports and workplans located at www.lcrmscp.gov (Hannon et al. 2019; LCR MSCP 2019). Vegetation within Parker Dam Camp consists of several non-native tree, shrub, and ground cover species used in landscaping and remaining from the time the area was a housing development. These include sparse, decadent mulberry trees and snags (*Morus alba*), oleanders (*Nerium oleander*), saltcedar (*Tamarisk* spp.) and Bermuda grass (*Cynodon dactylon*). Various palm trees are also present at Parker Dam Camp. These may be *Washingtonia* spp., but they could also be introduced species, as

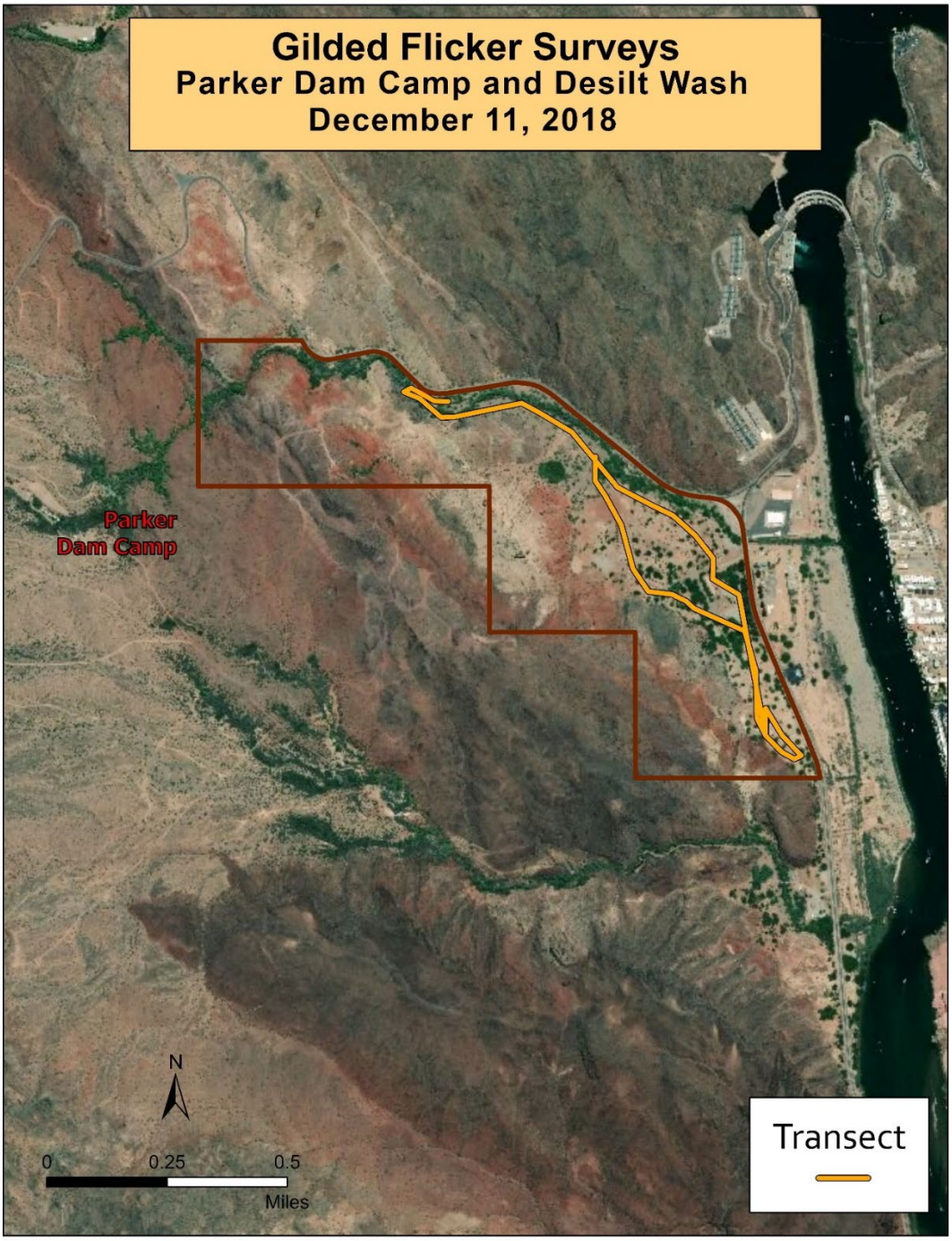

Figure 2.—Location of reconnaissance visits, Parker Dam Camp and Desilt Wash.

this was a housing development at one time. Large honey mesquites are also scattered throughout the site, likely dispersed by the wild burros (*Equus africanus asinus*) that are common in the area. Desilt Wash runs along the south side of Metropolitan Water District/Trails End Camp Road, just to the north of Parker Dam Camp. This wash has water present year round, the result of runoff from Gene Wash Reservoir, goes underground adjacent to Parker Dam Camp and then seeps the LCR.

Parker Dam Camp was visited on December 11, 2019, from 11:30 a.m. to 2:00 p.m. to search for GIFL and the presence of suitable habitat (figure 2). There were no mature saguaros seen on the surrounding hills above Parker Dam Camp, but Desilt Wash has several very large cottonwoods with cavities present. No GIFL were seen or heard during the visit, although northern flickers were present. There were 21 GIFL records comprising 7 individual observations reported between December 21, 2010, and January 20, 2012: 2 in December, 3 in January, 1 in February, and 1 in November (www.ebird.org).

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 present. 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 the delta at Lake Havasu upstream approximately 15 km to Planet Ranch, comprises the Bill Williams River NWR (figure 3). In January and February 2019, six visits were made between Arizona State Highway 95, at the Bill Williams River delta at Lake Havasu and Esquerra Ranch, approximately 10 km upstream, to search for GIFL and evaluate suitable habitat (figure 3). Mineral Wash, beginning approximately 3.7 km from its confluence with the Bill Williams River at Esquerra Ranch, was also surveyed. There are many mature saguaros with cavities in the upland slopes along this wash. Mature cottonwood-willow riparian habitat is present at the intersection of the wash and the Bill Williams River. No GIFL were detected in this area.

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 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 from the eastern boundary of the Bill Williams River NWR.

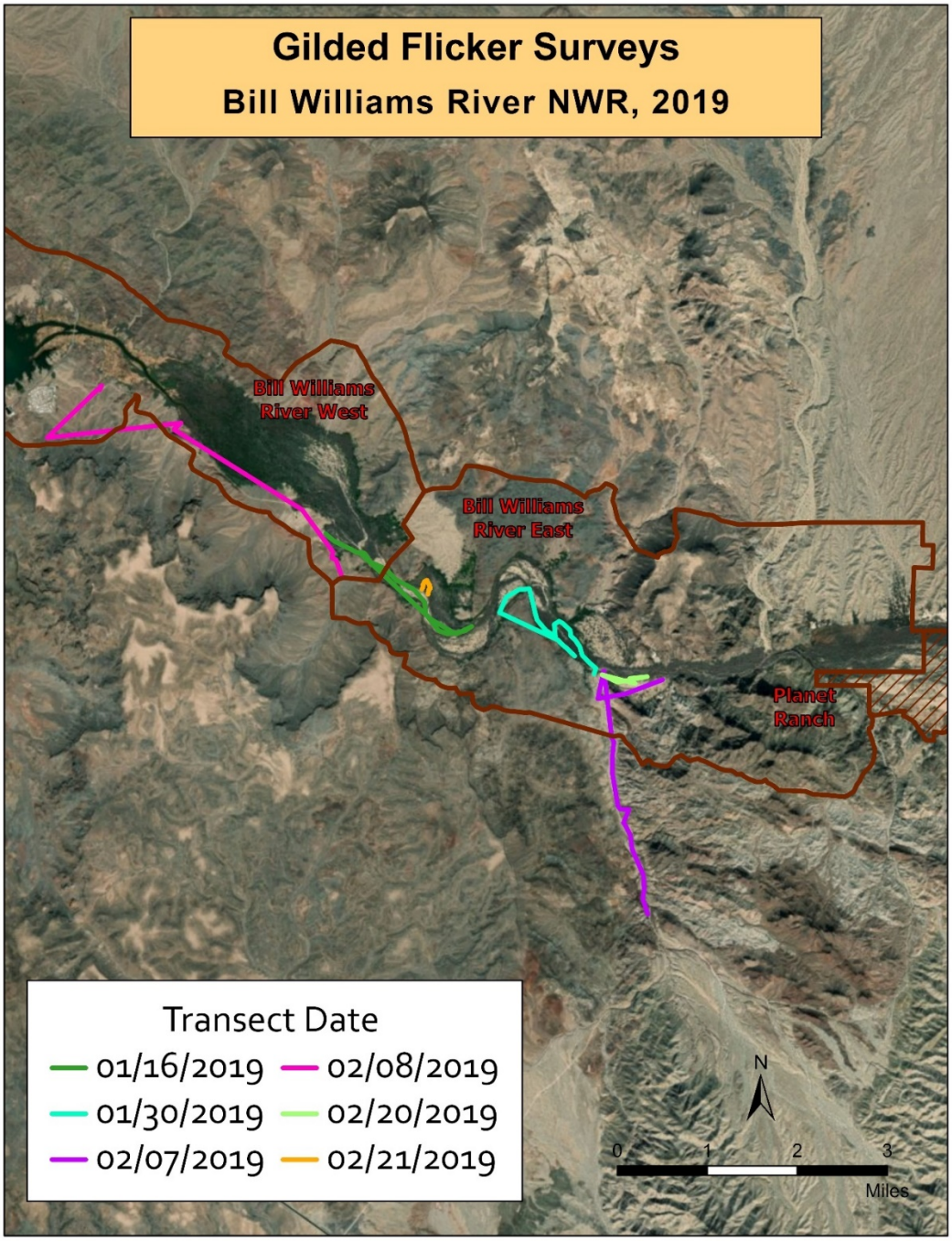

Figure 3.—Location of reconnaissance visits, Bill Williams River NWR.

Mittry Lake Wildlife Area

Mittry Lake Road to Laguna Dam Road (approximately 7 km) was visited in March 2019 to determine the presence of suitable habitat and GIFL (figure 4). 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 is present to the west in the Mittry Lake Wildlife Area. No GIFL were detected. More surveys in this area will be conducted because of the proximity to the LDCA, which is just adjacent and to the west of the Mittry Lake Wildlife Area.

There is one record in 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.

DISCUSSION

LCR MSCP conservation areas along the LCR are annually surveyed for a variety of species covered under the program. This work provides additional opportunities for biologists to detect gilded flickers. A female gilded flicker was observed at the Palo Verde Ecological Reserve, north of Blythe, California, on June 12, 2019, during surveys for southwestern willow flycatchers (*Empidonax traillii extimus*) (www.eBird.org; SWCA 2020). On July 28, 2019, a female was observed by a group of 15 bird watchers near the same location. The Palo Verde Ecological Reserve and surrounding areas will be visited to search for GIFL in 2020. On February 5, 2019, a GIFL was reported in the Mittry Lake (www.eBird.org) Wildlife Area. This area will also continue to be visited in 2020. Other locations of new sightings found in the eBird database will also be visited.

Figure 4.—Location of reconnaissance visits, Mittry Lake.

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