

Results of Yellow-billed Cuckoo Surveys at the Cienega Creek Natural Preserve: 2013

Brian Powell

Pima County Office of Sustainability and Conservation

Brian.powell@pima.gov

Introduction

The yellow-billed cuckoo is a species of conservation concern for Pima County and it will be covered under the County's forthcoming Section 10 permit. In anticipation of this and because of the species' potential for listing under the Endangered Species Act, we decided to inventory for the species at the Cienega Creek Natural Preserve, the only place in the County's preserve lands where the species is known to nest. (The cuckoo has been seen at other sites, including Buehman Canyon, but no nesting is known from these sites). It should be noted that yellow-billed cuckoos were surveyed at the Preserve in 1998 by the Arizona Game and Fish Department (Corman and Magill 2000), but a different protocol was used at that time and it is now felt that that earlier effort overestimated the number of individuals because the call-point stations were too close together (Matt Johnson, *pers com.* to Brian Powell). The original data from that effort has not been found, so it is no longer possible to elucidate historical changes. Surveys were again conducted in 1999 (intent and agency is unknown because there was no report, just copies of datasheets that were obtained from the Arizona Game and Fish Department; those copies are in our files), but only for one day.

Methods

I surveyed for yellow-billed cuckoos at the Cienega Creek Preserve on July 10, 12, 24, 2013. I surveyed 44 points in the preserve, from approximately the Pantano Dam to the just downstream of where I-10 crosses the creek. I used the call-playback protocol by Halterman et al. (2010) and I broadcast the call recording that was supplied by Matt Johnson. I modified the protocol somewhat by spacing call points further apart than what is called for in the protocol. I did this because I felt like 100m was too close a distance between survey points for a species that is as vocal as the cuckoo. Therefore, most points were approximately 150m apart, except if I solicited a call from a cuckoo. In this case, and in accordance with Halterman et al. protocol, my next survey point was at least 300m away from the point where I heard a cuckoo. The location of broadcast points is in Appendix A.

Results and Discussion

I solicited 14 yellow-billed cuckoo responses to the tapped-playback. It is possible/likely that I double counted three individuals, which likely called at least twice. (This is based on the fact that two individuals were heard at the same point, but far enough apart in time/space that calling them the same individual could not be confirmed, but still was likely because the two birds did not call at the same time; or an individual likely followed me between points). For example, on one point, an individual was heard about 100 meters toward the next point that I was to survey. When I got the next point, I heard an individual >100m back towards the point that surveyed previously. I consider these two observations likely to be the same individual.) Therefore, I conclude that I observed a minimum of 11 individuals, with a maximum of 14. I put a greater confidence in the lower estimate.

The protocol for yellow-billed cuckoos requires four surveys in each breeding season. I only conducted one survey, so the results may not be an accurate reflection of the breeding population of yellow-billed cuckoos at the Preserve. Nevertheless, this work does demonstrate that yellow-billed cuckoos still inhabit the Preserve and a cursory comparison between the 1999 effort and this effort suggests that the population has not changed considerably over this time (again, assuming the single pass survey effort represented the population of breeding cuckoos).

As part of the County's commitment to the MSCP, we have agreed to monitor yellow-billed cuckoos using a protocol that is acceptable to the U.S. Fish and Wildlife Service. That monitoring effort will likely start in 2015, during which time we will likely survey four times at the Preserve during the peak breeding season.

Appendix A. Location of survey points for the yellow-billed cuckoo and whether or not the cuckoo was observed, Cienega Creek Natural Preserve, 2013. Coordinates are in NAD 83.

Point	y_proj	x_proj	Cuckoo observed	Notes
1	3544377	530551	No	
2	3544228	530767	Yes	
3	3544018	530998	Yes	
4	3543948	531307	YEs	
5	3543599	531544	No	
6	3542673	533081	Yes	
7	3542680	533456	No	Approximate location of start of surveys in 1999
8	3542661	533633	No	
9	3542491	533709	Yes	
10	3542665	533987	No	
11	3542507	534045	No	
12	3542304	534118	No	
13	3542156	534790	No	
14	3542075	534895	No	
15	3539630	540134	No	
16	3539740	539979	No	
17	3539948	539948	No	
18	3540243	539953	No	
19	3540348	539817	YEs	
20	3540257	539489	No	
21	3540255	539311	No	
22	3540402	539216	No	
23	3540362	538882	YEs	
24	3540205	538638	No	
25	3540258	538490	No	
26	3540358	538340	No	
27	3540332	538156	No	
28	3540404	537955	No	
29	3540440	537783	No	
30	3540513	537632	No	
31	3540654	537613	No	
32	3540772	537505	No	
33	3540805	537322	YEs	
34	3541932	535302	No	

Point	y_proj	x_proj	Cuckoo observed	Notes
35	3541884	535516	No	
36	3541920	535764	YEs	Approximate end of 1999 surveys
37	3541906	536156	No	
38	3541787	536272	Yes	
39	3541485	536411	YEs	
40	3541215	536610	No	
41	3541060	536619	No	
42	3540924	536549	Yes	
43	3540816	536906	No	
44	3540853	537136	No	

Literature Cited

- Corman, T. E., and R. T. Magill. 2000. Western yellow-billed cuckoo in Arizona: 1998 and 1999 survey report to the Nongame and Endangered Wildlife Program, Arizona Game and Fish Department. Technical Report 150. Phoenix, AZ.
- Halterman, M., M. J. Johnson, and J. A. Holmes. 2010. Western yellow-billed cuckoo survey standard operating procedure (SOP) #3. Southern Sierra Research Station, Weldon, California.