

COUNTING CUCKOOS IN THE HOW YELLOW-BILLED CUCKOOS USE SKY

Jennie MacFarland, Conservation Biologist

This summer has been a whirlwind of activity for Tucson Audubon as we searched for Yellow-billed Cuckoos in the Coronado National Forest and completed the most ambitious bird survey project in our history. Seven Tucson Audubon staff members and many dedicated volunteers surveyed eight separate sky islands, with five survey routes each, four times through July and August for a total of 160 surveys! This huge project required three surveys a week out of the Tucson Audubon office (Huachuca Mountains and Chiricahua Mountains were run remotely by awesome volunteer leaders and supporting volunteers) and a lot of pre-dawn meeting times for everyone who helped.

It was Tucson Audubon's dedicated and skilled volunteer force that made us uniquely qualified to carry out this urgent conservation project for the Coronado National Forest. The western population segment of the Yellow-billed Cuckoo was officially listed as Threatened under the Endangered Species Act in October of 2014 and its designated Critical Habitat is still being revised.

The range of the western Yellow-billed Cuckoo has been greatly reduced due to habitat loss: over the last century, the population has declined from 15,000 pairs in California to about 40 pairs currently. Arizona populations have declined up to 80% in the last 30 years, with an estimated current population of 250 pairs, the highest in the US. Arizona is an important stronghold in the US for the western Yellow-billed Cuckoo, so it was very meaningful for us to encounter as many Yellow-billed Cuckoos as we did in the previously unexpected high-elevation sky island habitats in southeast Arizona.

The sky island that I thought would give us the least amount of

trouble, the Santa Catalina Mountains, turned out to be a cipher that we just could not figure out. We looked everywhere: Sabino Canyon, Tanque Verde Canyon, Pima Canyon, and Ventana Canyon, while on Mount Lemmon we checked Molino Creek, Bear Canyon, the Butterfly Trail and Sycamore Reservoir with negative results. We even sent an intrepid team into remote Canyon del Oro on our all-terrain vehicle with no luck. When we finally looked on the north side in Peppersauce Campground, we found our first and only Yellow-billed Cuckoo pair. The lack of nesting Yellow-billed Cuckoos in the Santa Catalinas could give us some good insights into what conditions these birds need to nest in the sky islands.



Dan Lehman in the canoe at Pena Blanca Lake, Jennie MacFarland

The Santa Rita Mountains proved more forthcoming with cuckoos, and we found them in several areas including three territories in Montosa Canyon, Proctor Creek, two territories in Florida Canyon, and two territories in Box Canyon, at least one of which had a nesting pair that we watched carrying food into an unseen nest.

The Patagonia Mountains have once again proved to be amazing for birds. We found Yellow-billed Cuckoos in four out of the five drainages we searched, and two of those drainages had multiple territories. In the Patagonias, we began to realize that something amazing sometimes happened when we played the cuckoo call as

Sycamore Canyon, Patagonia Mountains; Jennie MacFarland



Western Yellow-billed Cuckoo, Rock Corral Canyon; Ben Smith



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part of our survey protocol—an Elegant Trogon would appear! In one instance, a pair of Elegant Trogons came in to the call and the male actually swooped at the volunteer holding the speaker. We began to wonder: are Elegant Trogons and Yellow-billed Cuckoos direct competitors in these higher elevations?

The Chiricahua Mountains, which are so excellent for many species of bird, surprisingly did not turn up any Yellow-billed Cuckoos in the areas we chose to survey. There is at least one territory in the town of Portal, but the team that extensively surveyed five areas in the Chiricahuas within the National Forest could not turn up a single Yellow-billed Cuckoo. The team that searched the Huachuclas had better (though still modest) success, detecting a cuckoo twice in Miller Canyon and once in Hunter Canyon. The other three canyons surveyed were devoid of cuckoos. It is very interesting to me that the three largest ranges—these two and the Catalinas—had the lowest success rate for finding Yellow-billed Cuckoos. Interestingly, the Whetstones, which are the driest of the sky islands we surveyed, did host at least two territories of Yellow-billed Cuckoos: one was found in French Joe Canyon and the other in Guindani Canyon, which is accessed from Kartchner Caverns State Park.

The Atascosa Highlands turned out to be the area with the most Yellow-billed Cuckoos and posed some of the biggest logistical challenges as well. Surveyors watched a cuckoo foraging in the ocotillos that line the canyon walls of Rock Corral Canyon's two territories. The famed Sycamore Canyon has two to three territories and provided more interesting Elegant Trogon encounters, such as an entire family—both parents and two full-sized fledglings—which flew in during a survey. At the entrance to Pena Blanca Canyon, we detected one cuckoo and refound the continuing Rufous-capped

Warblers. Pena Blanca Lake itself had at least two territories and was twice surveyed from a canoe to better access the more remote side of the lake. At Arivaca Lake, teams found at least four separate territories, but there are likely more in some of the lush canyons draining into the lake that we decided not to revisit after encountering drug smugglers (Happily, this unexpected encounter was without incident, but was a sobering reminder that we needed to be careful in these remote areas so close to the international border).

Of all the sky islands we surveyed, the area with the most interesting results was the Canelo Hills. This little-explored area is astonishingly beautiful and lush in the summer. Out of the five areas we searched, we did find cuckoos in four of them, with three of those supporting multiple territories. Many of the surveyors here also reported Elegant Trogons responding, sometimes stridently, to the Yellow-billed Cuckoo call. Interestingly, though Elegant Trogons had never been reported to eBird in the Canelo Hills, every team encountered them.

What is especially interesting is the absence of mesquite trees in areas where we found nesting Yellow-billed Cuckoos. This, more than anything else, tells me that these birds can and do utilize higher elevation sky island habitats. For a population that has undergone such a dramatic and alarming decline in range and population, finding a previously unknown habitat type that Yellow-billed Cuckoos use to raise their young in southeast Arizona gives me hope that it is not too late to protect some of their most important habitats for the future.

To all of the 46 volunteers that donated 950 hours and the 7 Tucson Audubon staff that together conducted 1,515 five minute call-back surveys: Thank you! 🍷

Dan Lehman, Rodd Lancaster, and Andy Bennett during protocol training; Jennie MacFarland



Matt Griffiths and Rodd Lancaster after escaping Canyon del Oro

