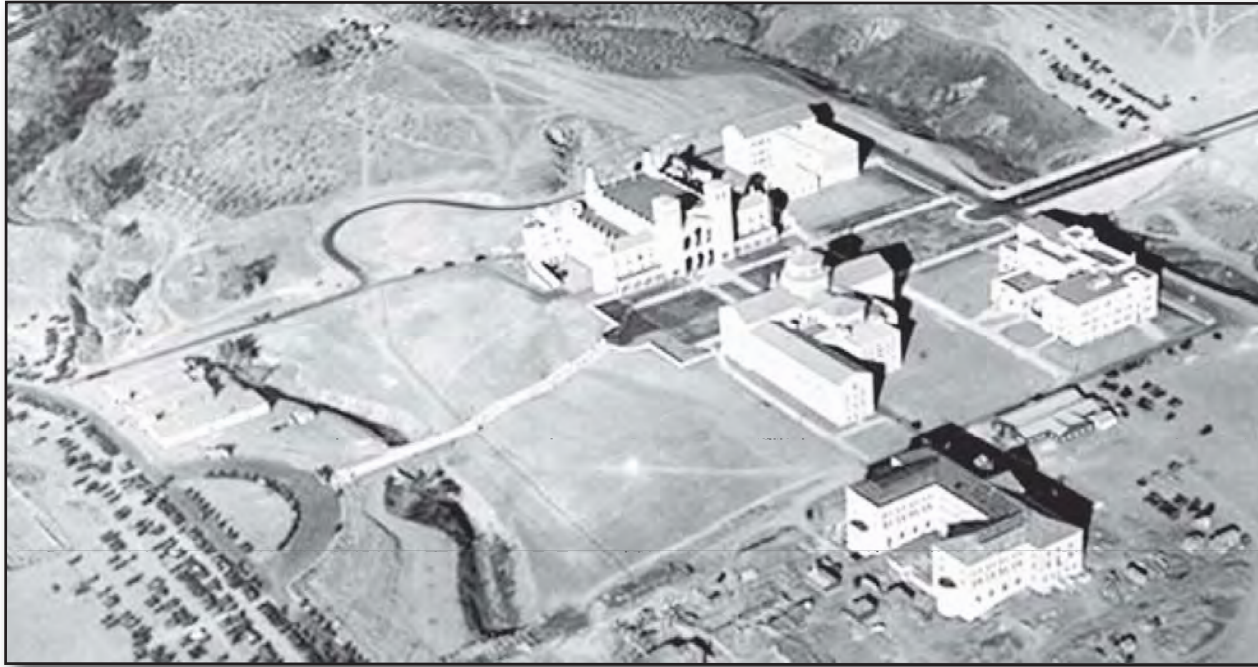


NINETY YEARS OF CHANGE IN THE BIRD COMMUNITY OF THE UCLA CAMPUS

Richard W. Hedley, Samuel A. Bressler, Sidhaant Shah, Jeffrey G-H. Lee, Ryan J. Harrigan



UCLA Campus in 1929

ON OCTOBER 25, 1926, DR. LOYE MILLER gazed skyward, his eyes straining to make out the pale figure slicing effortlessly through the air overhead. Miller was quick to identify the bird as a Prairie Falcon as he sat amongst the crowd at the dedication ceremony for the new UCLA campus. Not only was he an avid birder, Miller would soon begin as a biology professor at the Westwood campus, where he would quickly establish himself as an expert on birds of the Pleistocene era. Though his primary research subjects were extinct, Miller also took great interest in the living inhabitants – what he liked to call the “wild folk” – of campus. He eventually published a book documenting the bird species he

had seen on campus over the course of his tenure – one that began when the campus was nothing more than an island of four buildings amidst a vast ocean of agricultural fields and coastal chaparral.

“The Birds of Campus”, now out-of-print but available for free online, was published by the University of California Press in 1947. In it, Miller documented the avifauna of the campus with a poeticism absent from today’s scientific writings, providing insights into not only the occurrence of a species, but also its abundance on campus. Using this work as impetus, a team of bird enthusiasts – including several UCLA undergraduate students, graduate stu-

dents and staff – has re-surveyed the birds of UCLA over the course of the past year and a half, referring to Miller’s book to identify the most notable changes in the bird community over the decades.

What we found was striking. Changes to the campus avifauna have been both significant and numerous. The most obvious difference between the current and historical bird communities has been the complete disappearance of many chaparral-specialist birds over the past 90 years. For instance, Miller recounted the experience of watching a Greater Roadrunner saunter across the hood of a parked car (likely a full-bodied Pontiac or Mercury!), remarking that this member of the cuckoo family surprised him by its “high degree of adaptability” to human presence, and noting that they appeared to have increased in number since his arrival on campus. This apparent adaptation was temporary, however, as this charismatic species soon vanished from campus. Gone, too, are the California Quails, Wrentits, California Thrashers, and Blue-gray Gnatcatchers that once thrived in the tangled shrubbery that was characteristic of the chaparral vegetation on campus. Gone are the Horned Larks, Burrowing Owls, American Kestrels, and Loggerhead Shrikes that scoured the open agricultural fields for food.

In total, our surveys identified more than a dozen species of birds that were previously common and have since vanished altogether from campus (Box 1). Several others have declined to a fraction of their former abundance. A single flock of Mourning Doves seen in 1944,

Species that have changed in abundance on UCLA campus, 1926-2016

 Decreased/Absent	California Quail	 Increased	Allen's Hummingbird
	California Gull		Common Raven
	Ring-billed Gull		Cliff Swallow
	Mourning Dove		European Starling
	Greater Roadrunner		Dark-eyed Junco
	Barn Owl		Chipping Sparrow
	Burrowing Owl		House Sparrow
	Acom Woodpecker		
	Loggerhead Shrike		
	Bell's Vireo		
	Horned Lark		
	Wrentit		
	Blue-gray Gnatcatcher		
	California Thrasher		
	Western Meadowlark		
	White-crowned Sparrow		

Box 1

for instance, was estimated to contain 370 birds – today, a walk around campus may reveal fewer than five individuals of this species. White-crowned Sparrows, too, were once numerous, their arrival from migration in September being so abrupt that “by October, they are everywhere about the campus – wherever a little massed shrubbery offers them retreat if danger threatens”. In stark contrast to Miller’s observations, this species was represented by only a handful of individuals in our surveys.

Though these declines are certainly alarming, not all species have suffered concomitantly with campus development – some, in fact, have flourished (Box 1). Above the bustling crowds of students, the harsh caws of American Crows and the croaks of Common Ravens now fill the skies on a daily basis,

whereas before these species were only occasionally heard. Similarly, Dark-eyed Juncos have exploded in number, increasing from their previous status as a rare vagrant to become one of the most abundant species on campus. Miller himself foresaw the arrival of Cliff Swallows on campus, which now plaster their urn-shaped mud nests beneath the eaves of Kaufman Hall each spring. And whether we like it or not, a variety of introduced species have moved in as well: European Starlings and House Sparrows both nest on campus, and Yellow-chevroned Parakeets can often be seen feasting on the ovoid fruits of the large Silk Floss Tree at the corner of Hilgard and Le Conte Avenues. In all, our surveys identified 75 species of birds on campus – well short of the 115 listed in Miller’s book, but still a species-rich bird community worthy of appreciation.

When faced with such dramatic transformations to a natural community in such a short period of time, it is natural to seek out the underlying causes. Climate change and invasive species may have had a role to play, but there is little doubt that the primary driver has been habitat alteration. Of the campus’s 419-acre area, only 12 acres of native vegetation remain.

It is surely no coincidence that the loss of several obligate chaparral species was concurrent with the near complete elimination of the chaparral itself from campus. Nor is it unexpected that the grassland birds departed with the loss of the campus’ agricultural fields and grasslands.

No part of campus characterizes these landscape-level shifts better than the arroyo, which Miller listed among his favorite locations for watching birds on campus. The arroyo was a deep and vast valley, dropping off steeply to the east of the original campus buildings. For 20 years, it was spanned by a bridge, and students traversing the bridge each morning were serenaded by the elaborate songs of wrens and thrashers reverberating through the flora. In 1947, the very year that Miller’s book was published, the arroyo was filled in with dirt, burying the breeding territories of the resident birds along with the countless species of plants, insects and other organisms with which they coexisted. Today, the arroyo has become a mere footnote of campus history, buried below what is now Dickson court, a fact unbeknownst to most current students.

Elsewhere, the construction of buildings has slowly chiseled away at any remaining suitable habitat. The original footprint of four buildings present in 1927 has grown to over 160 today, with more added each year. The manicured lawns that fill the gaps between these buildings have also done little to encourage natural flora and fauna. Today, just a few corners of campus harbor the vast majority of the remaining bird diversity. The Mildred E. Mathias Botanical Garden is one of these, home to the greatest number and diversity of birds, but remains under threat due to expansion of the medical school.

Sage Hill, at the extreme northwestern corner of campus, is another hidden gem. Representing the last remaining tract of native chaparral on campus, this is where California Scrub Jays, Northern Flickers, or White-crowned Sparrows are most likely to be encountered these days. Largely unknown and underutilized by students on campus, how much longer will Sage Hill withstand the persistent tread of the campus footprint?

Then again, why should we care about loss of biodiversity on a university campus? After all, the area represents a small fraction of Southern California, and all of the species that have vanished from campus can still be found in the nearby mountains and deserts. Hopefully we can understand the fallacy of this thought process. Endangerment and extinction are rarely, if ever, caused by single, sweeping megaprojects. Population loss happens in nibbles, not gulps. Tens or hundreds of developments, each fairly benign in their own right, can erode an initially large population into smaller, more fragmented populations, which are individually and collectively more prone to extinction.

Another consideration, perhaps equally important in the grand scheme of things, is the ever-dwindling connection between urban residents and the natural world. Students making the trek across the UCLA campus in its early days would have traversed the same natural ecosystems that today are restricted to the nearby Santa Monica Mountains, which require at least a half-day commitment to visit. Many residents of Los Angeles rarely explore these natural areas – indeed many can't afford to – making California's native flora and fauna a peculiarity in the minds of many Los Angelenos,



UCLA Ariel Photo

vaguely familiar from high school textbooks but never experienced firsthand. This growing disconnect with nature presents one of the greatest challenges for conservation efforts in the increasingly urban 21st-century civilization, because people that do not regularly interact with nature are unlikely to appreciate its wonders, and even less likely to fight for its protection.

But hope may be on the horizon for the plants and animals of the UCLA campus. A growing recognition of the need for sustainability – spearheaded by various forward-thinking and dedicated Bruins on campus and further necessitated by the severe drought of the past few years – has begun to transform the campus landscape. Native, drought-tolerant vegetation is being planted around campus at an accelerated rate, and efforts are being made to preserve and appreciate the few remaining green spaces on campus. With foresight, UCLA's goal of reducing water use while simultaneously increasing biodiversity can be achieved, all the while challenging the notion of what a prestigious university campus is "supposed" to look like. If all goes well, students and faculty alike may once again hear the cooing of doves alongside the ringing of cell-phones, observe the hunting forays of shrikes alongside a world-class medical facility, and marvel at the agile flight of the Prairie Falcon – as Dr. Miller once did – all on the way to class. 🐦