

Reprinted from 2002 *Vermilion Flycatcher*, newsletter of the Tucson Audubon Society (circulation ~ 2500).

Your Tucson Bird Count: current progress and future prospects

by *Will Turner*

It's spring again, or at least many of Tucson's resident birds think so. The morning air around our house is once again filled with the pleasant din of the dawn chorus. But the chorus heard by us – and by a half million or so of our neighbors here in Tucson – is different. The bird fauna near our homes is impoverished.

To be sure, the mockingbirds try their best to make us think we're richer than we are. Like scholars recounting the languages of distant civilizations, these mimics bring to us the sounds of birds seldom seen anymore in the land between Tucson's rivers. On a hot summer day, my ear tilts...a Brown-crested? here? A glance out the window dashes my hopes: mockingbird. Counting mockingbirds' renditions of flycatchers, European Starlings' imitations of quail and flickers, and other mimicked calls, my yard list total may be pushing 30. My summer resident list, here in the breeding bird capital of America, includes a whopping 1 species: White-winged Dove.

Sharing my misery may be pushing your patience a little (now if only that mockingbird could sing "Poor Will" for me...). The answer is yes, I can get in my car and go to Patagonia, Mt. Lemmon, or Agua Caliente, and often do. These are all fantastic places. But the thing is we need cities, suburbs, and rural lands that support diverse native bird communities. If you missed my urban bird manifesto in the March 2001 *Flycatcher*, here's the short version: First, diverse birds improve human quality of life (studies have shown that this is true even for people without yard lists!). As an added benefit, nature near homes contributes to appreciation of nature everywhere. Finally, the area not yet inhabited by man may not be enough to sustain the earth's biodiversity...unless it has some help from the areas we live, work, and play. There is hope: the few places in urban Tucson that do support lots of native birds (including real Brown-crested Flycatchers) tell us that urban nature is not such a farfetched idea; we need not harm nature with our mere presence.

We know it can work. We just need the details. What area of desert vegetation is needed before Black-tailed Gnatcatchers show up? Is clustered or dispersed development better for sustaining bird species? What species are most vulnerable to development, how can we make future development easier on them, and what important areas should we avoid developing entirely?

Last spring more than 80 Tucson-area birders took part (with help from TAS) in starting an ambitious project designed to answer these and other important questions. Between April 15 and May 15, 2001, participants in the first annual Tucson Bird Count mapped the abundance of birds – some 120 species in all – at 700 sites across the Tucson area. Although collectively this effort is enormous, it was accomplished with most individuals contributing their skills on just one or two short mornings.

A few interesting facts:

- Most species observed during a 5-minute point count: 24, near Tucson Mountain Park around the west end of 36th Street.
- Species found at the most sites: Mourning Dove, present at 91% of all sites (White-winged Dove, Gila Woodpecker, House Sparrow, House Finch, and Gambel's Quail were also very common; see web page for other 100+ species).

Claiming that the Tucson Bird Count (TBC) could help revive Tucson's native bird community was a big statement. With this article, the TBC begins to deliver on that promise. The first scientific paper based on the TBC has been submitted for publication, and I summarize some interesting findings here.

The large number of sites surveyed lets us make Tucson-area distribution maps for most bird species (maps for all species are online at www.tucsonbirds.org). These maps show some interesting patterns. Some species have donut-shaped distributions around Tucson. For example, Gambel's Quail is one of the most common species in the Tucson area, yet is almost completely absent from most of Tucson proper. Many other native desert birds show similar patterns. On the other hand, another group of species show the opposite pattern, reaching their highest abundance near Tucson's urban core and decreasing toward less-developed areas. These include non-native species (Rock Dove, European Starling, House Sparrow), species that have recently expanded their ranges (Anna's Hummingbird, Great-tailed Grackle, and Inca Dove), and a few native species (e.g., Northern Mockingbird, Western Kingbird). Other patterns include species that occur most frequently in the more wooded areas of northeast Tucson (for example Phainopepla, Bewick's Wren, Northern Cardinal), and species restricted to major washes (Abert's Towhee, Yellow Warbler). This last group is missing some species characteristic of southwestern riparian habitats that showed up only once or twice (Common Yellowthroat, Song Sparrow) or not at all (Summer Tanager, Yellow-breasted Chat).

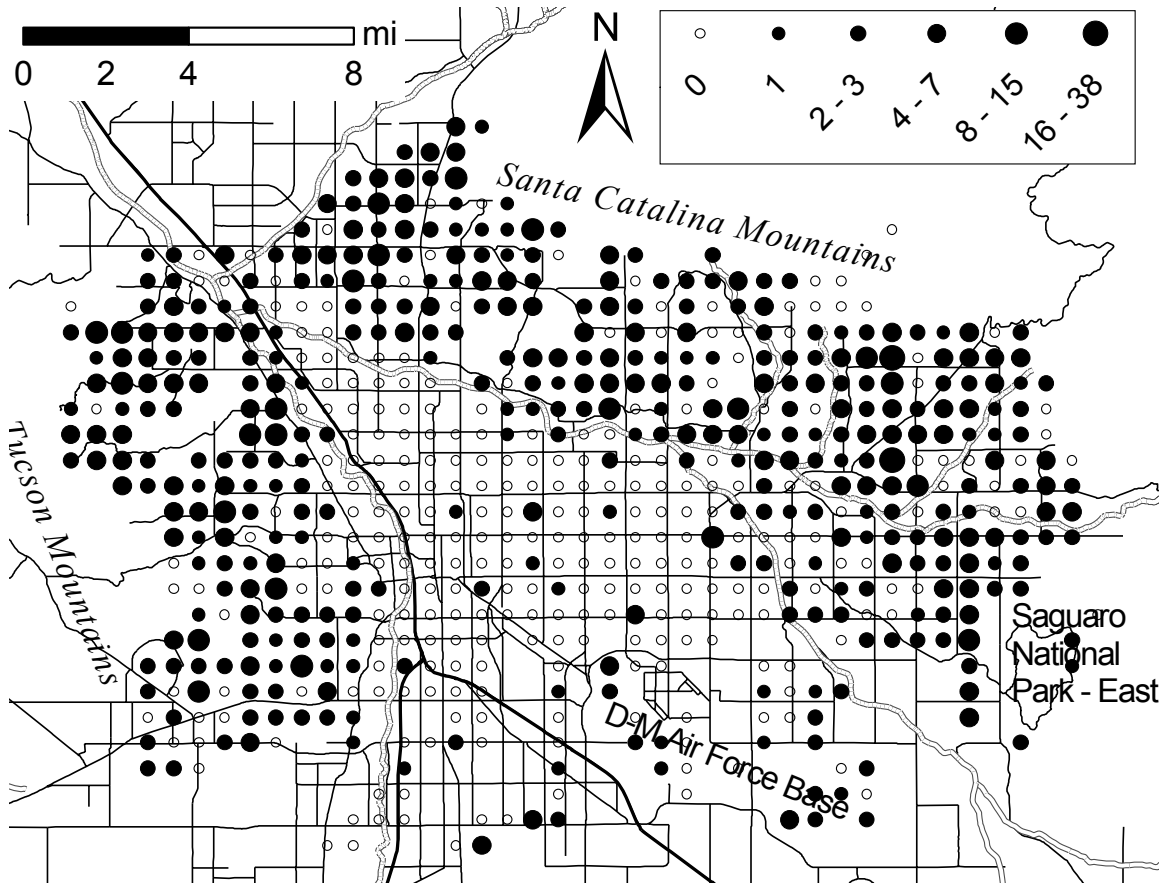
Distribution maps give us some insight into how birds respond to human uses of land, but we can go a step further by using mapped information on land use. I condensed various local zoning codes into 4 land use classes: Commercial/Industrial (CI), High-density Residential (RH; min. lot size < 8000 sq ft), Low-density Residential (RL), and Open Space (OS; includes the large natural parks but not city parks or golf courses). Using this map, I analyzed the TBC bird data to discern the land-use class(es) that each species appeared to either excel or fare poorly in. Some species, such as Curve-billed Thrasher, were most common in the less-developed classes (OS and RL), but were also found at higher development intensities (albeit less frequently). In contrast, many native desert species were most common in OS, uncommon in RL, and rare or nonexistent at higher development intensities. Ash-throated Flycatcher, Canyon Towhee, Black-tailed Gnatcatcher, and Black-throated Sparrow are a few of the species in this category. Two implications of these findings:

(1) Open Space is important to sustaining populations of many native bird species.

(2) A few native species can persist in developed areas as they are currently structured. And the other species? Sustaining them will require rethinking development practices. TBC data show how species vary in their sensitivity to development, and in the future will aid in finding development practices that better sustain native bird species (that's research in progress).

Remember that thing about lots of Tucsonans living where there aren't many bird species? With the TBC we can actually put numbers on that. Of the roughly 520,000 people living in the area surveyed, three out of four live where the number of bird species is below the TBC average. If bird diversity is any indication of nature in general, that's a lot of kids growing up thinking of nature as being something that only exists in far-off places they'll never go.

We can change this. And it doesn't have to be painful, not to the birders and scientists who run the TBC, nor to the local residents, landowners, and businesses who can help us turn the tide. The Tucson Bird Count already produces results (did I mention that TBC data were also used in the county's decision to purchase land along the West Branch of the Santa Cruz?). Even more will be possible in the future: this year Tucson will become the first city in the world to monitor its birds like this over time. Our efforts can help research and conservation efforts both locally and worldwide. However, to succeed this project needs a stable group of volunteers willing to share their birding skills one morning a year. We have a large and committed group returning from last year for this spring's count (thanks!). Yet many routes are not adopted. We need your help. If you can identify the birds of the Tucson area, please visit the TBC at www.tucsonbirds.org or contact me to find out more about this unique project and how you can become a part of it.



Gambel's Quail, a common desert species, is virtually absent from urban Tucson. It persists at a few sites there...why? The Tucson Bird Count aims to answer this and other questions to help sustain Tucson's native birds.