

Birds 2009

RESOURCE BRIEF

Importance

The National Park Service's mission is to manage park resources "unimpaired for future generations." Protecting and managing some of our nation's most significant natural resources requires basic knowledge of the condition of ecosystems and species that occur in national parks. Landbirds are a conspicuous component of many ecosystems and have high body temperatures, rapid metabolisms, and occupy high trophic levels. As such, changes in landbird populations may be indicators of changes in the biotic or abiotic components of the environment upon which they depend. Relative to other vertebrates, landbirds are also highly detectable and can be efficiently surveyed with the use of numerous standardized methods.



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Great-tailed grackle

Landbird Monitoring Locations



Produced by Mark Jacobson
February 2011

Figure 1. Bird sampling locations at Casa Grande Ruins NM.

Status and Trends

The Sonoran Desert Network (SODN) began monitoring birds in Spring 2007. This effort is part of a collaboration among the Southern Plains, Sonoran Desert, and Chihuahuan Desert Networks. The overall goal of our bird monitoring program is to detect biologically significant changes in population parameters over time. Details of our approach can be found in our monitoring protocol (in preparation). At Casa Grande Ruins National Monument (NM), we sampled nine survey points on one grid (Figure 1) two times during the breeding season (Table 1). The specific objectives of our efforts are:

1. To estimate the proportion of sites occupied for most species in most parks. Occupancy is a measure of presence or absence of a species in space that, when evaluated across time, indicates changes in the distribution of a species.
2. To estimate parameters related to community dynamics, particularly species richness and species composition. Monitoring the richness and composition of native communities can provide valuable insights about changes in the overall health of the system of concern.
3. To estimate density of the most-common species.

It is important to note that our objectives focus on long-term changes and trends, and a minimum number of years are re-

quired before meaningful estimates related to trends are feasible. Consequently, it is neither practical nor feasible to conduct comprehensive analyses for each objective on an annual basis.

Table 1. Sampling dates at Casa Grande Ruins NM.

Location Name	Visit 1	Visit 2
Upland (desert scrub)	5/04/2009	5/16/2009

Results and Discussion

During our 2009 surveys, we had 154 detections of birds of 25 species. Great-tailed grackles were the most commonly detected species, accounting for 19% of the total detections, followed by mourning doves (17%), Gambel's quails (14%), and European starlings (7%). A new species recorded for the national monument this year was the Eurasian collared-dove.

The desert upland transect here continues to show variation in the number and diversity of birds. It is influenced by the adjacent agricultural fields and presence or absence of surface water in the surrounding ditches, in some years attracting waders such as great blue herons, or great, snowy, or cattle egrets. In some years mixed blackbird flocks can be overwhelming with thousands of birds present, mostly as flyovers or just outside the park. This may also be the case with several species of doves. Great-tailed grackles, brown-headed cowbirds, and Brewer's and red-winged blackbirds are most numerous, and white-winged and mourning doves and house finches are quite common. Ash-throated flycatcher, black-throated sparrow, Gila woodpecker and verdin are most prominent in the open desert scrub, and the few large mesquites and palo verdes attract Lucy's warblers, Bewick's wrens and Anna's hummingbirds. The resident burrowing and great horned owls continue to breed, and Western screech and elf owls are present at night.

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Sonoran Desert Network website
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Learning Center of the American Southwest
(URL: <http://www.southwestlearning.org>)



Mourning dove

PHOTO: DAVE MENKEUSFWS