

## 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.

### 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 Saguaro National Park (NP), we sampled 88 survey points along 13 transects two times during the breeding season (Table 1). Five transects were on the Tucson Mountain (West) District (Figure 1), and eight transects were on the Rincon Mountain (East) Unit (Figure 2).

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



Gila woodpecker

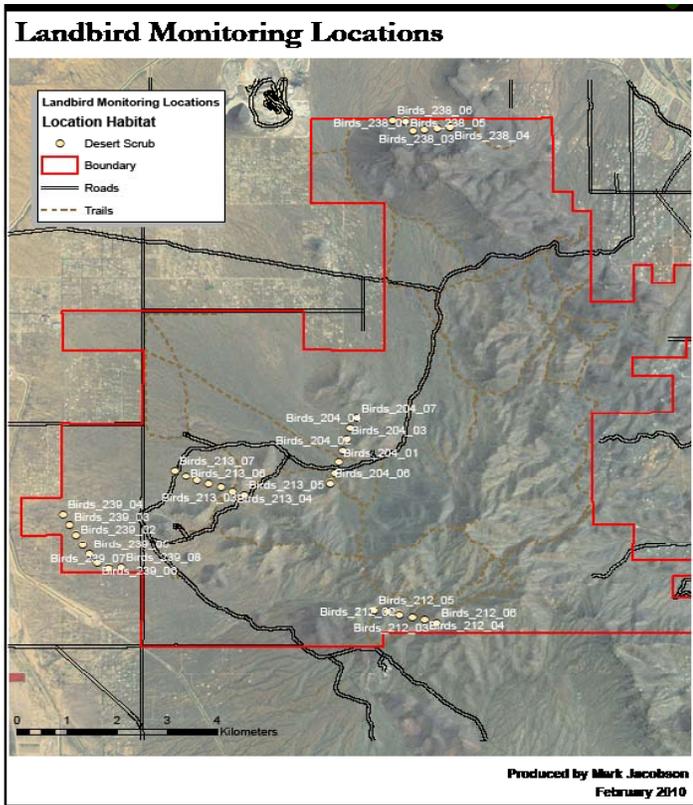
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changes and trends, and a minimum number of years are required before meaningful estimates related to trends are feasible. Consequently, it is neither practical nor feasible to

**Table 1. Sampling dates at Saguaro NP.**

Transect Name (Habitat)	Visit 1	Visit 2
SAGE-008 (Desert scrub)	4/26/2009	5/29/2009
SAGE-107 (Woodland)	5/30/2009	6/23/2009
SAGE-112 (Desert scrub)	5/1/2009	5/25/2009
SAGE-113 (Forest)	5/31/2009	6/24/2009
SAGE-115 (Desert scrub)	5/1/2009	5/22/2009
SAGE-139 (Desert scrub)	5/3/2009	5/24/2009
SAGE-191 (Forest)	5/31/2009	6/24/2009
SAGE-LRC (Riparian)	4/24/2009	5/29/2009
SAGW-204 (Desert scrub)	4/28/2009	5/13/2009
SAGW-212 (Desert scrub)	5/2/2009	5/12/2009
SAGW-213 (Desert scrub)	5/2/2009	5/14/2009
SAGW-238 (Desert scrub)	5/3/2009	5/15/2009
SAGW-239 (Desert scrub)	4/29/2009	5/11/2009





Mixed conifer habitat at Saguaro NP

Figure 1. Bird sampling locations at the Tucson Mountain (West) District.

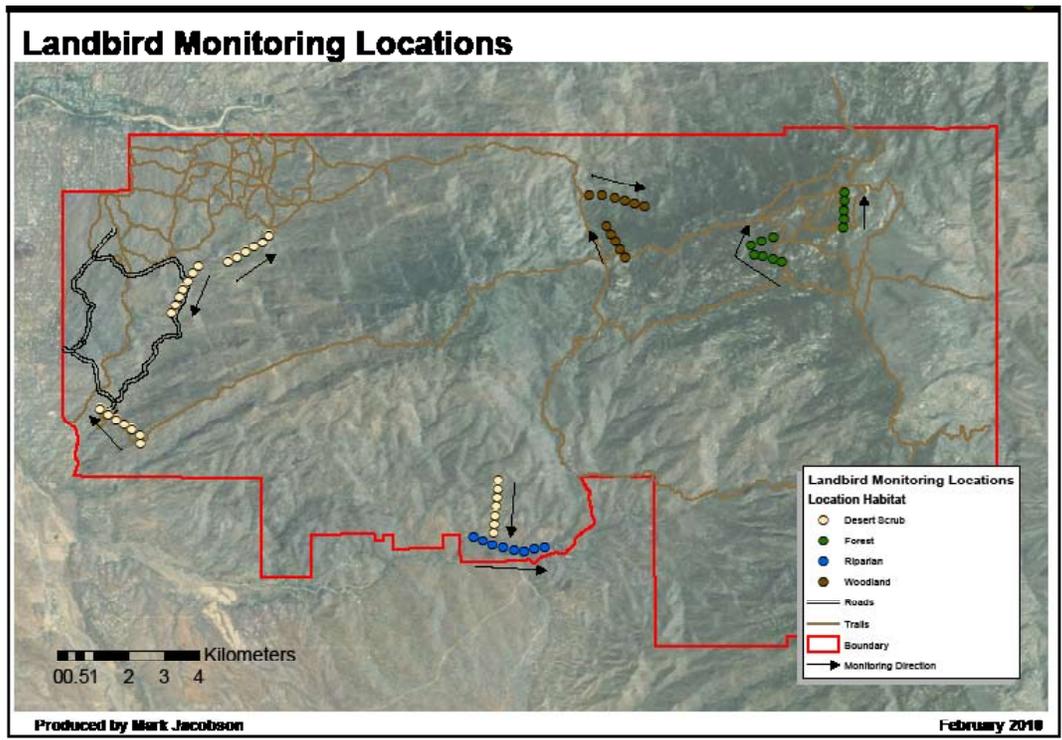


Figure 2. Bird sampling locations at the Ricon Mountain (East) Unit.

conduct comprehensive analyses for each objective on an annual basis.

## Results and Discussion

During our 2009 surveys, we had 3,391 detections of birds of 121 species. Gila woodpeckers were the most commonly detected species, accounting for 10% of the total detections. White-winged doves and cactus wrens were also common. At the West District, there were 1,342 detections of birds of 49 species. Species detected in the highest numbers were Gila woodpecker (15% of the total detections), white-winged dove (11%), cactus wren (10%), ash-throated flycatcher (8%), and curve-billed thrasher (7%). At the East Unit, there were 2,049 detections of birds of 118 species. Species detected in the highest numbers were white-winged dove (6%), Gila woodpecker (6%), cactus wren (6%), ash-throated flycatcher (4%), and Lucy's warbler (4%). One new species, the crested caracara, was documented at the park in 2009.

Rincon Creek on the East Unit was flowing quite well with large pools of surface water. Most of the usually dormant riparian vegetation was quite lush, attracting large numbers of migrants passing through the desert lowlands. As expected, nesting Lucy's warblers were very common along the creek and species like black phoebe and belted kingfisher were also noted; they have been absent in recent dry years. Bell's vireo, yellow-breasted chat, and yellow warbler, which had been absent in recent years during the ongoing drought, were present in small numbers. Yellow-billed cuckoo was seen later in the season and suspected to be nesting in the large sycamores. Gray and zone-tailed hawks nested along the more lush upper reaches of the creek west of the transect, and several nesting vermilion flycatchers were common along the creek along the transect.

The upland desert transects at both the East and West units teemed with actively nesting resident species, most notably cactus wrens, Gila woodpeckers, black-throated sparrows, verdins and curve-billed thrashers. A singing migrant gray vireo was a nice addition to the surveys, as it is a rare local breeder in the higher-elevation oak-juniper hills. Nesting Harris's hawks were in the same area as in previous years, and the active prairie falcon nest was occupied.

The high elevation transects on the East Unit in the upper Rincon Mountains were quite productive for oak-conifer species, and many breeders were detected on nesting territories or in pairs exhibiting breeding behavior. Cumulative bird lists from the four transects included sightings from Manning Camp, Grass Shack, and Douglas Springs campgrounds, and notable birds included: nesting Cooper's hawks and peregrine falcons,

a juvenile band-tailed pigeon, an eastern vagrant rose-breasted grosbeak male, blue-throated and magnificent hummingbirds, and greater pewee. Expected breeders in lush pine-oak habitat included: red-faced, Grace's, olive and Virginia's warblers, painted redstart, spotted towhee, hermit thrush, American robin, Western tanager, black-headed grosbeak, yellow-eyed junco, Western bluebird, hairy woodpecker, pygmy and red-breasted nuthatches, plumbeous vireo, violet-green swallow and broad-tailed hummingbird. Nocturnal species included Northern pygmy-owl, flammulated owl, spotted owl, Western screech-owl, whip-poor-will, and common poorwill.

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Sonoran Desert Network website  
(URL: <http://science.nature.nps.gov/im/units/sodn/>)

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



Ash-throated flycatcher

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