

## Birds 2009

### 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

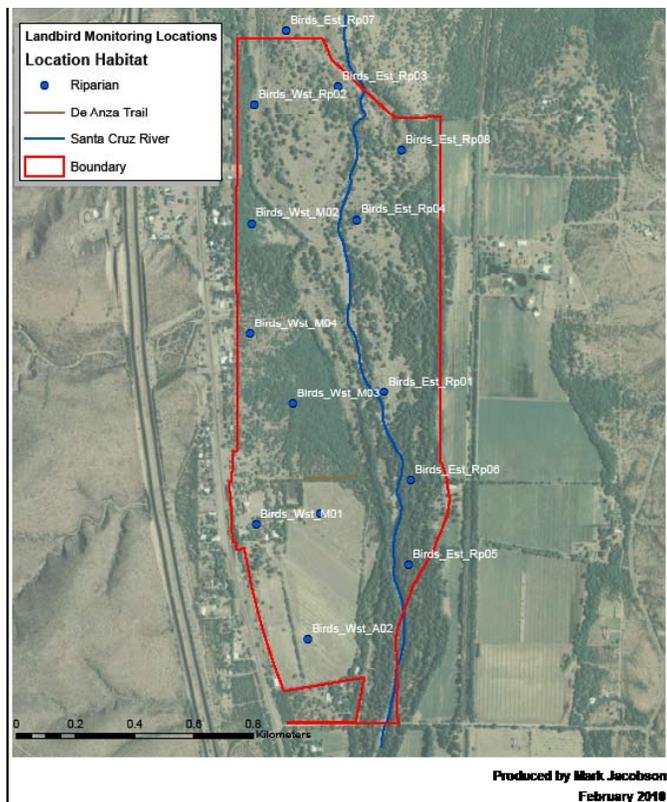


Figure 1. Bird sampling locations at Tumacácori NM.

## RESOURCE BRIEF



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Lucy's warbler

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 Tumacácori National Monument (NM), we sampled 14 survey points along two transects (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 required 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 Tumacácori NM.**

Transect Name (Habitat)	Visit 1	Visit 2
Est (Riparian)	5/5/2009	5/26/2009
Wst (Riparian)	5/5/2009	5/27/2009

## Results and Discussion

During our 2009 surveys, we had 755 detections of birds of 69 species. Gila woodpeckers were the most commonly detected species, accounting for 7% of the total detections. Lucy's warblers (6%), phainopeplas (6%), Bewick's wrens (5%), brown-crested flycatchers (5%), and white-winged doves (5%) were also common. Three new species were recorded during our surveys (Table 2).

Bird detections were surprisingly high on the east transect despite the recent crown fire that burned the cottonwood gallery forest on the east bank. Yellow-breasted chats, Abert's towhees, Bell's vireos, and Bewick's wrens were exploiting the newly vegetated undergrowth. Large numbers of flocking lark sparrows, blue grosbeaks, and varied buntings were also common in the open dirt patches. Thick-billed and tropical kingbirds were noted nesting in the cottonwoods (they have been absent in some recent years), and gray hawks were more prominent. Yellow-billed cuckoos were seen nesting later in the summer, after the surveys were conducted. An eastern vagrant yellow-throated vireo was detected singing on surveys, and its voice was recorded.

A flurry of exciting bird reports continued throughout the year from this birding hotspot as many local birders regularly covered portions of the park and its adjacent riparian corridor along the flowing Santa Cruz River. The fall and winter were particularly interesting with numerous reports of rare species cropping up within weeks of each other. These included: an immature male rose-throated becard, a Mexican rarity not recorded in southeastern Arizona in over three years; a rare lowland and riparian record for a male white-eared hummingbird; a rufous-backed robin and a pair of ruddy ground-doves visiting from Mexico; and two varied thrushes from the Pacific coast mountains that lingered at fruiting pyracantha bushes all winter long. Other interesting birds were an eastern vagrant hooded warbler and rose-breasted grosbeak, and a wintering Lewis's woodpecker, summer and hepatic tanagers, and a gray hawk. A rare lowland and riparian record for Steller's jay was also noted in late winter. Of interest just downstream of the park, on the Santa Cruz River to the north, were a Baltimore oriole and a Tennessee and chestnut-sided warbler, all eastern vagrants that could occur in the park during migration.

**Table 2. New species recorded for Tumacácori NM during 2009 surveys. "Incidental" detections occurred in areas other than sample points.**

Species	No. Detections
Eurasian Collared-Dove	1
Tree swallow	incidental
Yellow-throated vireo	1

## Contacts

Rob Bennetts, Landbird Monitoring Project Lead  
Southern Plains Network  
Robert\_Bennetts@nps.gov

Kristen Beaupre', Data Manager  
Sonoran Desert Network  
Kristen\_Beaupre@nps.gov

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

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



Bewick's wren

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