

Birds

2010

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 have high body temperatures and rapid metabolisms, and they occupy high trophic levels. Therefore, they may be indicators of changes in the biotic or abiotic components of the environment upon which they depend. Landbirds are also a conspicuous component of many ecosystems, making them highly detectable and efficiently surveyed with the use of numerous standardized methods.

Status and Trends

The Chihuahuan Desert Network (CHDN) began monitoring birds in Spring 2010, after a pilot season in 2009. 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

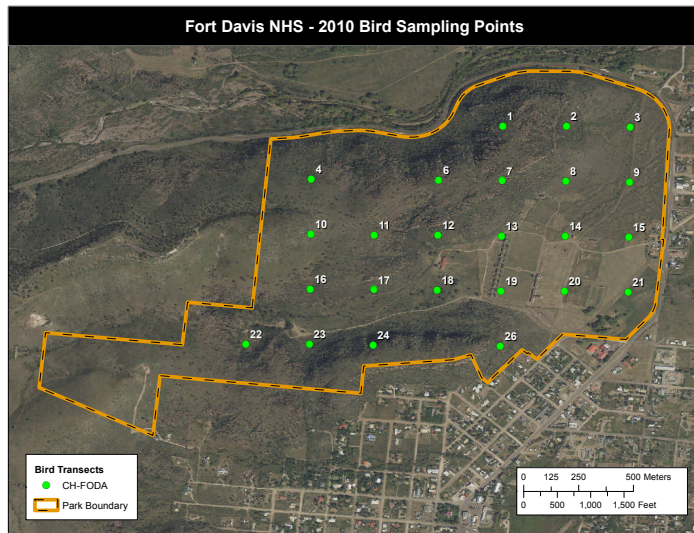


Figure 1. Bird sampling locations at Fort Davis NHS.



Canyon wren

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(in review). At Fort Davis National Historic Site (NHS), we sampled 24 survey points on one grassland grid (Figure 1) two times during the breeding season (for a total of 48 survey points). Surveys were conducted on June 13 and 16. 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. It is neither practical nor useful to conduct comprehensive analyses for each objective on an annual basis. Therefore, we will provide basic data summaries annually (in resource briefs such as this one), and, once every five years, a comprehensive synthesis report that will go into much greater depth, including analyses for all objectives and interpretations in a broader ecological context.

Results and Discussion

During 2010, 533 birds of 34 species were counted in grassland habitat at Fort Davis NHS. Cliff swallow was the most commonly counted species (10%). Canyon wren (8%), rufous-crowned sparrow (8%), white-winged dove (7%), and black-throated sparrow (6%) were also common. Three species, acorn woodpecker, black-crested titmouse, and phainopepla, were detected in no other CHDN parks but Fort Davis NHS in 2010.

The managed grassland and desert scrub around the historic site supported black-throated sparrow, cactus wren, lark sparrow, northern mockingbird, Say's phoebe, and Scott's oriole. We detected Cassin's kingbird and Scott's oriole in the canyon. In the oak vegetation up against the basalt palisades, we observed ash-throated flycatcher, black-chinned hummingbird, black-headed grosbeak, blue grosbeak, lesser goldfinch, northern cardinal, phainopepla, and summer tanager. Within the palisades there were abundant singing canyon wren, rufous-crowned sparrow, and white-winged dove. We also detected a few cliff swallows and rock wrens. Up the trail at the crest of the basalt palisades, the grasslands and shrubbery supported a similar complex of birds, as well as canyon towhee, house finch, and red-tailed hawk. No state or federally-listed species were detected during the surveys.

The Rocky Mountain Bird Observatory (RMBO), the NPS's primary cooperator for this project, manages the bird monitoring data. The data are available through the RMBO Avian Data Center (URL: <http://www.rmbo.org/public/monitoring/CountsEffort.aspx>).



PHOTO: © ROBERT SHANTZ

Rufous-crowned sparrow

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

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