

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 Southern Plains Network (SOPN) began monitoring birds 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 (in review). At Sand Creek Massacre National Historic Site (NHS), we sampled three transects/grids (Figure 1) three times during the breeding season. The transects/grids, two in grassland (shortgrass prairie) and one in riparian habitat (cottonwood bottom), were sampled June 25-29. 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

RESOURCE BRIEF



Mourning dove

PHOTO: © DAVE MENKE, USFWS

comprehensive analyses for each objective on an annual basis. Therefore, we will provide basic data summaries on an annual basis (in resource briefs such as this one), and a comprehensive synthesis report once every five years. The comprehensive synthesis report will go into much greater depth, and it will include analyses for all objectives and interpretations in a broader ecological context.

Results and Discussion

During 2010, 1,938 birds of 38 species were counted at Sand Creek Massacre NHS. This was the second highest number of individual birds counted at a SOPN park in 2010. The mourning dove and western meadowlark were the most commonly counted species (21% each). Western kingbird (12%), Cassin's sparrow (9%), grasshopper sparrow (7%), and horned lark (6%) were also common. One new species, the turkey vulture, was detected at the NHS in 2010. More than twice as many individual birds were counted on grassland survey points compared to riparian survey points (i.e., 1,304 compared to 634), but there were also more than twice as many survey points in grassland habitat.

Large numbers of western meadowlark, Cassin's sparrow, and grasshopper sparrow were noted throughout the park with most detections in the sand sage grassland. Notable bird species found in the riparian cottonwood included the mourning dove, the most commonly detected species in the park, many western kingbird, and three species of orioles: Bullock's, Baltimore, and orchard. Other interesting birds detected in-

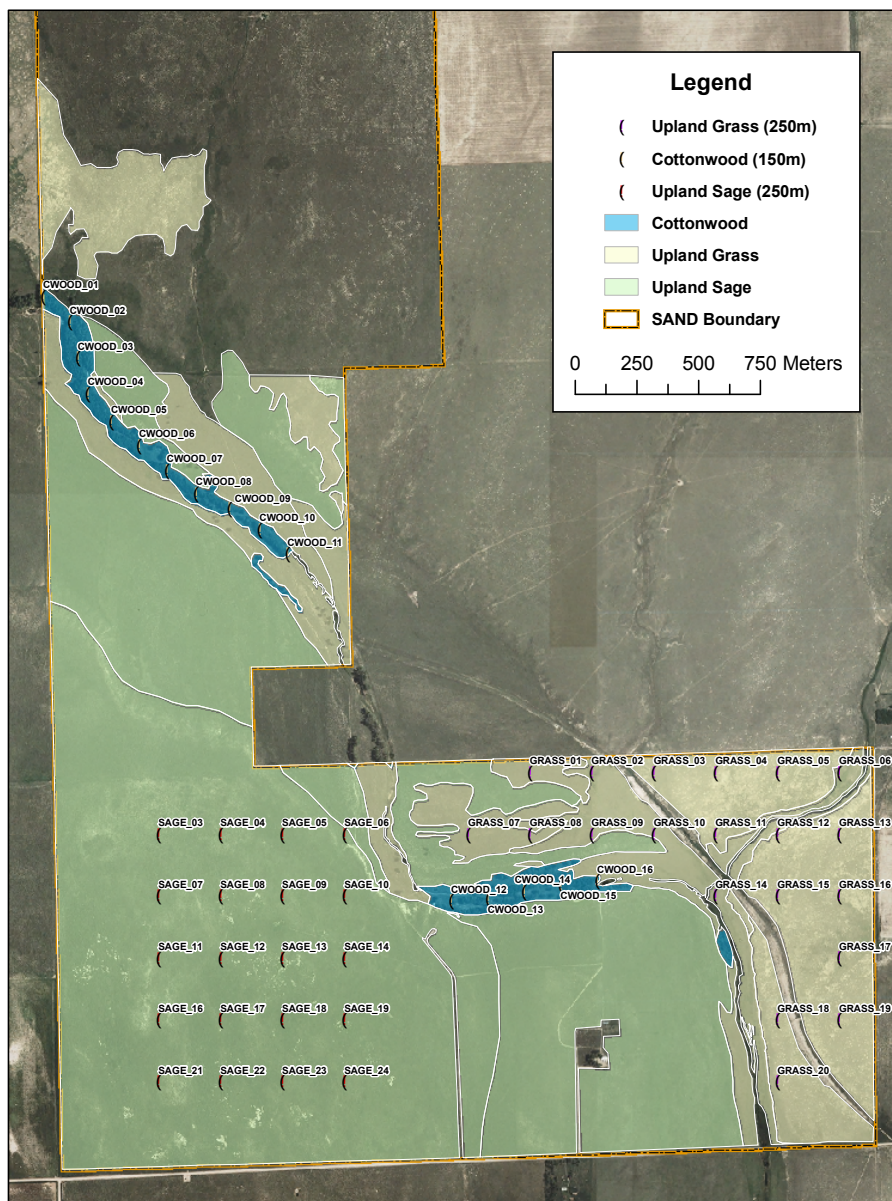


Figure 1. Bird sampling locations at Sand Creek Massacre NHS.

cluded two lark bunting, warbling vireo, western wood-peewee, yellow-billed cuckoo (listed as a special concern species with the state), and one eastern bluebird. Burrowing owl (a state-threatened species) and mountain plover (a state special concern species), detected in the 2009 survey, were notably absent in 2010.

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.4>).

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



Turkey vulture

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