

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.

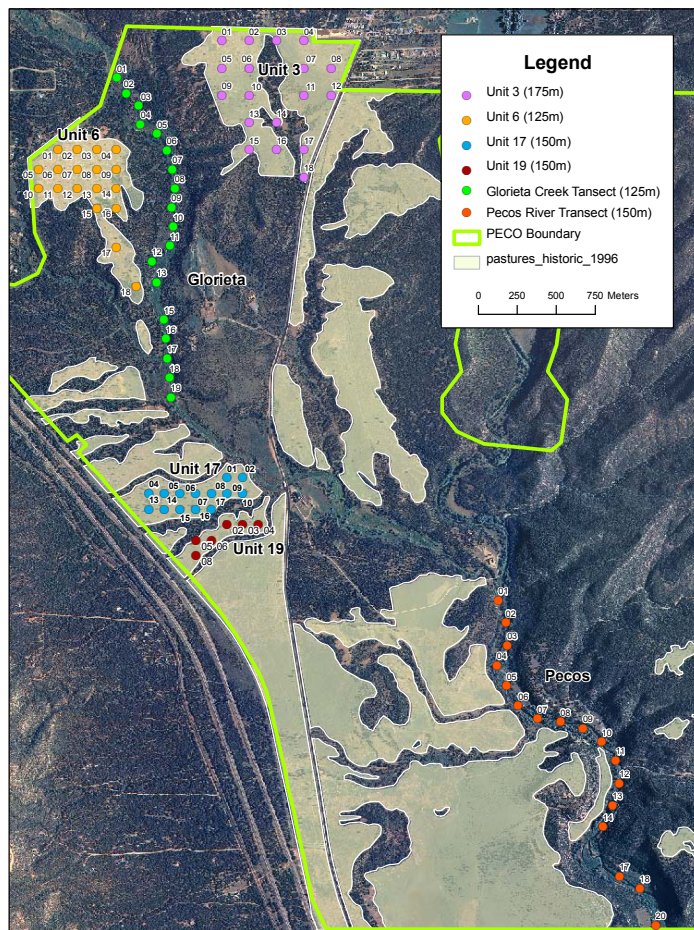


Figure 1. Bird sampling locations at Pecos NHP.



Cassin's kingbird

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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 Pecos National Historical Park (NHP), we sampled six transects/grids (Figure 1) three times during the breeding season. The transects/grids, four in grassland (shortgrass prairie) and two in riparian habitat (cottonwood bottom), were surveyed from June 8-19. 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.

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Black-billed magpie

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 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, 1,513 birds of 63 species were counted at Pecos NHP. Species counted in the highest numbers were Cassin's kingbird (15%), American crow (6%), lark sparrow (6%), spotted towhee (5%), and common raven (4%). Other prominent species were chipping sparrow, juniper titmouse, mourning dove, northern rough-winged swallow, turkey vulture, northern mockingbird, and western scrub-jay. Three species were detected for the first time at Pecos NHP in 2010: gray vireo, black-billed magpie (detected at the Glorieta transect), and Cassin's sparrow (detected at Unit 3); only one individual of each species was recorded.

In 2010, Pecos NHP had the second highest species diversity among the SOPN, with its 63 species detected. More species were detected in riparian habitat (52) than in grassland habitat (45). Some species were detected only in riparian habitat (e.g., violet-green swallow, Canada goose, yellow warbler, and common yellowthroat), while others were detected only in grassland habitat (e.g., chipping sparrow, white-winged dove, and lesser goldfinch). Species that were observed at Pecos NHP but no other SOPN park in 2010 include black-billed magpie, black-throated gray warbler, Brewer's blackbird, gray flycatcher, gray vireo, and western bluebird.

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
(URL: <http://www.nature.nps.gov/im/units/SOPN>)

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