

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.

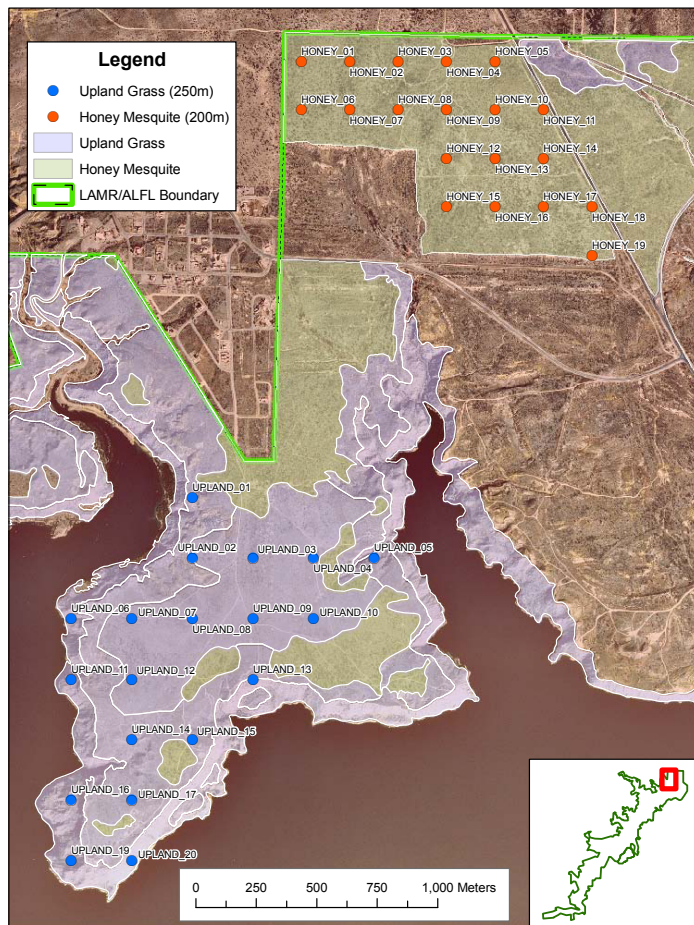


Figure 1. Bird sampling locations at Lake Meredith NRA- north (two grassland transects/grids).

RESOURCE BRIEF



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Cactus wren

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 Lake Meredith National Recreation Area (NRA), we sampled four transects/grids, two in grassland and two in riparian habitat (e.g., Figures 1 and 2), three times (from May 4-21) during the breeding season. The grassland habitat type was upland grassland, and the riparian habitat types were bottomland grassland and cottonwood bottom. 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.

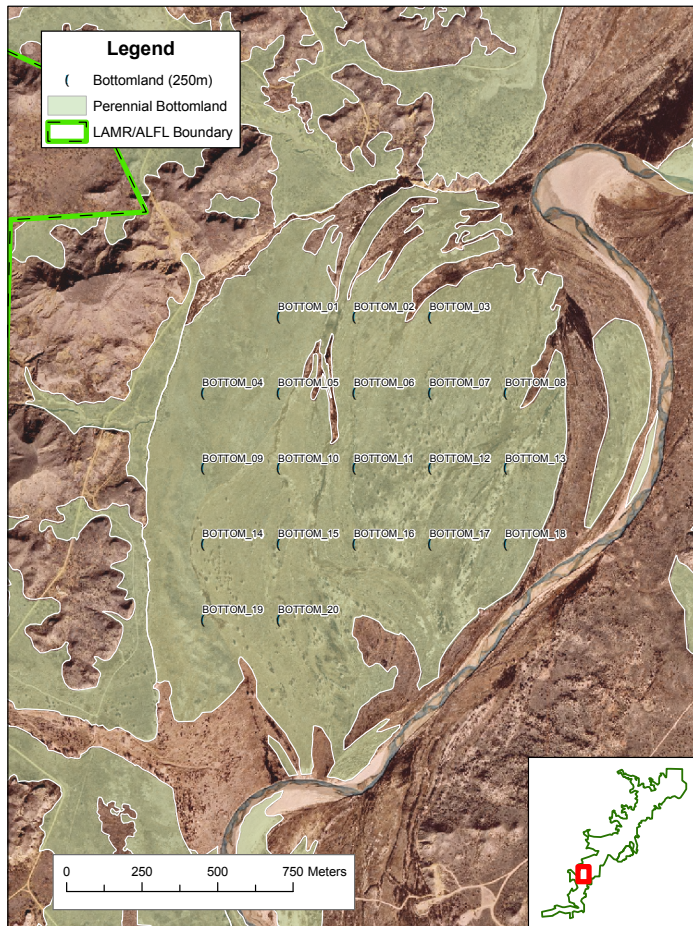


Figure 2. Bird sampling locations at Lake Meredith NRA-bottomland (one of the two riparian transects/grids).

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, 973 birds of 60 species were counted at Lake Meredith NRA. Although the same number of survey points were counted in grassland and riparian habitats, nearly twice as many birds were counted on riparian survey points. The number of species observed was also greater in riparian habitat compared to grassland habitat (49 compared to 33). Overall, the most commonly counted species was red-winged blackbird (10%). Cassin's sparrow (9%), mourning dove (8%), western kingbird (7%), and northern mockingbird (6%) were also common.

The diverse habitat in Lake Meredith NRA, ranging from upland grassland to riparian canyon land and bottomland with a mix of grassland/savannah/wetland, attracts a high diversity of bird species. Red-winged blackbirds were abundant at the bottomland



PHOTO: © ROBERT SHANTZ

Rufous-crowned sparrow

transect along with many dickcissel, mourning dove, and eastern meadowlark. A number of Bullock's oriole, field sparrow, scissor-tailed flycatcher, and western kingbird were recorded in the bottomland. The highest species diversity was found on Turkey Creek; detections of many interesting or unusual birds included canyon wren, greater roadrunner, red-bellied woodpecker, rufous-crowned sparrow, spotted towhee, and at least one singing summer tanager. Cassin's sparrow was abundant at the honey mesquite transect. Blue grosbeak, painted bunting, and rock wren were detected at the upland transect on the rocky/shrub bluffs near the lake shoreline.

Four of nine new species detected in 2010 were recorded in Turkey Creek: cactus wren, Cooper's hawk (including nesting birds), gray-cheeked thrush, and rose-breasted grosbeak. Detection of the cactus wren this year was the first detection of the species in SOPN parks during monitoring. The other new species for the park were the barn swallow (detected foraging over the honey mesquite transect) and Eurasian collared-dove, and chipping sparrow, lark bunting, and vesper sparrow passing through on migration.

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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