



Birds 2010

RESOURCE BRIEF

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.



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Cassin's sparrow

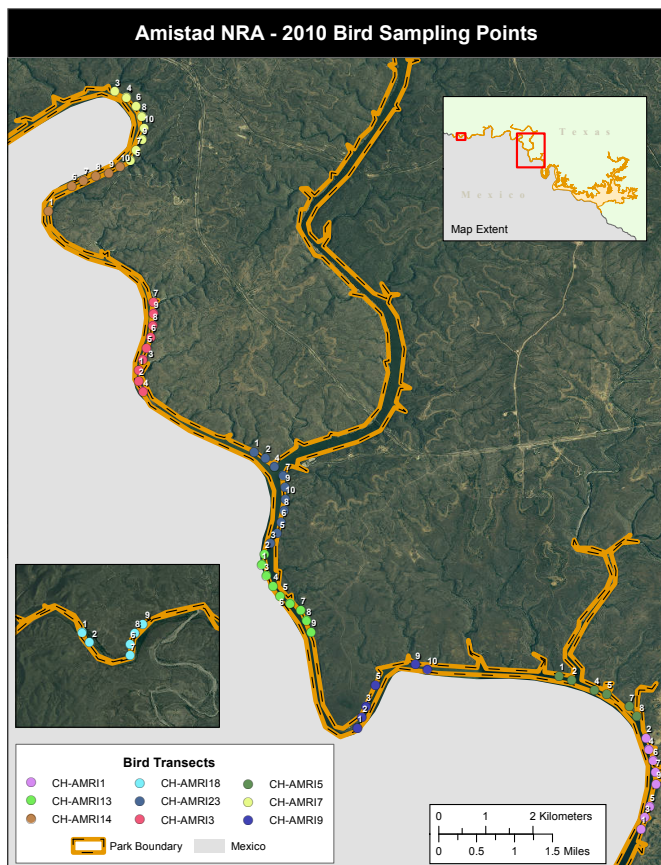


Figure 1. Bird sampling locations at Amistad NRA- West.

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 (in review). At Amistad National Recreation Area (NRA), we sampled 17 transects/grids (8 in grassland and 9 in riparian habitat; Figures 1 and 2) one time during the breeding season (from May 24 to June 11). 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.

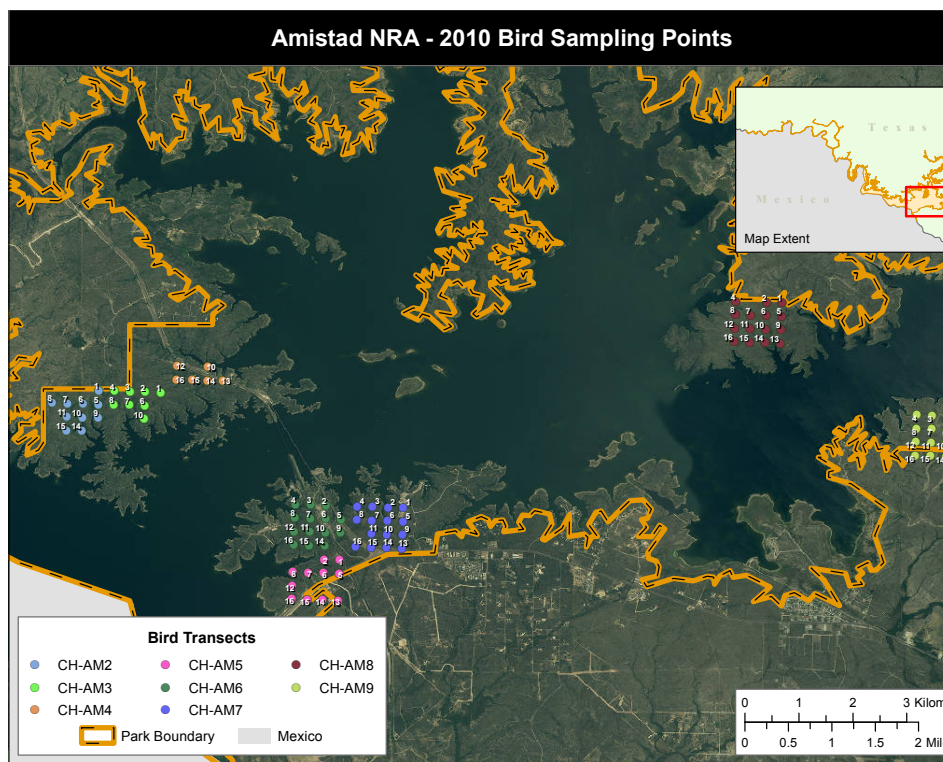


Figure 2. Bird sampling locations at Amistad NRA- East.

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, 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, 2,908 birds of 62 species were counted at Amistad NRA. The most commonly counted species was cliff swallow (31%), followed by Cassin's sparrow (6%), turkey vulture (6%), and northern mockingbird (5%). A greater number of species were detected in riparian habitat than in grassland habitat (51 vs. 41), even though there were relatively fewer riparian survey points (68 vs. 95).

Desert scrub birds and a host of birds associated with the dense riparian vegetation surrounding the lake were detected in Amistad NRA grassland transects. Species observed in the highest numbers included cliff swallow, Cassin's sparrow, northern mockingbird, painted bunting, black-throated sparrow, rufous-crowned sparrow, and cactus wren. Northern bobwhite was observed on grassland transects in the NRA but not in grasslands at other CHDN parks. Abundant Cassin's and

rufous-crowned sparrows were detected in the desert scrub surrounding the lake. We observed common and/or lesser night-hawks on multiple transects. The riparian corridors were narrow to non-existent along the Rio Grande, but they supported a good mix of birds including black vulture, brown-crested flycatcher, canyon wren, hooded oriole, orchard oriole, rock wren, scissor-tailed flycatcher, summer tanager, and white-throated swift. The most commonly observed birds on riparian transects were cliff swallow, turkey vulture, white-throated swift, canyon wren, and red-winged blackbird. Outside of a survey period, we detected a single peregrine falcon (a state-listed species) and one common moorhen along the Rio Grande.

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>).

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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>)



Cliff swallow

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