



FORT UNION

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.

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 Fort Union National Monument (NM), we sampled three transects/grids in grassland habitat (Figure 1) three times (from May 23-June 3) during the breeding season. 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 on an annual



PHOTO: © ROBERT SHANTZ

Cliff swallow with mud on its beak

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, 792 birds of 34 species were counted at Fort Union NM. Western meadowlark was, by far, the most abundant species occurring throughout the park, accounting for 58% of birds counted. Other prominent species included cliff swallow (8%) in and around the staff residence area and vesper sparrow in the grassland habitat at the old fort transect (7%). Western kingbird (3%) and northern mockingbird (3%) were detected primarily in the pinyon-juniper immediately adjacent to the old fort boundary, the riparian area along Wolf Creek, the visitors center, and staff residence area.

One curved-billed thrasher, a new species for the monument, was visually detected off-transect on the west side of the visitors center, and a singing male was found at the old fort transect in the pinyon-juniper along the monument boundary. Eurasian collared-dove and juniper titmouse were also new species for the park in 2010. Eight species (black-headed grosbeak, blue grosbeak, blue-gray gnatcatcher, Cassin's kingbird, juniper titmouse, northern flicker, spotted towhee, and western scrub jay) not detected at transects in 2009, were found on or just outside of the old fort site boundary in pinyon-juniper habitat. The Cassin's sparrow, known to occur in the park, was notably absent in 2010.

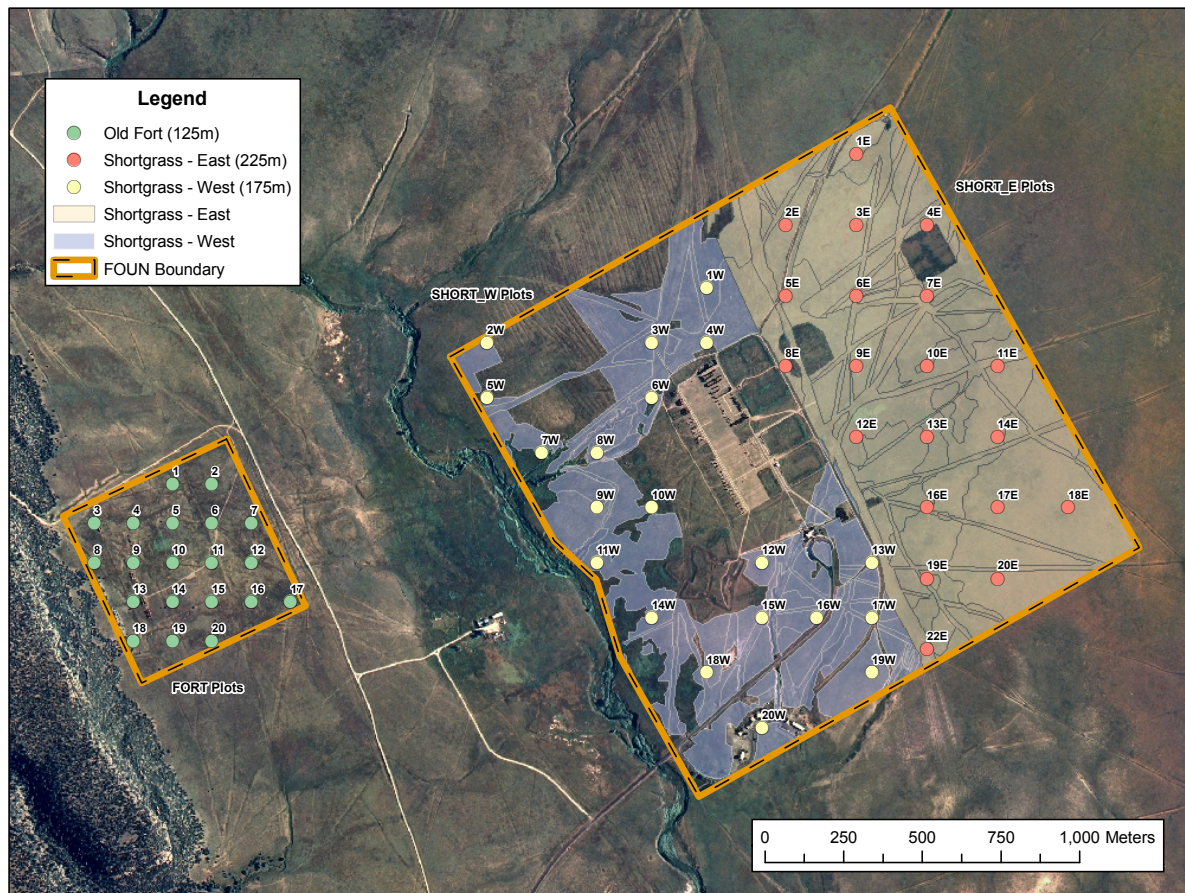


Figure 1. Bird sampling locations at Fort Union NM.

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



Western meadowlark

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