Landbird Monitoring
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 Sonoran Desert Network (SODN) began monitoring birds in Spring 2007. This effort is part of a collaboration among the Southern Plains, Sonoran Desert, and Chihuahuan Desert Networks, and Rocky Mountain Bird Observatory (RMBO). 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). During May of 2010, we sampled six transects at Organ Pipe National Monument (NM; Figure 1), two in riparian (xeroriparian) habitats and four in upland (desert scrub) habitats. Each transect had seven points and was sampled twice, for a total sample of 84 points. 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 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.

PHOTO: © ROBERT SHANTZ

Crested caracara, a rare breeding species at the park.

Results and Discussion

During 2010, 1,411 birds of 55 species were counted at Organ Pipe NM. White-winged dove (*Zenaida asiatica*) was the most commonly counted species (17%). Gambel's quail (*Callipepla gambelii*; 10%), mourning dove (*Zenaida macroura*; 9%), Gila woodpecker (*Melanerpes uropygialis*; 9%), and brown-crested flycatcher (*Myiarchus tyrannulus*; 8%) were also common. No new species were detected in the park in 2010.

A very wet winter with persistent rain transformed the usually dry monument; many bird species favored the abundance of

Prepared by Patty Valentine-Darby and Moez Ali

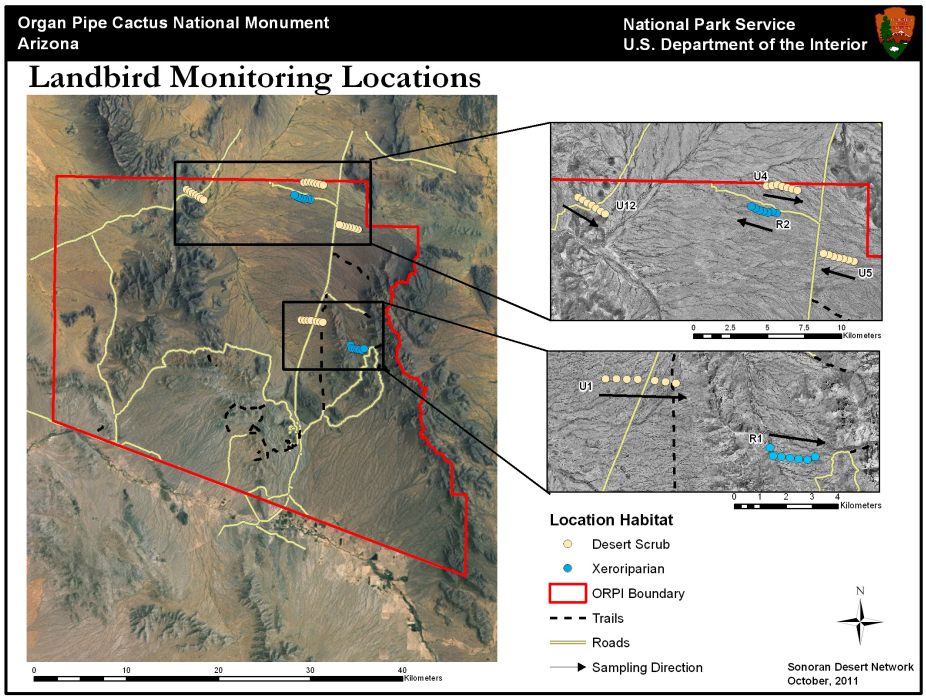

Figure 1. Bird sampling locations at Organ Pipe NM.

seasonal flowers and lush new growth, particularly along the narrow xeroriparian washes, which supported large ironwood, desert willow, and palo verde trees. Numerous and diverse migrants passed through in good numbers (including the uncommon hermit warbler [*Dendroica occidentalis*] and olive-sided flycatcher [*Contopus cooperi*]), along with lingering winter birds, such as lark bunting (*Calamospiza melanocorys*) and green-tailed towhee (*Pipilo chlorurus*). Breeding desert residents responded well to the wet winter, and juveniles of Gila woodpecker, cactus wren (*Campylorhynchus brunneicapillus*), mourning dove, curve-billed thrasher (*Toxostoma curvirostre*), verdin (*Auriparus flaviceps*), Gambel's quail, Costa's hummingbird (*Calypte costae*), and black-throated sparrow (*Amphispiza bilineata*) were abundant. A rufous-backed robin (*Turdus rufopalliatus*), a vagrant from Mexico, wintered in a fruiting hackberry grove that attracted many spring warblers, tanagers, grosbeaks, vireos, flycatchers, and thrushes. Harris's hawks (*Parabuteo unicinctus*) nested by the visitor center, and a single crested caracara (*Caracara cheriway*) was observed. The caracara is a rare species known to breed in the park. A large flock of more than 150 American white pelicans (*Pelecanus erythrorhynchos*) soaring over the rugged Ajo Mountains was observed and photographically documented by a park ranger. Recently confirmed nesting violet-green swallows (*Tachycineta thalassina*) were observed using saguaro cactus cavities—a dramatic setting for the species, which favors aspens in the cool, high mountains much further northeast.

RMBO, the NPS's primary cooperator for this project, collects and 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).

Contacts

Rob Bennetts, Landbird Monitoring Project Lead, Southern Plains Network
Robert_Bennetts@nps.gov

Sonoran Desert Network website (URL: http://www.nature.nps.gov/im/units/SODN)

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

PHOTO: © MARIETTA COLLEGE

White-winged dove.