

Birds

Importance

Hundreds of species of birds occur in the American Southwest, as do some of the best birdwatching opportunities. Birds are a highly visible component of many ecosystems. Because they can respond quickly to changes in resource conditions, birds are considered good indicators of ecosystem health. Monitoring changes in bird population and community parameters can be an important component of any comprehensive, long-term monitoring program. Monitoring birds is especially critical given population declines for some species in recent decades.

Status and Trends

More than 450 species of birds have been recorded at Big Bend National Park (NP), with many of them observed during the annual migration. Migrating, breeding, and wintering birds have been the subject of a number of monitoring and research efforts at the park. Additionally, the Chihuahuan Desert Network (CHDN) Inventory and Monitoring (I&M) Program will begin landbird monitoring in Big Bend NP in 2010.

The park contains species common to other parts of the U.S., as well as Mexican species that range into the U.S. only along the border (especially into the Chisos Mountains or within the border country of Texas to Arizona). Some of these unique birds include the lucifer hummingbird (*Calothorax lucifer*), Mexican jay (*Aphelocoma ultramarina*), black-capped vireo (*Vireo atricapillus*) and gray vireos (*Vireo vicinior*), and colima warbler (*Vermivora crissalis*), which breeds in the Chisos Mountains. Researchers document as many as 75 colima warbler territories during surveys.

Birds that are common or abundant and that breed in Big Bend NP include the house sparrow (*Passer domesticus*), pyrrhuloxia (*Cardinalis sinuatus*), house finch (*Carpodacus mexicanus*), black-throated sparrow (*Amphispiza bilineata*), red-tailed hawk (*Buteo jamaicensis*), scaled quail (*Callipepla squamata*), ladder-backed woodpecker (*Picoides scalaris*), Say's phoebe (*Sayornis saya*), vermilion flycatcher (*Pyrocephalus rubinus*), and cactus wren (*Campylorhynchus brunneicapillus*). Grassland residents of the park include the greater roadrunner (*Geococcyx californianus*), Say's phoebe, loggerhead shrike (*Lanius ludovicianus*), common raven (*Corvus corax*), Bewick's wren (*Thryomanes bewickii*), green-tailed towhee (*Pipilo chlorurus*), and Western bluebird (*Sialia mexicana*).

One federally-listed bird species, the black-capped vireo, oc-

RESOURCE BRIEF



PHOTO: © ROBERT SHANTZ

Peregrine falcon

curs at Big Bend NP. The greatest number of individuals recorded in an annual census of the bird was 41 (36 males and 5 females) in 2009. Four other species present at the park, the peregrine falcon (*Falco peregrinus*), common black-hawk (*Buteogallus anthracinus*), gray hawk (*Asturina nitida*), and zone-tailed hawk (*Buteo albonotatus*), are listed as endangered or threatened with the State. The peregrine falcon, which is a Texas threatened species and was federally listed until 1999, has been recorded nesting in the Big Bend region since the early 1900's. Nests have been monitored annually since 1976. The reproductive success of the population was thought to have declined in the 1990's, and a study of the potential cause found an accumulation of contaminants (selenium, mercury, and DDE [a metabolite of DDT]) in potential prey species.

Breeding birds are monitored along three routes at Big Bend NP every year as part of the North American Breeding Bird Survey. For the route with the longest period of data (>40 years), 30 species and 467 individuals per year, on average, have been counted. Species among those recorded in the highest numbers on all three routes include the black-throated sparrow, pyrrhuloxia, cactus wren, Northern mockingbird (*Mimus polyglottos*), and scaled quail.

Discussion

A recent study, using modeling and field observations, suggests that climate change could result in a decrease in the occurrence of some bird species at Big Bend. The study predicted that climate change could result in minor to moderate decreases in the occurrence of the scaled quail, loggerhead shrike, and rock wren, three of eight species examined.

