



Landbirds Monitoring

Importance

By occupying various levels in the food web, birds play an important role in the flow of energy through ecosystems. As nestlings, they consume insects. As adults, birds eat insects and plants and are, in turn, eaten by birds and mammals higher up the food chain. Because they can be sensitive to habitat change, birds are good indicators of ecosystem integrity. They also have strong public appeal; unlike many other animal taxa in the xeric Colorado Plateau, birds are diurnal and, thus, commonly visible to park visitors. Data from the relatively natural habitats of Northern Colorado Plateau Network (NCPN) national parks will provide status and trend information useful in comparisons with more-impacted areas.

Long-term Monitoring

The Northern Colorado Plateau Network (NCPN) is partnering with the Rocky Mountain Bird Observatory (RMBO) to assess breeding-bird species trends in three different habitats: low-elevation riparian, pinyon-juniper, and sagebrush-shrubland. NCPN survey plots will contribute to the RMBO's broader, landscape-scale breeding-bird monitoring program, which includes more than 1,000 plots in 11 states in the Rocky Mountains and Colorado Plateau. Twice during each breeding season, RMBO surveys 15 transects in each of the three habitats of interest across 11 NCPN parks. Point counts are also conducted as part of a modified monitoring design at Pipe Spring National Monument.



Black phoebe (above) and Eurasian collared-dove (right) were recorded for the first time at Pipe Spring NM in 2010.



Dark-eyed junco (pink-sided).

Status and Trends

In 2010, all of the assigned transects were surveyed. Not counting low-density species detections (birds detected between points), a total of 9,313 birds of 113 species were recorded in all habitats. When pooled together, data collected from 2005 to 2010 yielded robust density estimates for 41 species. RMBO expects to be able to detect a population change of at least 3% within 30 years for those 41 species, representing more than 89% of all individual birds observed during 2010.

One new species (dark-eyed junco, pink-sided) was recorded at Colorado National Monument, and two new species (black phoebe and Eurasian-collared dove) were recorded at Pipe Spring National Monument in 2010. With this sixth year of NCPN landbird monitoring came the first trend analyses of network landbird populations. Significant trends were detected for six species (see page 2).

Contact

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Network park units where landbirds are monitored

Arches NP	Curecanti NRA
Black Canyon of the Gunnison NP	Dinosaur NM
Bryce Canyon NP	Fossil Butte NM
Canyonlands NP	Natural Bridges NM
Capitol Reef NP	Pipe Spring NM
Colorado NM	Zion NP

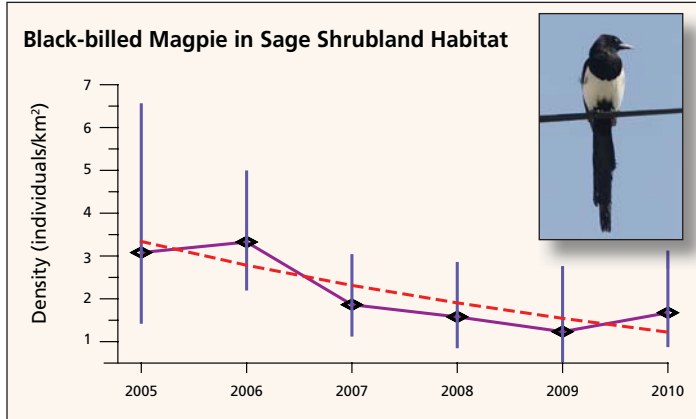
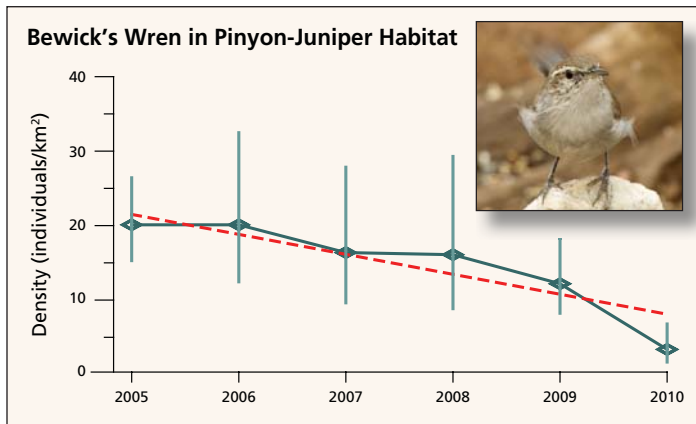
NP = National Park; NM = National Monument; NRA = National Recreation Area

First Trend Results Calculated

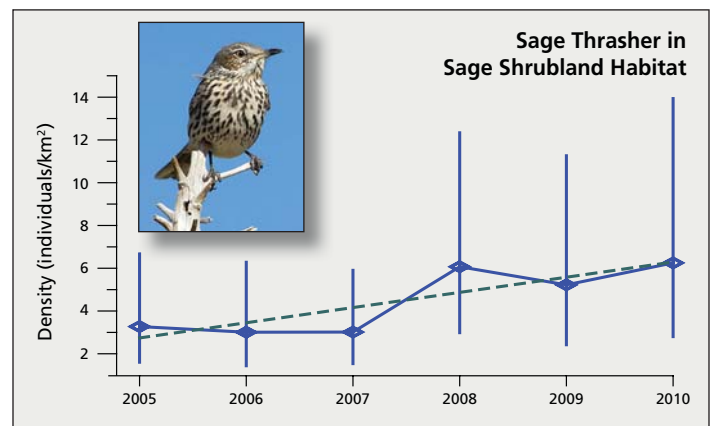
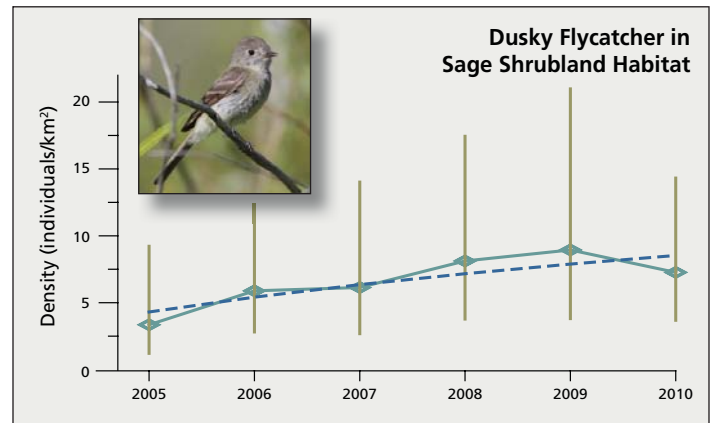
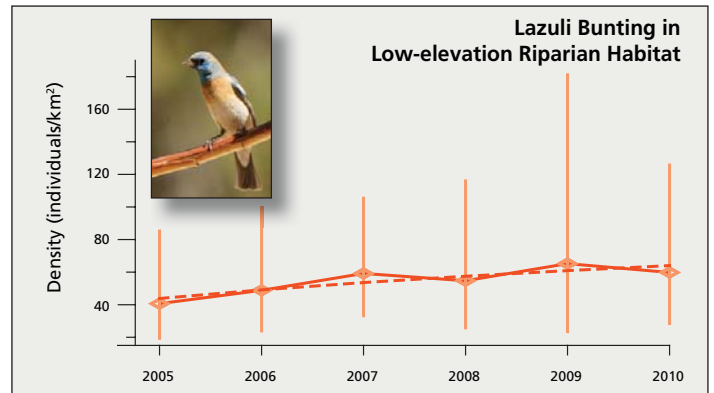
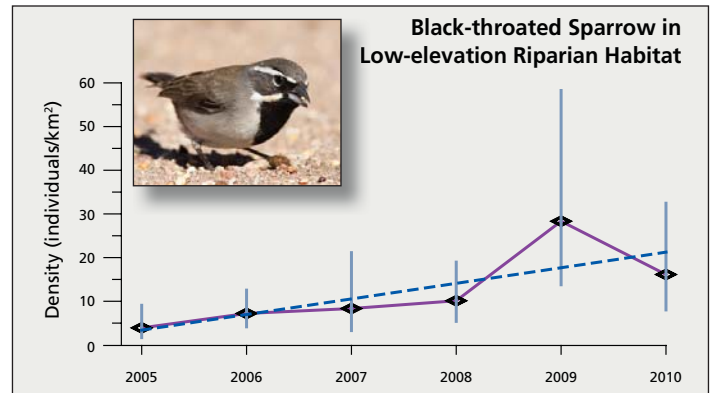
In 2010, RMBO recorded 41 bird species that are of conservation and management concern throughout the NCPN, and calculated density estimates for 25 of those 41 species. With the NCPN landbirds monitoring program in its sixth year, the first trend analyses were also conducted for those 25 species of conservation and management concern. Separate analyses were performed for each habitat.

Significant trends were detected for six species, four of which had positive trend detection (black-throated sparrow and lazuli bunting, in low-elevation habitat; and dusky flycatcher and sage thrasher, in sage shrubland habitat—see right) and two of which had negative trend detection (Bewick's wren, in pinyon-juniper habitat, and black-billed magpie, in sagebrush habitat—see below).

Populations appeared to be stable (no trend detected) for most species of conservation concern within the NCPN; however, Bewick's wren, in pinyon-juniper habitat, and black-billed magpie, in sagebrush habitat, appeared to be experiencing significant declines, warranting further investigation. The trend was not significant for Bewick's wren in low-elevation riparian habitat, although the density estimate in 2010 was the lowest estimated for the six years of this program. Long-term monitoring will continue to be necessary for interpreting population status and trends for avian species of the NCPN.



Bewick's wren, in pinyon-juniper habitat, and black-billed magpie, in sagebrush habitat, appear to be experiencing significant declines in NCPN parks.



Positive trends were detected for black-throated sparrow and lazuli bunting, in low-elevation habitat; and dusky flycatcher and sage thrasher, in sage shrubland habitat.