



Landbird Population Trends in the Northern Colorado Plateau Network, 2020 Field Season

Why Monitor Landbirds?

Birds occupy various levels in the food web and play an important role in the flow of energy through ecosystems. Because they can be sensitive to habitat change, birds are good indicators of ecosystem integrity. Data from the relatively natural habitats of Northern Colorado Plateau Network (NCPN) parks provide status and trend information useful in comparisons with more-impacted areas.

How is the Monitoring Done?

NCPN landbirds monitoring assesses trends in breeding-bird species by habitat, rather than by park. During each breeding season, a partner organization surveys 15 transects in each of three habitats of interest (low-elevation riparian, pinyon-juniper, and sagebrush shrubland) across 11 NCPN parks. Point counts and area searches are also conducted as part of a modified monitoring design at Pipe Spring National Monument.

What's the Most Recent News?

Data collected over 15 years of monitoring reveal 11 significant (p -value < 0.05) trends in population density. Nine trends are declining; two are increasing (see table). In all, 121 population-density trends have been estimated across the three habitats—but not all are statistically significant. Improved methods of analysis led to some changes in trends from past reports.

Due to park closures and safety precautions related to the COVID-19 pandemic, survey effort was reduced in 2020. Only sagebrush shrubland survey transects were visited, and point counts were



Rock wren.

Table 3-1. Significant density trends by habitat for landbird species in the Northern Colorado Plateau Network.

Species	LR	PJ	SA ^A
Mourning dove	↓	↓	—
White-throated swift	↓	↓	—
Rock wren	↓	—	↓
House wren	↑	—	—
Black-throated gray warbler	—	↓	—
Vesper sparrow	—	↑	—
Western meadowlark	—	—	↓
House finch	↓	—	—

^AAs the only habitat surveyed in 2020, only sagebrush shrubland (SA) trends include density estimates from 2020. Trends in low-elevation riparian and pinyon-juniper may differ from the 2019 report because of changes in methods of analysis. LR=low-elevation riparian; PJ=pinyon-juniper.

not conducted at Pipe Spring National Monument. A total of 210 point-count surveys were conducted at five parks, detecting 73 unique species. No new species were detected for the monitoring program or any of the parks.

Since monitoring began in 2005, a total of 14,483 point-count surveys have been conducted in the 11 parks, detecting 173 unique species.

How is the Information Used?

In order to know which species to manage for, park managers need to know which species are present. Declines in certain species or habitats—or increases in others—can alert managers to potential ecosystem change. Data from this monitoring is also useful for park planning documents, such as Natural Resource Condition Assessments and State of the Park reports, and demonstrates the value of unimpaired national-park landscapes and their value to bird communities.

Where are Landbirds Monitored?

In 2020, monitoring was conducted at Black Canyon of the Gunnison and Bryce Canyon national parks; Dinosaur and Fossil Butte national monuments; and Curecanti National Recreation Area. In typical years, monitoring also occurs at Arches, Canyonlands, Capitol Reef, and Zion national parks; and Colorado, Natural Bridges, and Pipe Spring national monuments.

How Can I Learn More?

Visit www.nps.gov/im/ncpn or contact dustin_w_perkins@nps.gov.

Results in this brief were summarized from
S. G. Roberts, E. L. Tymkiw, Z. S. Ladin, and W. G. Shriver. 2021.
[Landbird monitoring in the Northern Colorado Plateau Network: 2020 field season](#)