



Landbird Population Trends in the Northern Colorado Plateau Network, 2022

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 the three habitats of interest (low-elevation riparian, pinyon-juniper, and sagebrush shrubland) across 11 network parks. Point counts and area searches are also conducted as part of a modified monitoring design at Pipe Spring National Monument.



USFWS/TINA SHAW

Hairy woodpecker.

What's the Most Recent News?

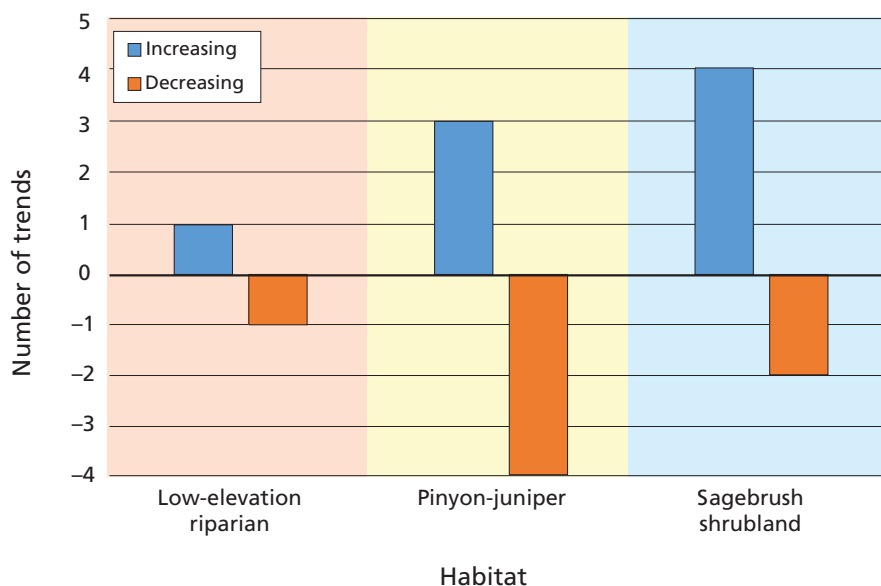
Over 17 years of data collection, 15,777 point-count surveys have been conducted in the 11 parks, detecting 179 unique species.

Using data from 2005 to 2022, 118 population-density trends were

estimated across the three habitats. Fifteen of the estimated density trends were significant (p -value < 0.05), including seven negative trends and eight positive trends (see chart at left and table, next page). There were sufficient sample sizes to estimate the densities of 61 species in at least one of the three habitats surveyed.

During the 2022 field season, 638 point-count surveys were conducted, detecting 117 unique species. A total of 6,245 individual birds of 117 unique species were recorded. One new species was detected for this monitoring program: a Lewis's woodpecker (*Melanerpes lewis*) in Black Canyon of the Gunnison National Park (NP). In addition, the following birds were detected in the following parks for the first time in this monitoring program: lazuli bunting (*Passerina amoena*), Black Canyon of the Gunnison NP; summer tanager (*Piranga rubra*), Arches NP; MacGillivray's warbler (*Geothlypis tolmiei*), Bryce Canyon NP; red-naped sapsucker (*Sphyrapicus nuchalis*), Curecanti

NCPN Landbird Population Trends, 2005–2022



National Recreation Area, and Lincoln’s sparrow (*Melospiza lincolni*), Zion NP.

A total of 106 individuals of 24 species were recorded in Pipe Spring National Monument in 2022. Sample sizes were too low for estimation of density trends.

How is the Information Used?

In order to know which species to manage for, park managers need to know which species are present. Data from this monitoring are also useful for park planning documents, such as Natural Resource Condition Assessments and State of the Park reports, and demonstrates the value of unim-

paired national-park landscapes and their value to bird communities.

Where are Landbirds Monitored?

NCPN landbirds monitoring occurs at 12 network parks: Arches, Black Canyon of the Gunnison, Bryce Canyon, Canyonlands, Capitol Reef, and Zion national parks; Colorado, Dinosaur, Fossil Butte, Natural Bridges, and Pipe Spring national monuments; and Curecanti National Recreation Area (see map).

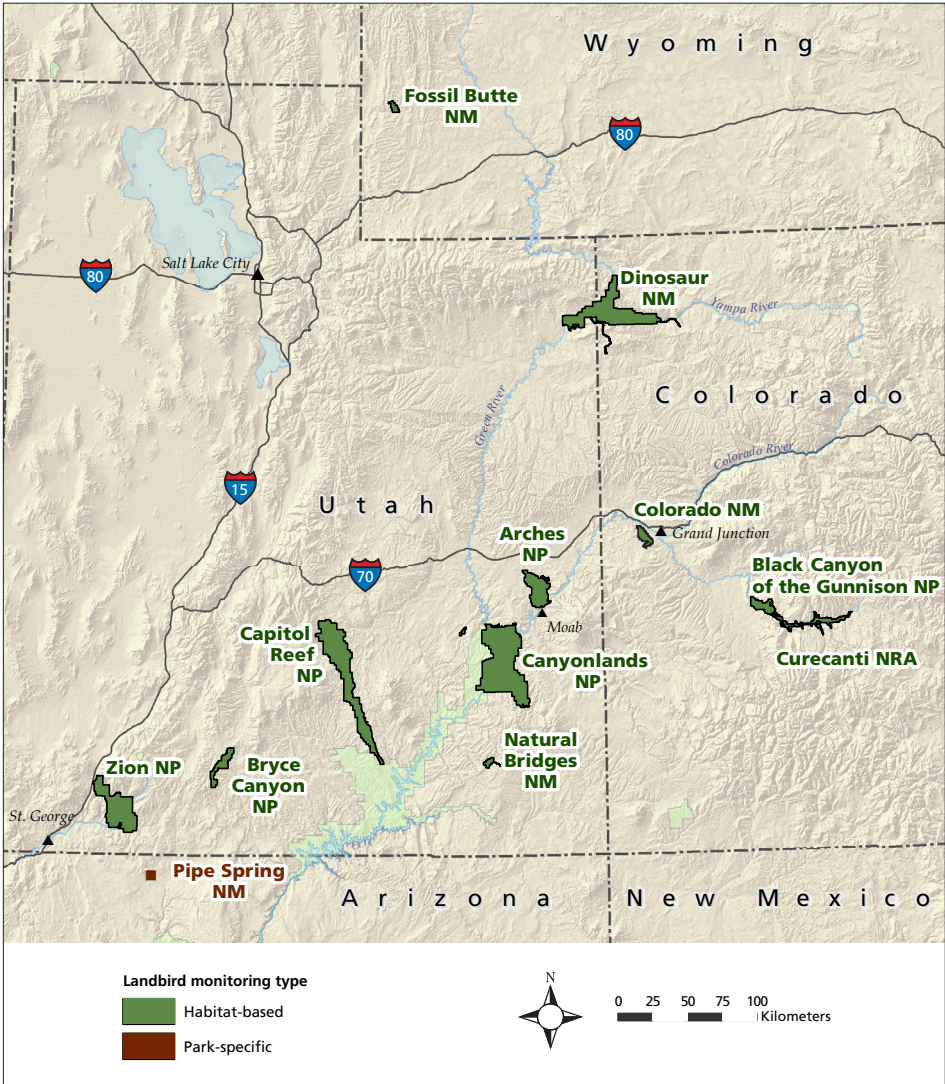
How Can I Learn More?

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

Significant trends in landbird species population density across three habitats in 11 NCPN parks, 2005–2022.

Species	Habitat ^{AB}		
	LR	PJ	SA
Mourning dove	↓	↓	–
White-throated swift	↓	↓	–
Hairy woodpecker	↑	NA	NA
Rock wren	–	–	↓
Mountain bluebird	NA	↓	–
Yellow-rumped warbler	–	↑	–
Grace’s warbler	NA	–	↑
Vesper sparrow	NA	↑	–
Lark sparrow	NA	–	↑
Western tanager	–	–	↑
Lazuli bunting	–	↑	–
Western meadowlark	NA	–	↓
House finch	–	–	↑

^ALR=low-elevation riparian; PJ=pinyon-juniper; SA=sage shrubland
^BNA = not enough data available; – = no trend



Northern Colorado Plateau Network parks where landbirds are monitored.

Results in this brief were summarized from S.G. Roberts, E.L. Tymkiw, Z.S. Ladin, and W.G. Shriver. 2023. [Landbird monitoring in the Northern Colorado Plateau Network: 2022 field season](#). Natural Resource Report NPS/NCPN/NRR—2023/2522. National Park Service, Fort Collins, Colorado. <https://doi.org/10.36967/2299435>.