



# 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 animals on 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. During each breeding season, RMBO surveys 15 transects in each of the three habitats of interest across 11 NCPN parks. Point counts and area searches are also conducted as part of a modified monitoring design at Pipe Spring National Monument. NCPN survey plots will contribute to RMBO's broader, landscape-scale breeding-bird monitoring program, which includes more than 1,000 plots in 13 states in the Rocky Mountains and Colorado Plateau.

## Status and Trends

In 2013, the ninth year of NCPN landbirds monitoring, 99% of the assigned transects were surveyed. Not counting birds detected between points, a total of 8,710 birds of 120 species were recorded: 2,618 birds of 76 species in low-elevation riparian, 2,406 birds of 76 species in pinyon-juniper, and 3,686 birds of 102 species in sage shrubland habitat. Two new species, American wigeon and northern pintail, were recorded at Fossil Butte National Monument. At Pipe Spring National Monument, a total of 371 birds of 36 species were detected.

Density estimates were calculated for 61 species in at least one habitat. Those calculations yielded robust density estimates for 41 species in at least one habitat. Density estimates for the following species and habitats were calculated for the first time: blue grosbeak, broad-tailed hummingbird, and northern flicker



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Lazuli bunting.

in low-elevation riparian, black-chinned hummingbird in pinyon-juniper, and ash-throated flycatcher, cliff swallow, Grace's warbler, house wren, plumbeous vireo, and white-throated swift in sage shrubland habitat. One species (marsh wren, in Curecanti NRA), that was previously designated as Probably Present by the National Park Service and will now be noted as Present. Species of concern found to be more dense in one habitat than in the others are shown on page 2.

Analysis of population trends was not conducted this year, and RMBO recommends waiting 3–5 years before conducting trend analyses again. As additional years of data accumulate, trend analysis will become less sensitive to short-term fluctuations in population density and long-term trends underlying annual fluctuations will be revealed.

## 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

**W**e calculated density estimates by habitat in 2013. Species of concern that were estimated to be more dense in one habitat than in the other two are shown below.

**Pinyon-Juniper**

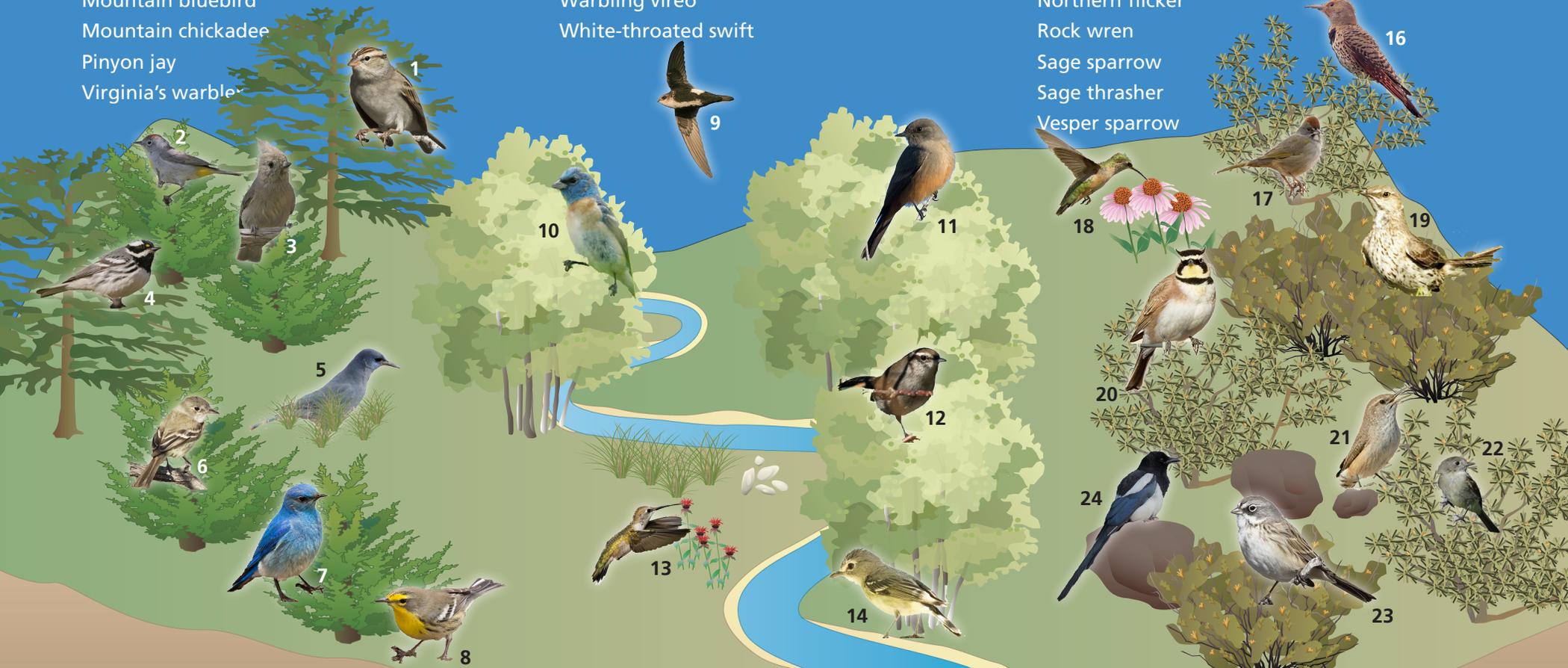
- Black-throated gray warbler
- Chipping sparrow
- Grace's warbler
- Gray flycatcher
- Gray vireo
- Juniper titmouse
- Mountain bluebird
- Mountain chickadee
- Pinyon jay
- Virginia's warbler

**Low-elevation Riparian**

- Bewick's wren
- Black-chinned hummingbird
- Lazuli bunting
- Plumbeous vireo
- Say's phoebe
- Violet-green swallow
- Warbling vireo
- White-throated swift

**Sagebrush Shrubland**

- Black-billed magpie
- Brewer's sparrow
- Broad-tailed hummingbird
- Dusky flycatcher
- Green-tailed towhee
- Horned lark
- Northern flicker
- Rock wren
- Sage sparrow
- Sage thrasher
- Vesper sparrow



1-Chipping sparrow (RS) 2-Virginia's warbler (GL) 3-Juniper titmouse (GL) 4-Black-throated gray warbler (GL) 5-Pinyon jay (GL) 6-Gray flycatcher (RS) 7-Mountain bluebird (RS) 8-Grace's warbler (RS)

9-White-throated swift (GL) 10-Lazuli bunting (RS) 11-Say's phoebe (RS) 12-Bewick's wren (RS) 13-Black-chinned hummingbird (RS) 14-Plumbeous vireo (RS)

15-Brewer's sparrow (RS) 16-Northern flicker (GL) 17-Green-tailed towhee (RS) 18-Broad-tailed hummingbird (RS) 19-Sage thrasher (RS) 20-Horned lark (RS) 21-Rock wren 22-Dusky flycatcher (GL) 23-Sage sparrow (RS) 24-Black-billed magpie (GL)

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