



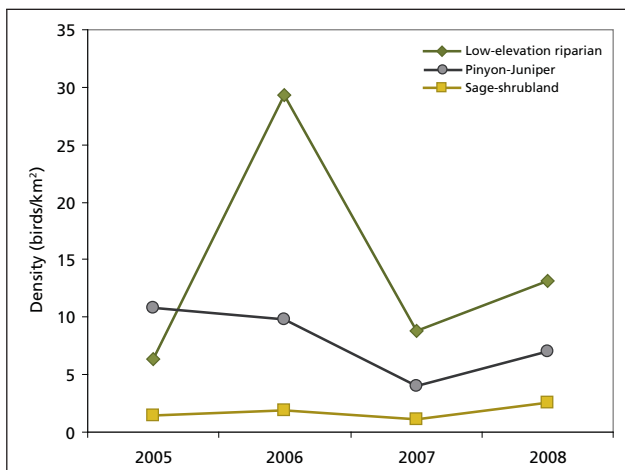
Landbird Monitoring

Importance

By occupying various levels in the food web, birds play an important role in the flow of energy through ecosystems. They consume insects as nestlings, rely on insects and plants for food as adults, and also serve as food resources for higher-trophic bird and mammal species. 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 sage-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. During a five-minute count on park transects, a field crew records (1) the distance to the bird, (2) how the bird was detected (visually, aurally), (3) the sex of the bird, (4) the bearing of the bird from the recorder, and (5) habitat information. Ecologists then examine population trends relative to habitat, density, and diversity of species.



Density of Virginia's warblers, listed as a species of concern by the U.S. Fish and Wildlife Service and a priority species by Partners in Flight, in low-elevation riparian, pinyon-juniper, and sage-shrubland habitats.



Black-throated gray warbler.

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Status and Trends

Annual surveys began in 2005. In 2008, surveys detected a total of 9,548 individual birds of 119 species on all NCPN transects, with 70–89 species detected in each of the three habitats. When pooled together, the 2005–2008 data yielded robust density estimates for 34 species and moderately robust estimates for 13 additional species. The NCPN and RMBO will seek to estimate long-term, habitat-specific population trends for these 47 species, which represent more than 90% of all individual birds observed during 2005–2008. The first trend estimates will be reported after data collection occurs in summer 2009. These data will act as building blocks for determining longer-term trends in each successive year, eventually allowing the network an 80% probability of detecting 3% change over 30 years. Trends larger than 3% will likely be detected sooner.

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