

Monitoring the Birds of Carson National Forest: 2005 Field Season Report

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In Cooperation With:



EXECUTIVE SUMMARY

Birds are excellent indicators of environmental quality and change. In addition, they are one of the most highly visible and valued components of our native wildlife. Monitoring birds provides data needed not only to effectively manage bird populations, but also to understand the effects of human activities on the ecosystem and to gauge their sustainability. Because bird communities reflect an integration of a broad array of ecosystem conditions, monitoring entire bird communities at the habitat level offers a cost-effective means for monitoring biological integrity at a variety of scales.

In 2005, Rocky Mountain Bird Observatory (RMBO), in conjunction with its funding partner, the Carson National Forest (CNF), implemented Year 3 of *Monitoring Birds of the Carson National Forest* (MBCNF), using a protocol similar to other RMBO monitoring programs as delineated by Panjabi et al. (2001). RMBO has designed this program to provide statistically rigorous long-term trend data for populations of most diurnal, regularly breeding bird species in the Carson National Forest, including some U.S. Forest Service Region 2 Sensitive Species and CNF Management Indicator Species (MIS). In the short term, this program provides information needed to effectively manage and conserve bird populations in the CNF, including the spatial distribution, abundance, and relationship to important habitat characteristics for each species. This cooperative project supports the CNF's efforts to comply with requirements set forth in the National Forest Management Act and other statutes and regulations. It also contributes to RMBO's broader landscape-scale breeding bird monitoring program, which currently includes 11 states in the Rocky Mountains and Great Plains regions.

This year, RMBO staff conducted 56 point transect surveys (830 point counts) in seven habitats within the CNF (aspen, grassland, mixed conifer, pinyon-juniper, ponderosa pine, sage shrubland, and spruce-fir), with the majority of transects in pinyon-juniper and ponderosa pine. RMBO did not survey montane riparian in 2005 as in the previous two years. New survey sites were added to certain habitats, while others were dropped or re-established in more representative habitat.

RMBO staff recorded a total of 115 breeding bird species on point transects in the seven habitats, many of which were observed on only a few occasions. The habitat-stratified point transect data provided good results (CV of $\leq 50\%$ in at least one habitat) on 44 bird species, including two CNF Management Indicator Species (MIS) and three Species of Greatest Conservation Need (SGCN) as designated by the New Mexico Comprehensive Wildlife Conservation Strategy. The 44 species should be effectively monitored under the current program in at least one of the seven habitats surveyed this year. We obtained sufficient data on several other species to monitor their populations across habitat types, although in some cases, these species may be better monitored with additional transects in certain habitats. The total number of species monitored by MBCNF in pinyon-juniper habitat in 2005 represents approximately 47% of the total number of species reported to breed in this habitat (Balda and Masters 1980). In 2005, we also had enough detections to monitor eight of the 20 priority species identified in the New Mexico Parnter's in Flight Plan for pinyon-juniper habitat.

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