

AVIAN INVENTORY  
FOR WALNUT CANYON NATIONAL MONUMENT, 2009-2010  
FINAL REPORT

Prepared by

Jennifer Holmes, Wildlife Biologist  
Matthew J. Johnson, Research Associate  
Samantha Dorr, Biological Technician  
Northern Arizona University  
Colorado Plateau Research Station  
Flagstaff, AZ 86011

Paul Whitefield, Natural Resource Specialist, National Park Service,  
Flagstaff Area National Monuments

PROJECT ABSTRACT

We conducted avian inventory surveys during 2009 and 2010 at Walnut Canyon National Monument (WACA), and used the inventory data to inform the design of a monitoring program for the ponderosa pine bird community. We sampled birds in two habitats, ponderosa pine, and canyon riparian, using eight-minute Variable Circular Plot (VCP) counts. We detected 62 bird species in ponderosa pine habitat, and 53 bird species in canyon riparian habitat. For each species detected we report abundance (mean abundance per VCP count), and distribution (percentage of plots in which a species was detected). The ponderosa pine bird community is comprised of a large proportion of cavity nesters, both primary and secondary cavity nesters. The canyon riparian bird community has one riparian obligate, the yellow warbler, and other bird species generally associated with riparian and/or shrubby habitats. WACA provides habitat for six bird species identified by Arizona Game and Fish Department's State Wildlife Action Plan as Species of Greatest Conservation Need.

We used the 2009-2010 inventory data on encounter rates to estimate the number of samples (VCP counts) needed to achieve a precision in estimating the abundance of species equal to a coefficient of variation of 0.5. For the WACA ponderosa pine bird community, approximately 150 VCP counts should yield sufficient data to track changes in abundance for the majority of species that comprise the community.