



BIRD MONITORING

IMPORTANCE – Sierra Nevada Network (SIEN) parks provide birds over 1,600,000 acres of diverse habitat, ranging from gently sloping foothill grasslands up to windswept alpine wetlands and peaks. Birds are important to Sierra Nevada ecosystems; they eat seeds and insects, disperse seeds, and serve as prey for other animals. Birds have specific needs for food, nest sites, and habitat, and thus are sensitive to environmental change. For example, long-term studies show many bird species are shifting northward in response to warming temperatures. Because national parks provide relatively stable conditions and protected breeding habitat, parks are among the few remaining places to study effects of regional and global stressors on bird populations. SIEN parks represent excellent reference sites for comparison with more heavily managed lands, although parks do suffer effects of air pollution, altered fire regimes, and non-native species. Birds are among the most visible animals in the parks, and their songs, colors, and behaviors attract substantial interest among visitors. Information from long-term monitoring of birds will inform managers about the condition of bird populations in the parks and enrich the information available to the public.



Institute for Bird Populations Biologist Bob Wilkerson travels to a Yosemite sample site on July 9, 2011. Photo: Ryan Carlton.



Bird crew training at Hodgdon Meadow in Yosemite National Park. Photo: Alice Chung-MacCoubrey.

MONITORING RESULTS – Bird monitoring was initiated in all SIEN parks in 2011 as a collaborative project between The Institute for Bird Populations and the Sierra Nevada Network. Extremely late-lingering snow and high streamflows prevented or delayed safe access to many middle and high-elevation transects. Despite access issues, field crews were able to sample 51 out of 60 transects in Sequoia & Kings Canyon and Yosemite. They conducted 744 point counts, documenting 6,507 individual birds and 96 species. In Devils Postpile 42 point counts yielded 353 detections of 42 species. An additional 25 species were recorded as incidental detections. Two species of particular conservation interest—bald eagle (formerly a federally endangered species) and black-backed woodpecker (currently a candidate species for listing as threatened or endangered in California)—were detected and documented at times other than during point counts. The [2011 annual report](#) is available on-line for additional information.

DISCUSSION – Despite particularly challenging weather conditions during this first field season of the monitoring program, preliminary results indicate this project will have robust enough sample sizes for many species to conduct trend analyses after additional years of data are collected. Changes in bird populations that are documented in subsequent years, when analyzed in the context of annual weather variation and perhaps other factors, are likely to yield interesting and useful findings about the drivers of population dynamics in birds of the Sierra Nevada, spur additional targeted research, and help refine management priorities and needs within the parks.

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