
AVIAN MONITORING WITH AUTONOMOUS RECORDING UNITS IN THE BITTERROOT VALLEY, MONTANA

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Monitoring avian species over a vast landscape challenges researchers and land managers. Many current monitoring programs rely on point counts, banding stations, and other methods requiring skilled observers. Autonomous recording units (ARUs) compliment data from these more common field techniques. In September 2012, MPG Ranch installed three ARUs at low-, mid- and high-elevation locations to supplement concurrent data collected at passerine banding stations. A preliminary analysis of migrating passerine nocturnal flight calls revealed distinct temporal and spatial trends between sites and through the season. We detected more sparrow, warbler and thrush flight calls in September than in October and at the low-elevation site than at the high-elevation site. We plan to compare this analysis to the banding data collected by the University of Montana's Avian Science Center for additional patterns. The ARUs also recorded several infrequently detected or new species on the ranch. We detected a barn owl (*Tyto alba*) 16 times at the low- and mid-elevation

ARUs over a 29-day period in September and October. These detections represent the first documentation of a barn owl since property monitoring began in 2010. Additional acoustic monitoring will help determine if this was a migration or some other phenomena. The common poorwill (*Phalaenoptilus nuttallii*) was another uncommon species documented via ARUs. In the future, we plan to use ARUs to document the presence and vocalization phenology of several species (e.g., Flammulated Owl, Common Poorwill) breeding in difficult-to-access areas of the property. We also plan to acoustically monitor the 2013 spring passerine migration.