
ACOUSTIC MONITORING OF NOCTURNAL MIGRANTS IN THE BITTERROOT VALLEY, MONTANA (POSTER)

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Many avian species migrate under the cover of darkness, limiting our ability to study migration phenomena. Some migrants emit nocturnal flight calls (NFCs) to presumably echolocate and maintain communication with other birds. NFC monitoring provides a reliable, passive, and unbiased way to document species composition and spatial and temporal components of nocturnal migration. During spring and fall migration of 2013 and 2014, we installed autonomous recording units (ARUs) at low-, mid-, and high-elevation sites. ARUs record NFCs and allow spectrogram generation, followed by species-level identification. From the recordings, we extracted and analyzed over 6000 NFCs from sparrows, warblers, and thrush-like species. Our data show that we can track annual, seasonal, weekly, and nightly trends as well as patterns between monitoring sites. We found more NFCs in 2014 compared to 2013, substantially more NFCs in fall than in spring, and saw differences in nightly detections times between different bird groups. Across the three monitoring sites, the mid-elevation site continued to record the most NFCs during fall migration. In 2015, we plan to finish the species-level classification and compare the results to other survey methods (e.g., bird banding and visual surveys). We also plan to monitor NFCs for a third year to confirm these patterns persist. An additional year of monitoring will provide a good baseline to monitor future population trends and migration pathways.