
ILLUMINATING THE NOCTURNAL SOUNDSCAPE IN THE BITTERROOT VALLEY, MONTANA

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Darkness hides species on the landscape, but vocalizations illuminate their presence. In a nocturnal soundscape, owls hoot, nighthawks boom, bats echolocate, and insects buzz. Birds that migrate at night emit calls we can record and use for species identification. In 2012, we began to record nocturnal flight calls of migratory birds at three monitoring sites, and by 2016 expanded to eight sites. We have collected and processed over five terabytes of recordings from spring and fall migration. To help us analyze the audio, we customized the open-source software called Vesper. Our archive now includes thousands of detections of species like Wilson's Warbler. In the Bitterroot Valley, this species occurs in low numbers during the breeding season, and are rarely detected during migration by passive observation on the ground. In this presentation, we will share this finding and others from our analysis. We will also discuss efforts to share this acoustic monitoring technique and the Vesper software with local students. Lastly, we will explore some of the ways we can use the recordings to study other acoustic phenomena. A longer-term goal of this project is to develop a network of acoustic monitoring stations across Montana, building a collaboration between interested individuals, non-profits, and managing agencies. We will provide information on how you can participate in this project and attend a training workshop taking place this summer.