

****Assessing Bioacoustic Detection and Monitoring Methods and Habitat Use of Nesting Great Gray Owls in Southwest Montana (Poster)**

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Great Gray Owls (*Strix nebulosa*), the largest owl species in North America, are one of the most understudied raptors on the continent. In 2015, the Montana State Wildlife Action Plan designated Great Gray Owls as a species of greatest inventory need, prompting Montana Fish, Wildlife & Parks (FWP) to conduct a survey effort spanning FWP Regions 1-4 from 2019 to 2022. Using a combination of callback and autonomous recording unit (ARU) surveys in the pre-nesting period, FWP evaluated occupancy throughout the species range in Montana. Though research in other parts of the species' range has demonstrated that ARUs are an effective tool for assessing occupancy, there remains a need to evaluate how ARUs can be used to locate and monitor Great Gray Owls beyond the pre-nesting period. Additionally, their habitat associations in Montana have not been empirically evaluated. This research aims to develop our understanding of Great Gray Owls in Montana and improve our ability to locate, manage, and conserve this elusive species. The objectives of this research are to assess methods to detect and monitor active nests using ARUs and to evaluate the habitat characteristics of Great Gray Owl nest sites in southwest Montana. A pilot season was conducted in 2024, and full field season is planned for 2025.