

ASSESSING OCCUPANCY FOR MONTANA SPECIES OF GREATEST INVENTORY NEED

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Montana non-game species classified as Species of Greatest Inventory Need (SGIN) are not sufficiently monitored by standard ecological monitoring programs, typically because they are locally rare or cryptic, thus evading detection. Yet, these species are often those for which understanding conservation status is most important. We are developing a tool to characterize the survey effort needed to attain estimates of occupied suitable habitat, while accounting for species characteristics and logistical constraints, and incorporating flexible tools recently presented in the scientific literature. Concurrent with tool development, we have used this approach to examine survey designs for assessing suitable habitat occupancy by Great Gray Owls. We identified a survey strategy with sufficient power to estimate occupancy of this inconspicuous species using a combination of automated recording units and ground call-playback surveys that can be employed in the coming years. Understanding effort required to obtain occupancy estimates with acceptable bias and precision can support survey design for species conservation work as well as informing whether existing monitoring datasets have sufficient power to address information needs. We aim for this tool to inform ongoing survey efforts for Species of Greatest Inventory Need and to facilitate survey planning for species without survey protocols underway.