
IDENTIFYING POTENTIAL BREEDING AREAS OF SHORT-EARED OWLS PRIOR TO NESTING USING ROADSIDE SURVEYS TO DETECT COURTSHIP AND TERRITORIALITY BEHAVIOR: A COMPARISON OF VISUAL AND AUDIO TECHNIQUES

Matthew D. Larson*, Owl Research Institute, Charlo, MT 59824

Denver W. Holt, Owl Research Institute, Charlo, MT 59824

We piloted a roadside survey technique for detecting Short-eared Owls during the courtship period in western Montana. Thirty-five surveys were conducted between 2009 and 2012 and were timed to coincide with pair-formation and courtship behavior. Short-eared Owls perform courtship flights and vocalizations which can be observed and heard during the crepuscular period. Surveys were designed to compare visual and audio survey techniques. Visual surveys occurred during the crepuscular period at the end of civil twilight and were immediately followed by a nocturnal audio survey. Visual survey techniques accounted for over 91% (N=240) of all detections. Detections associated with audio survey techniques were almost always associated with survey points where at least one owl was detected during visual survey. Nearly three-quarters of visual detections (N=220) occurred between 30 and 70 min before the end of civil twilight. Over 75% of visual detections and 90% of nocturnal detections occurred in areas where vegetation was uncut and ungrazed and most frequently associated with vegetation heights greater than approximately 60cm. Short-eared Owls were never detected in areas where livestock was present. We recommend visual surveys during the courtship to identify potential breeding areas prior to the onset of incubation.