EMMA G. KNAPP, CLEO MCMAHAN, LORELEI EAGLE, & MATTHEW I. MCKINNEY, Dept of Biological Sciences, West Liberty University, West Liberty, WV 26074. Impact of Weather Conditions on Eastern Screech-Owl (*Megascops asio*) Audio Responses in West Virginia.

Abiotic factors are known to influence avian behavior, and variables such as temperature, precipitation, and wind speed may suppress activity in many bird species. These environmental conditions may also affect response time during callback surveys commonly used in owl monitoring. The objective of this study was to determine whether temperature, humidity, and wind speed influence the response time of Eastern Screech-Owls (*Megascops asio*, EASO) during survey efforts. We hypothesized that temperature would be positively related to response time, while humidity and wind speed would show negative relationships. To test this hypothesis, 350 survey sites were monitored for EASO across the three major physiographic provinces of West Virginia. Linear regression analysis was used to examine relationships between response time and the measured abiotic variables. Results indicated that temperature, humidity, and wind speed did not have statistically significant effects on owl response time ($p > 0.05$). However, these variables may still influence detection probability. Eastern Screech-Owls were detected at temperatures as low as −16.5°C, which is lower than the −12°C previously reported by Carpenter (1987), though no detections occurred when temperatures reached −20.5°C. Owls were also detected at wind speeds ranging from 0 to 31.5 kph, suggesting that a threshold may exist beyond which owl activity declines. Humidity appeared to have little influence on detection probability, although interactions between humidity and temperature may warrant further study. Overall, these findings suggest that weather conditions are not primary drivers of response time during surveys, though survey efforts should avoid extremely low temperatures below −16.5°C.