ECOLOGY AND ENVIRONMENTAL SCIENCES

Assessing the diet of tri-colored (*Perimyotis subflavus*) and evening (*Nycticeius humeralis*) bats before and after the occurrence of white-nose syndrome in western Kentucky. SUMMER G. WHEELER\*, AMIE R. TOWERY\*, MACY J. KAILING, and TERRY L. DERTING, Department of Biological Sciences, Murray State University, Murray, KY 42071

Since 2006, over six million bats have been killed by White-nose Syndrome (WNS). With nine species in rapid decline, there is reason to believe that niche partitioning will make it more difficult for these species to reemerge because of competition for food. Our goal was to find if the change in bat communities post-WNS influenced the diet of evening (*Nycticeius humeralis* (Rafinesque)) and tri-colored (*Perimyotis subflavus* (F. Cuvier)) bats, and to what extent. The evening bat is not susceptible to WNS and the tri-colored bat is WNS-susceptible. We obtained pre-WNS data from a bat study completed in 1996 at Land Between the Lakes (LBL) and compared it with current data on bat diets. Sticky traps were used to determine insect availability, while guano was dissected to determine the insect prey eaten by each bat species. The guano was spread across a petri dish and insect order occurrence recorded by percent volume. Before WNS, evening bats consumed 31% Coleoptera, 14% Diptera, 23% Lepidoptera, and 17% Homoptera. Tri-colored bats ate 19% Coleoptera, 26% Diptera, and 52% Lepidoptera before WNS. After WNS, the occurrence of Coleoptera in the guano of both bat species was more than double pre-WNS levels while the occurrence of Lepidoptera was markedly lower. The change in diet of evening and tri-colored bats may be explained by competitive release following high mortality of WNS-susceptible species. Increasing overlap in diet at the ordinal level between the evening and tri-colored bat may indicate increased competition between evening and tri-colored bats.