WETLANDS, Vol. 28, No. 1, March 2008, pp. 117–124

SUMMER BAT ACTIVITY AT WOODLAND SEASONAL POOLS IN THE NORTHERN GREAT LAKES REGION

Karen E. Francl
Department of Biological Sciences
University of Notre Dame
Notre Dame, Indiana, USA 46556

Present address:
Department of Biology, Box 6931
Radford University
Radford, Virginia, USA 24142
E-mail: kfrancl@radford.edu

Abstract: Woodland seasonal pools in the northern Great Lakes region, limited in this study to northern Wisconsin and Michigan's Upper Peninsula, are potentially important sites for bat feeding and drinking. In order to determine the influence of pool size, hydroperiod, and structural complexity on relative bat activity, I surveyed pools (17 in 2004, eight in 2005 and 2006) at approximately two-week intervals throughout the summer, documenting bat species use with mist nets and AnaBat II echolocation recording systems. In 189 mist net-nights over three summers, I captured 114 individuals and identified 21,591 AnaBat call sequences. Little brown bats (*Myotis lucifugus*) dominated the captures (75.4%) and AnaBat call sequences (83.3%). Northern myotis (*M. septentrionalis*) were less common (19.3% of captures, 6.4% of identified call sequences) but ubiquitous across pools. Four additional species (*Lasiurus borealis*, *L. cinereus*, *Eptesicus fuscus*, and *Lasionycteris noctivagans*) were more commonly documented at larger pools. Across all years, relative bat activity (as estimated by call sequences per night) was significantly influenced by pool size (more activity at small and large pools than medium pools) and covaried with the proportion of water remaining in the pool. My study emphasizes the utility of pools of all sizes to bats, as larger-bodied bats preferentially use larger pools, while smaller-bodied *Myotis* spp. are capable of foraging at pools of all sizes. Relative activity of all species was secondarily driven by pool hydroperiod, as the number of bat call sequences per night decreased as the amount of open water declined.

Key Words: AnaBat, bat, hydroperiod, mist net, northern hardwood deciduous forest, seasonal forest pool, vernal pools