CONSERVATION BIOLOGY OF GREATER HORSESHOE BATS – FROM FIELD STUDIES TO MOLECOLAR ECOLOGY

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Greater horseshoe bats have experienced a substantial range contraction in Britain over the past century, and are also endangered in many European countries. Our studies on the conservation biology of greater horseshoe bats have been running since 1987, and have ranged from simple field-based studies on diet, through radio-tracking studies of habitat use, to research on population genetics, paternity and genetic factors affecting survival. Initially, I described the diet of the species and this proved to be a useful predictor of habitat use. Habitat use was studied in detail by radio-tracking 67 bats at three sites, with further small-scale studies to investigate the generality of landscape use patterns. We also studied the development of foraging behaviour in juveniles to determine critical foraging habitats that may promote juvenile survival. In Britain, greater horseshoe bats feed frequently in winter, and the extent of winter activity has been quantified by acoustic surveys and telemetry of hibernating bats. Recent advances in molecular genetics have provided fascinating insights into the conservation biology of threatened populations of this species, for example illustrating genetic effects of population isolation, and how outbreeding influences survival.