Bat Conservation Trust

Greater horseshoe

Rhinolophus ferrumequinum

Introduction

The horseshoe bats can be distinguished from other British bats by the presence of a complex horseshoe-shaped noseleaf which is related to their particular type of echolocation system. When roosting they hang free with the wings more or less enfolding their body.

The greater horseshoe bat is one of our largest bat species, the size of a small pear.

Vital statistics

Head & body length:	57mm - 71mm
Forearm length:	54mm - 61mm
Wingspan:	350mm - 400mm
Weight:	17g - 34g
Colour:	Adults buff-brown, juveniles greyish.

General

Greater horseshoe bats emerge from their roosts within half an hour of sunset. Between May and August they usually return to their roosts after about an hour and remain there until their second feed around dawn. However, from late August they may remain away all night.

Insects are taken in flight or occasionally from the ground. Greater horseshoe bats often behave like flycatchers, 'watching' from a regular perch and flying out to take passing insects. Large prey is taken to a regular feeding perch; insect remains beneath such perches in trees, porches or cave entrances are most evident in spring or autumn. Greater horseshoe bats feed mainly by low-flying hunting.

Habitats

Greater horseshoes bats were originally cave dwellers, but few now use caves in summer – most breeding females use buildings, choosing sites with large entrance holes with access to open roof spaces warmed by the sun. Such sites are normally in larger, older houses, churches and barns. A range of other sites is used in spring, and males hold territory at maternity roosts in autumn.

Maternity colonies can be noisy, with continuous chattering, chirping and scolding calls. Males also use caves and tunnels in the summer and even the breeding females appear to need a nearby cave or tunnel to retreat to when bad weather affects their food supply.

In winter the greater horseshoe bat uses caves, disused mines, cellars and tunnels as hibernation sites. These sites can be up to 50km from the breeding roost. The bats wake from hibernation at frequent intervals and, in their search for suitable temperatures, movements of 30km between sites have been recorded. The bats will sometimes form clusters in winter sites, although adult females are more solitary.

Diet

Chafers, dung beetles, noctuid moths, craneflies and caddis flies.

Reproduction & life cycle

Mating occurs mainly during the autumn, but can take place in late winter or even spring. Maternity colonies begin to gather in May and reach peak numbers in mid-June to July when most breeding females return to the maternity roost. Some males return with breeding females in June, but most leave when the young are born in mid-July.

Female greater horseshoe bats are not usually sexually mature until their third year and one known female did not breed until its tenth year. They may not breed every year.
Greater horseshoe bats have been known to live for up to 30 years.

Echolocation

Greater horseshoe bats have an almost constant frequency call of about 82kHz. On a bat detector a series of continuous warbles can be heard.

Distribution & conservation

The greater horseshoe bat has shown a marked decline. It is rare in Britain and now confined to south-west England and south Wales. It is estimated that the number of greater horseshoe bats has declined by over 90% in the last 100 years.

The decline of the greater horseshoe bat may be due to factors such as disturbance of roosts and intensive agricultural practices including loss of permanent pasture. These bats are particularly sensitive to disturbance at their nursery and winter roosts. Those sites need to be specifically protected and entrance holes left unobstructed.

The conservation of the species' feeding habitats and food sources is also important. The use of pesticides has led to a decrease in availability of larger beetles, particularly cockchafers, and moths over large areas of the countryside.

 Photograph: Daniel Hargreaves Distribution Map: *Second Report by the United Kingdom under Article 17*, JNCC (2008)

Bat Conservation Trust, Quadrant House, 250 Kennington Lane, London SE11 45RD Bat Helpline 0345 1300 228 www.bats.org.uk