

AGREEMENT FOR THE CONSERVATION OF BATS IN EUROPE (EUROBATS)

Report on the implementation of the Agreement in the United Kingdom

2001

This document reports on actions undertaken by the UK in 2001 to meet its obligations under the Agreement.

A. GENERAL INFORMATION

Party: United Kingdom

Date of Report: March 2002

Period Covered by Report: January 2001 – December 2001

Competent Authority: The Department for Environment, Food and Rural Affairs (DEFRA).

Changes Regarding:

Competent Authority: The competent authority is now The Department for Environment, Food and Rural Affairs (DEFRA), as The Department of the Environment, Transport and the Regions (DETR) no longer exists.

Appointed member of the Advisory Committee: Ms Sarah Jones

Membership of other committees/working groups:

Abbreviations

BAP	Biodiversity Action Plan
BCT	Bat Conservation Trust
CCW	Countryside Council for Wales
CROW	Countryside and Rights of Way Act 2000
cSAC	Candidate Special Areas of Conservation
DAFF	Department of Agriculture, Fisheries and Forestry (Isle of Man)
DEFRA	Department for Environment, Food and Rural Affairs
DoE NI	Department of the Environment Northern Ireland
EHS	Environment and Heritage Services (Northern Ireland)
EN	English Nature
ESA	Environmentally Sensitive Area
FC	Forestry Commission
JNCC	Joint Nature Conservation Committee
NERC	Natural Environmental Research Council
SAC	Special Areas of Conservation
SEPA	Scottish Environmental Protection Agency
SNH	Scottish Natural Heritage
SSSI	Sites of Special Scientific Interest

B. STATUS OF BATS WITHIN THE TERRITORY OF THE PARTY

1. Summary Details of Resident Species

Gibraltar

The only known colonies of bats remaining in Gibraltar is one of up to two hundred Schreiber's bats, *Miniopterus schreibersi*, in a disused tunnel near the summit of the Rock. Other known sites no longer have bats in any numbers on a regular basis.

Pipistrelle species are still common in the town and in garden areas, and European Free-tailed bats are also regular.

Isle of Man

In the Isle of Man 7 species have been identified (including *Pipistrellus pipistrellus* and *P. pygmaeus*).

2. Status and Trends

United Kingdom

The outbreak of Foot & Mouth disease disrupted the fieldwork of The National Bat Monitoring Programme resulting in fewer data returns for 2001, especially on field surveys, and this has reduced the power of the programme to identify trends over the short term.

A greater mouse-eared bat (*Myotis myotis*) was found in Sussex in January 2001. This species was declared extinct in the UK in 1991 when the last known individual failed to return to a roost in Sussex. The bat found was elderly and unfortunately later died, but this has raised new hopes that the species may still be present in small numbers in the UK.

Wales

A greater horseshoe bat found was hibernating in a disused mine in the Conwy Valley in North Wales in February 2001. The bat had been ringed as a juvenile in 1999 in the Forest of Dean.

Two new records for barbastelle bat were found in Pembrokeshire during a bat detector survey (see Section 12).

3. Habitats and Roost Sites

No change.

4. Threats

Gibraltar

Disturbance by archaeologists is becoming a real concern. Gorham's cave, historically one of the main roosts for *Myotis myotis*, is now the site for a major excavation and there is no prospect of their re-colonising it in the foreseeable future.

5. Data collection, analysis, interpretation and dissemination

No change.

C: MEASURES TAKEN IN ACCORDANCE WITH ARTICLE III TO THE AGREEMENT

6. Legal measures taken to protect bats, including enforcement action

Northern Ireland

523 enquiries about bats in dwelling houses were received by EHS during the reporting period. In 17 cases, guidance on means of exclusion after natural dispersal was provided. 4 licences to disturb bats in order to allow for repairs to buildings and development were issued.

Isle of Man

The DAFF scrutinises planning applications on a weekly basis, advising on bat issues and has access to a list of roost sites for which the owners have agreed to records being held. In addition, advocates contact the department during the exchange of lands in order to identify issues relating to the Wildlife Act 1990, including the presence of bats, though this is not a statutory requirement. Developers are encouraged to seek advice and information regarding bat issues at an early stage in their projects. DAFF maintains close liaison with the Manx Bat Group to achieve the best results for bat conservation in cases that arise.

England and Wales

The Countryside and Rights of Way (CROW) Act (2000) makes 'reckless' damage or destruction of roosts and disturbance of bats an offence. It also introduces a statutory duty on all Ministers and Government departments to have regard to the conservation of biological diversity in the course of their functions. The Act requires the Secretary of State in England and the National Assembly for Wales to publish lists of priority species and habitats and to take steps, or promote the taking of steps by others, to further the conservation of the listed species and habitats. These duties came into force on 1 February 2001.

A review of priority species in Wales has been completed under section 74 of the CROW Act. No further bat species in addition to the UK BAP species were identified as a priority in Wales.

In September 2001 a company and two men were successfully prosecuted for 'recklessly' damaging a bat roost. This was the first test of the 'reckless' amendment, passed in the CROW Act. The individuals were fined and ordered to pay costs.

On 9 July 2001 Fareham Magistrates Court, Hampshire, convicted Mr Higham, the managing director of K&K Asbestos Ltd, for damaging a pipistrelle bat roost, and fined him £1,500 with £300 costs. Mr Higham's company was contracted by Berkeley Homes to remove asbestos at a former

hospital that was being redeveloped in May 2000. Despite Berkeley Homes commissioning a bat survey, which identified a number of bat roosts in buildings due to be redeveloped, work proceeded with no regard for the bats or their roosts.

Mr Peter Collier, QC, sitting as chancellor in the Consistory Court of the Diocese of Lincoln, an ecclesiastical court, on 28 Nov 2001 held that faculty petitioners had to show that they had considered the effect of their proposals (in this case installation of floodlighting at All Saints Church, Hough on the Hill) on any bats in the church, and to spell out clearly the process by which they had reached their decision, taking into account the principle of proportionality. The petition was opposed (the floodlighting not granted.)

Natterer's bat roost in barns at Shaftenhoe Manor were damaged by conversion to a dwelling house. The trial was held at Stevenage Magistrates' Court on 24-26 September 2001. Thirlwell (owner) pleaded guilty and was fined £500 plus £100 costs. Beacham (architect) and Bull (builder) found not guilty due to advice from EN being unspecific. This has initiated a review of EN letters to avoid this problem in the future.

Police Wildlife Liaison Officer, Sergeant Peter Charleston, is on secondment to CCW for 5 years and is working closely with CCW's licensing section and bat workers to identify bat related offences. No prosecutions have been taken, although a caution has been issued for work without a licence and advice given where a bat roost was being threatened.

The DEFRA review of 'Planning Policy Guidance 9: Nature Conservation' (PPG9) has halted until further notice.

7. Sites identified and protected which are important to the conservation of bats

United Kingdom

In the UK there are various SAC's for bats that have been listed under the Habitats Directive. Details of these SAC's are given below.

For *Barbastella barbastellus* there are 4 UK sites of grade A/B quality, which are sites selected for that species

For *Myotis bechsteinii* there are 5 sites of grade A/B and 1 C grade site, which means that it is a qualifying feature on the site but the site was not selected for this species.

For *Rhinolophus ferrumequinum* there are 8 sites grade A/B and 3 grade C.

For *Rhinolophus hipposideros* there are 7 A/B sites and 6 C.

This was the situation as of 31 December 2001.

For details of SAC Quality Grades see Annex 1. Annex 2 includes maps for each of the species indicating where the SAC's of various grades are.

Great Britain

37 sites have been submitted to the European Commission as candidate Special Areas of Conservation, after being identified as important for their bat interest. The criteria under which the sites are selected are set out in Annex II of the Habitats Directive. See Annex 3 for a table of the sites.

Wales

One new SSSI for bats was notified in Wales in 2001, – Foxwood in Monmouthshire, a hibernation site for Lesser Horseshoe Bats. Two further sites were approved and will be notified in 2002 – Rose Cottage, Llethrid, Swansea and Llangovan Church, Monmouthshire, both nursery roosts for Lesser Horseshoe Bats.

Scotland

SEPA continued to undertake chemical and biological monitoring of water quality annually. Unfortunately data is not yet available for 2001. The advent of the Water Framework and its implementing legislation will provide for a greater focus on the ecological quality of both lochs and rivers in Scotland. This should generate additional biological information that will be of value in respect of bat species protection and research.

Isle of Man

No Manx sites have been notified as ASSIs for their bat interest, but all roosts are protected under the Wildlife Act 1990.

England

Two new SSSIs have been notified during the report period. Hestercombe House, Somerset, a maternity site for *Rhinolophus hipposideros*. More than 160 individuals use this site during the summer. Coombe Mill, Cornwall. A maternity site for *Rhinolophus hipposideros*, with over 150 bats recorded. The site is also used by *R. ferrumequinum*, *Pipistrellus pipistrellus*, *Plecotus auritus* and an unidentified *Myotis* species.

8. Consideration given to habitats which are important to bats

Wales

Foot and mouth hampered progress with new farms entering Tir Gofal, the Wales agri-environment scheme. However, 130 new farms have been signed up in 2001 to the agri-environment scheme. This brings the total number of farms to 560 with 56,000 ha under agreement. Tir Gofal officers have received bat training to increase their awareness of the habitat requirements of bats.

Bats were considered in a woodland management project at one site in Wales.

A major planting proposal was cancelled and left for natural regeneration in order to protect bats.

Scotland

SEPA has a Habitat Enhancement Initiative, which aims to promote better management of aquatic habitats in Scotland. This has been taken forward to

date through the production of partnership publications on best practice for habitat management.

The Countryside Premium Scheme (CPS) has now been replaced by the Rural Stewardship Scheme (RSS) which has very similar objectives. The Scottish Executive Environment & Rural Affairs Department (SEERAD) administer RSS.

Isle of Man

A pilot Agri-Environment Scheme, previously postponed, has been prepared for introduction. This will be a whole farm scheme incorporating a set of general environmental conditions, including the above code and also the Manx Heather Burning Code and Regulations, and requiring the maintenance of traditional field boundaries and vernacular farm buildings, the latter particularly where protected species are found. Particular habitats must be managed in a certain way in order to benefit wildlife, including wetlands, various grasslands, and semi-natural woodland. Water protection zones will be placed around watercourses to reduce effects on the water quality. There will also be payments available for the creation of new habitats including the extension of woodlands of native species and the creation of wetlands, and money available to help farmers wishing to convert to organic farming.

England

There are no specific provisions made for bats under DEFRA's agri-environment schemes. However, under the Countryside Stewardship Scheme (CSS), which aims, amongst other things, to protect and extend wildlife habitats, bats may benefit from habitats created/restored and other activities funded by the scheme. Through encouraging the use of seed mixtures and the creation of grass margins, a variety of wildlife including bats will benefit.

Those applying for Stewardship agreements can also apply for a special project for part funding to restore traditional farm buildings where bats may roost. New bat roosts can be created or existing ones preserved, through sympathetic management techniques. All other scheme requirements must be satisfied and consideration given to wildlife needs i.e. is a suitable food source available etc?

Most agreements referring to bats focused on Greater Horseshoe bats. Seven new agreements came on-line within horseshoe bat foraging areas in Avon during 2000-2001. Most of these agreements include options for pasture management, which includes creating feeding sites by ensuring livestock are grazing land around maternity roots at key times of year to provide insects for the bats and their young, hedgerow management to create joined up linear features for the bats to use in their navigation, and also trying to discourage use of ivermectins. Similar agreements were reached in Herefordshire, Somerset and Dorset.

Many existing agreements continue to benefit bats, for example in historic parkland such as Tatton Park and Dunham Massey (National Trust, Cheshire).

9. Activities carried out to promote the awareness of the importance of the conservation of bats

United Kingdom

The BCT Bat Group Forum meeting, which aims to facilitate communication between the bat groups, the BCT and the Statutory Nature Conservation Organizations is composed of BCT regional representatives, representatives from EN, CCW, SNH and DoE NI, BCT staff and relevant Trustees, representatives from other wildlife organizations, such as the Mammal Society and Royal Society for the Protection of Birds (RSPB), met three times in 2001 in January, May and September.

With funding from DEFRA, BCT coordinated International Year of the Bat in the UK - a programme of events across the UK in August/September 2001 to publicise bats and their conservation. BCT launched the week with an event at the Wetland Centre in London with celebrity support and attended by DEFRA and Andreas Streit from the EUROBATs Secretariat. In total, BCT publicised 33 International Bat Week events held across in the UK, Eire and the Channel Islands; of these, 7 were held in Scotland, 1 in Wales, 1 in Eire, 2 in the Channel Isles, and 22 in England. Of the 33 events, 16 were bat walks, 12 were bat walks and talks, 3 were children's bat workshops, and 2 were Family Fun sessions.

International Bat Week was mentioned in UK national newspapers, on television and radio programmes, as well as 35 articles in local newspapers across the UK.

BCT had an exhibition stand at the 3-day British Bird Watching Fair. Over 3000 people passed through the BCT stand, which focussed on profile raising and membership recruitment. Display board funded by DEFRA was produced in 2001 and used at this event, Bat Week events and others.

Wales

CCW continues to grant-aid BCT to support their work encouraging bat workers and raising awareness of the importance of bat conservation. CCW hosted the annual meeting of the Welsh Bat Groups and a meeting of bat trainers. CCW also hosted a Wildlife and Environmental Crime Conference.

A bat detector workshop was held in August at Plas Tan y Bwlch in North Wales by Gwynedd Bat Group and was grant-aided by CCW. The workshop aimed to identify whether barbastelle bats were present, although this was not confirmed. Through the newly launched Species Challenge Fund, CCW has grant-aided two bat related projects involving raising awareness – the Deeside Urban Wildlife Group who developed leaflets and a slide show for local community talks and Pembrokeshire Bat Group who prepared a bat talk for use by the Bat Group. (See section 12 for further details.)

Scotland

SNH continues to distribute, free of charge, its advisory booklet "Bats and People". SNH also continues to provide grant-aid to local bat groups for the purchase of equipment and as a contribution towards travel costs for appointed voluntary bat workers when undertaking bat roost visits on behalf of SNH.

BCT organised the Scottish Bat Day for 17 March 2001 but was postponed at the last minute due to Foot and Mouth Disease (65 delegates booked in, 10 more showed interest at last minute, 16 speakers/workshop leaders

arranged). It was rearranged and held on 24th November 2001, and was a very successful event. BCT assisted Scottish Wildlife Trust with a 'Wildlife Watch' summer bat survey and ran an Introduction to Bats Course in November 2001 in Aberdeenshire, and a Refresher Course for Licensed Bat Workers in July 2001 in Ayrshire. A Bat Detector Weekend, in June 2001 in Pembrokeshire, included a BCT NBMP training workshop.

Northern Ireland

EHS continues to give financial support to the Northern Ireland Bat Group. (£1220 for the reporting period), and fund an advisor post at the Ulster Museum who spends 75% of their time dealing with bat issues (£25,100 for the reporting period)

Isle of Man

The Manx Bat Group continues to provide advice to the public, attend agricultural shows and give talks and bat walks. The Department of Agriculture, Fisheries and Forestry have an officer advising on statutory protection. The BCT leaflet 'Treatment of Bat Casualties' has been sent to all of the veterinarians on the island.

England and Wales

In 2001, the main provider of funds for the BCT's National Bat Monitoring Programme (NBMP) was the JNCC with additional funding from the People's Trust for Endangered Species. The Environment Agency (EA) also agreed to provide funding to purchase new broadband ultrasonic detectors for use by NBMP volunteer surveyors and to carry out an analysis of waterway factors, identified on the River Habitat Survey (RHS), affecting Daubenton's bat abundance.

JNCC produced and distributed a publication entitled 'Habitat Management for Bats'. The publication is intended to provide advice for landowners and farmers on how to manage their land to benefit bats. Copies have been sent to all EUROBATS countries, not just those that are Parties to the Agreement.

England

A one-day training course was held for Countryside Stewardship Project Officers at Bristol on 'Bats and their habitat requirements' (FRCA/ English Nature, 2000)

A meeting took place between Project Officers in Bristol to discuss management prescriptions for bats (FRCA/EN, 2001).

In September 2001 BCT conducted a 2-day course to train 30 roost visitors on behalf of English Nature (Norfolk).

Following a pilot two-day course in 2000 and further extensive development, BCT conducted four, three-day courses, on 'Bats and Bat Surveys for Environmental Professionals' in 2001. This included tuition on survey and reporting methods, bat biology and behaviour, legislation and policy, mitigation measures, case studies, an update on recent developments in licensing procedures and their implications for consultants, an opportunity to discuss ideas with other consultants, guidance on how to recognise when to

involve a more experienced bat worker in a case. Participants were issued with certificates of attendance.

Work began on a new leaflet, Bats, Development and Planning, for circulation to all planning offices in England and to be given out freely to developers in their area.

Other leaflets in the BCT professional support series have been updated in particular, Bats & Trees in England, Bats in Buildings. BCT published a new "World of Bats" slide pack in September 2001 with slides of bats throughout the world and commentary notes.

BCT worked closely with Sussex bat group to publicise the exciting find of a mouse-eared bat in January 2001. BCT issued a press release on the finding in January 2001 which led to coverage in two national newspapers, national television and national radio, as well as local media.

BCT attended Pest Tech November 2001 to promote bat conservation to the pest control industry.

10. Responsible bodies, in accordance with Article III.5 of the Agreement, nominated for the provision of advice on bat conservation and management

No change.

11. Additional action undertaken to safeguard populations of bats

No change.

12. Recent and ongoing programmes (*including research and policy initiatives*) relating to the conservation and management of bats. *In the case of research, summaries of completed projects should be provided, giving references where possible and acknowledging the sources of funding.*

United Kingdom

The BCT Biodiversity Project employed a part-time Biodiversity Support Officer to help with this process. In May 2001, the BCT Biodiversity Project (funded by English Nature and the Esmee Fairbairn Trust) launched a major new initiative, which aims to result in a five-year workplan for the pipistrelle, lesser horseshoe, barbastelle and Bechstein's bat in 2002. At the Pipistrelle Steering Group meeting in May 2001, the group agreed to expand its remit to include barbastelle, Bechstein's and lesser horseshoe bats.

Wales

Following the identification of a barbastelle roost last year, the Wildlife Trust West Wales, with funding from CCW and FC, radio-tracked a number of bats in Pengelli forest. In total 14 roost sites were identified and the information

collected will be used to identify how the forest should be managed in the future.

CCW continue to fund a project using bat counters in lesser and greater horseshoe bat roosts. Welsh bat groups again took part in the annual lesser horseshoe bat roost count using non-intrusive methods, although it was not possible to gain access to some roosts due to Foot and Mouth Disease.

At the end of 2000 CCW launched the Species Challenge Fund which aims to promote the conservation of BAP species in Wales. The Deeside Urban Wildlife Group created wetland areas for pipistrelle bats and erected a number of bat boxes in addition to raising awareness of bats to local residents. The Brecknock pipistrelle project put up Belfry bat boxes in 7 reserves where pipistrelles were known to be present and undertook habitat management including pond creation and clearance and woodland coppicing. The Dyfed Bat Group surveyed for *Pipistrellus pipistrellus* and *P. pygmaeus* throughout the county. In Pembrokeshire, in the first year of a two year project, the local bat group surveyed 5km squares using point counts. *P. pipistrellus* and *P. pygmaeus* were found to be widespread and common throughout the county, brown long-eared bats and noctules were widespread but less common and *Myotis* species were found mostly in the east. Barbastelles were detected in two areas.

Scotland

SNH commissioned a review of the outcome of SNH statutory advice on the management of bat roosts. This contract was undertaken by the Bat Conservation Trust and covers the period from April 1997 to March 2001. The final report will be published in the SNH Research, Survey & Monitoring series.

A PhD on the use of landscape elements by bats in N. E. Scotland was completed in January 2001 at the University of Aberdeen. The importance of tree lines to bats was investigated primarily by placing recording stations next to tree lines, and others in adjacent open spaces approximately 35m away from tree lines. Most pipistrelle (*Pipistrellus pipistrellus* and *P. pygmaeus*) bat activity was found next to tree lines and very little over open spaces. They used tree lines for both commuting and foraging; more space adjacent to the tree line was used than when commuting. More insects were caught using Johnson-Taylor suction traps close to tree lines than further away, and more pipistrelle feeding attempts were recorded next to tree lines. Bats flew an average of 6m lower when over open space than when adjacent to a tree line.

Recording stations were used to investigate which variables affected bat activity over and around ponds, including the number and type of linear features leading to the pond. Bats preferred to commute to ponds along woodland edges and streams, and not along hedgerows. More bat activity was recorded over ponds that had little overhanging and surrounding vegetation, in comparison to ponds that had more; and over large wide ponds, in comparison to small narrow ones. In addition, ponds over which only Daubenton's bats (*Myotis daubentonii*) were recorded had more bat activity than those over which only *Pipistrellus spp.* were recorded.

Recording stations were used to determine the use bats made of river corridors, up to a distance of 50m from the river. Bat activity decreased with increasing distance from the water body. Sites which were wooded on both sides attracted more bat activity for a longer duration than sites which had no trees on either side. *Pipistrellus spp.* made use of the wider river corridor whereas *M. daubentonii* were almost exclusively confined to the water body.

Isle of man

The Manx Bat Group has further extended its survey of bridges for bats and, as a result of surveys over recent years, they have checked most of the accessible caves.

England

PhD commenced October 2001 (Miss N.M. Green) studying catchment areas, population sizes and population structure of swarming/cave roosting bats in the north of England, with the emphasis on *M. nattereri*. Based at the University of Leeds, funded by NERC, North York Moors National Park Authority and English Nature.

A PhD project (Miss. P. Senior) on the importance of sexual segregation in roosting and foraging *M. daubentonii* is ongoing. Based at the University of Leeds, funded by The White Rose University Consortium, NERC and Yorkshire Dales National Park Authority.

In 2001 research continued at the University of Bristol with research into the Molecular ecology of greater horseshoe bats. NERC-funded: project participants Drs G. Jones, Dr S.J. Rossiter, Dr R.D. Ransome & Dr C. Faulkes (Queen Mary University of London). Major finding was that the level of outbreeding, as measured by the statistic mean d^2 based on microsatellite markers, affects survival. No phenotypic or temporal factors affected survival in our analyses. (See Rossiter, S.J., Jones, G., Ransome, R.D. & Barratt, E.M. 2001. Outbreeding increases offspring survival in wild greater horseshoe bats (*Rhinolophus ferrumequinum*.) *Proceedings of the Royal Society, London*, 268B: 1055-1061 for details. The results suggest that the promotion of outbreeding between bats from different colonies may increase survival rates, and could be an important factor in conservation management strategies.

A research project was carried out at the University of Bristol into Autumnal swarming behaviour. Katie Parsons continued research in this area for her PhD. Advances were made in aerial tracking of Natterer's and Daubenton's bats from a Cessna aircraft, resulting in bats being detected over 30 km from the swarming sites. The results suggest that the catchment area of swarming sites may be very large, and that these sites may be important sites of outbreeding.

An MSc thesis at, University College, London 2001 investigated the effect of torchlight on foraging Daubenton's bats in Surrey. The results showed that Daubenton's bats were deterred from foraging by white torchlight, but not by red light. Foraging pipistrelle bats were not affected by white or red torchlight.

English Nature used radiotracking to identify foraging areas and commuting routes of greater horseshoe bats emerging from a small maternity site situated

in a coastal cave in Devon. Over 75% of foraging occurred over meadow and grazed pasture and bats travelled up to 6km from the roost to find suitable areas. The data will be used to target habitat maintenance and improvement. Funded by English Nature. (Robinson, M F, Webber, M & Stebbings, R E (2000). Dispersal and foraging behaviour of greater horseshoe bats, Brixham, Devon. English Nature Research Report No. 344, 56pp.)

An English Nature radiotracking project showed that bats from Brockley Hall Stables, which is a maternity site, regularly commuted 7 km to foraging areas, and were recorded up to 10 km from the roost. Bats foraged primarily over grassland adjacent to tall overgrown hedges and tree lines and along tree-lined watercourses and wetlands. (Billington, G (2002) Radio tracking study of greater horseshoe bats at Brockley Hall Stables Site of Special Scientific Interest, May-August 2001. English Nature Research Report No. 442, 36pp + Appendices.)

The Dorset Wildlife Trust undertook a project aimed at raising awareness among countryside advisers of the habitat requirements of greater horseshoe bats, compile data on current land ownership around maternity sites and negotiate land-management agreements within the bats' feeding area. Funded by the Dorset Wildlife Trust and English Nature. Abbott, S & Powne, J (2001) Greater horseshoe bat project, November 2000 – 2001. Unpublished report, Dorset Wildlife Trust.

The English Nature greater horseshoe bat project began in 1988 with the aim of securing favourable management in the areas around maternity and hibernation sites. The main mechanism for securing favourable management has been the Countryside Stewardship Scheme (CSS), a government-funded agricultural support scheme. During the period of this report, visits were made to farms covering 7457 ha of land and 24 CSS agreements negotiated, covering 2642 ha. The main agricultural activities supported are recreating grazed pasture on arable land, management of permanent pasture and hay meadows to ensure good supplies of key prey items, creation of arable field margins along hedgerows and improving commuting routes by restoring and replanting hedgerows, parkland trees and tree lines. Diamond, J (2001) Greater horseshoe bat project: Annual report 2000-2001. Unpublished report to English Nature.

This study, funded by English Nature, has investigated the extent of winter feeding by *Rhinolophus ferrumequinum* in southern England and identified the main insect groups in the diet at different times. During mild winters, bats fed almost throughout the winter, except in late December. The single most important, and profitable, prey item was *Geotrupes* beetles though Ichneumonid wasps of the genus *Ophion*, were very important at some sites where the availability of *Geotrupes* was low. Environmental management around significant hibernation sites should attempt to maximise the production of *Geotrupes* through the provision of grazed pasture. Ransome, R. D. (2002) Winter feeding studies on greater horseshoe bats. English Nature Research Report No. 449.

A severe outbreak of foot and mouth disease in Great Britain during 2001 resulted in the slaughter of several million sheep and cattle. English Nature has recently commissioned a study to investigate whether the loss of grazing

animals around maternity sites for the greater horseshoe bat has had any impact on the diet of the species. The work is being carried out by Dr R D Ransome and involves the collection and analysis of regular faecal samples from several maternity sites.

Assessing the outcome of English Nature advice on bat colony management and mitigation works.

Every year English Nature (or its contractors) responds to hundreds of enquiries concerning bats. Many of these are straightforward and can be dealt with over the telephone, but a significant proportion require further action, often including a roost visit. Cases usually involve either remedial timber treatment or proposed building works which may affect the bats and/or concerned roost-owners who wish to be rid of 'their' bats. A number of cases involve bats causing a nuisance, but simple remedial measures can be undertaken to alleviate the problems caused, while allowing the colony to continue to use the building in the future. Home owners/occupiers are not obliged to have bats in their house if they do not want them, so, while roost-owners are always encouraged to leave the bats alone, there are often cases where the animals are simply not tolerated and advice must be given by English Nature on how best to exclude them. Without individually checking all cases, there is no way of knowing if the advice was acted on and, if so, how effective it was at resolving the problem. Similarly, it is difficult to determine if the advice given was valued or simply ignored.

This project will provide information obtained from a sample of cases where species management advice has been given. An overall objective is to determine whether the advisory service, run in partnership with volunteers from local bat groups, is valued. Within this objective, there are sub-objectives relating to whether the advice given by English Nature was followed and, if so, whether it had the intended outcome. Such information will help to inform a manual of mitigation methods which is currently in preparation.

13. Consideration being given to the potential effects of pesticides on bats, and their food sources and efforts to replace timber treatment chemicals which are highly toxic to bats

The Wildlife Investigation Scheme is operated by the four UK agriculture Departments and is co-ordinated by the Pesticides Safety Directorate. Under the UK Wildlife Incident Investigation Scheme, DEFRA RDS Wildlife Advisers follow up any cases where bats (or other wildlife, including beneficial insects, pets and some livestock) might have been poisoned with pesticides (including those used for timber treatments). Field investigations are carried out into cases where it is suspected wildlife has been affected by pesticides, *post mortem* examinations of casualties are undertaken and samples analysed for pesticide residues. The results of these enquiries are used in reviews of the conditions of approval of the pesticides concerned, and evidence of illegal use (whether a deliberate attempt to poison wildlife or an unapproved method of use against the proper target species) may lead to prosecution or other enforcement action. During 2000/2001, one case involving bats was accepted into this Scheme.

A new pesticide for use in remedial timber treatment has been assessed for safety. The active ingredient is Flufenoxuron, an acylurea insect larva and nymph growth regulator (moulting disrupter) approved for public hygiene use in the UK since 1994. This product has a very low mammalian LD₅₀, but concerns were initially raised about the possibility of bioaccumulation. A later review of safety margins led to the conclusion that this product would be safe for use in bat roosts.

D. FUNCTIONING OF THE AGREEMENT

14. Co-operation with other Range States

No change.

15. Measures taken to implement Resolutions adopted by Meetings of Parties

Resolution 3.5, MOP3: Various activities were undertaken within the UK during 2001 in order to celebrate International year of the Bat.

Resolution 3.7, MOP 3: The UK is in the process of ratifying the Amendment to the Agreement.

Resolution 3.7, MOP: The UK ratified the Amendment in respect of Gibraltar to be extended to the Bailiwick of Jersey, being a territory for whose international relations the UK is responsible, this took effect on the 29 October 2001.

Annex 1

SAC Quality Grades

SACS are quality graded as below:

A - Sites holding outstanding examples of the habitat in a European context.

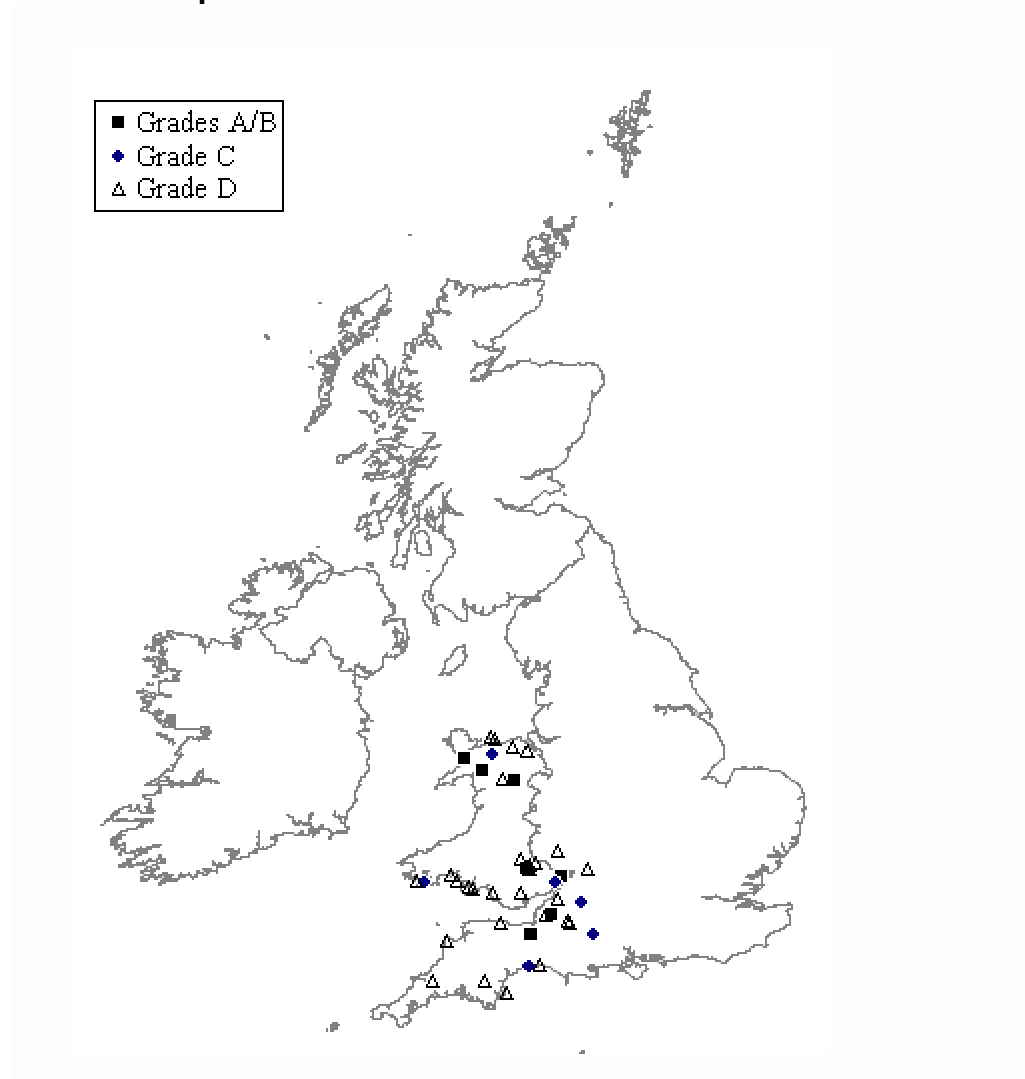
B - Sites holding excellent stands of the habitat, significantly above the threshold for SSSI/ASSI notification but of somewhat lower value than grade A sites.

C - Examples of the habitat which are of at least national interest (i.e. usually above the threshold for SSSI/ASSI notification on terrestrial sites) but not significantly above this. These habitats are not the primary reason for SACs being selected.

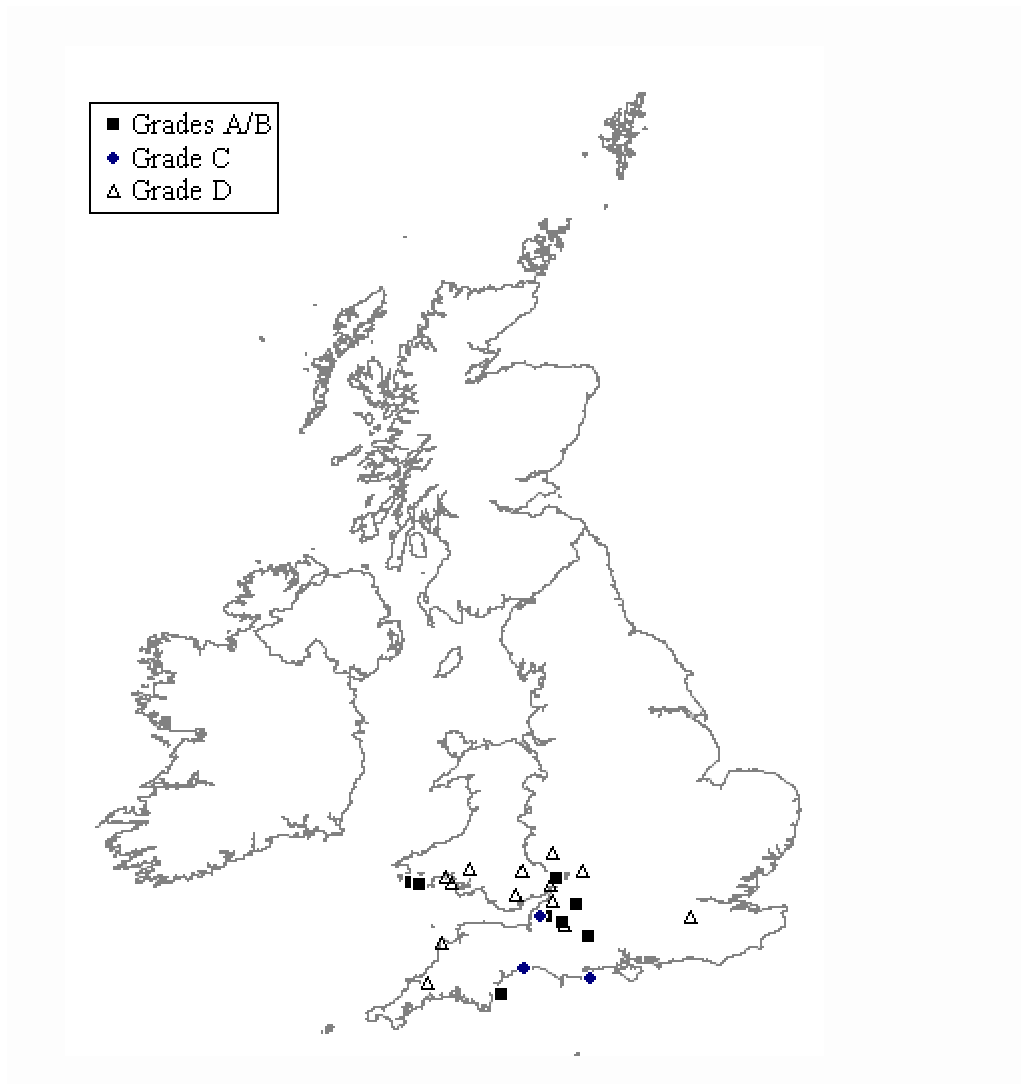
D - "Features of below SSSI quality are listed as non-qualifying features ("non-significant presence") when cSACs are submitted to the EC. They are not classed as European features, and therefore do not require conservation objectives and are not protected under the Habitats Regulations. However, in many cases they are still protected under UK legislation unrelated to the Habitats Directive."

Annex 2

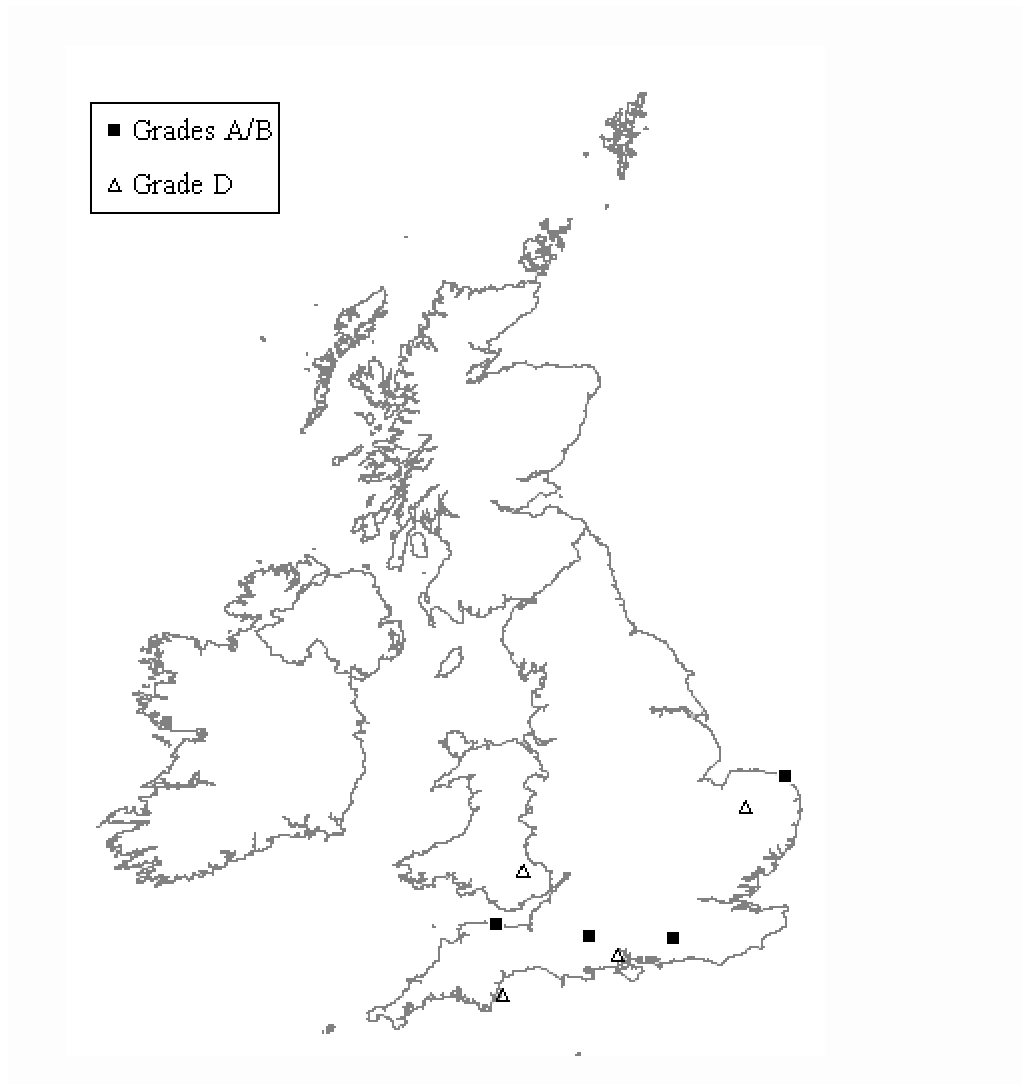
Vertebrate species: mammals



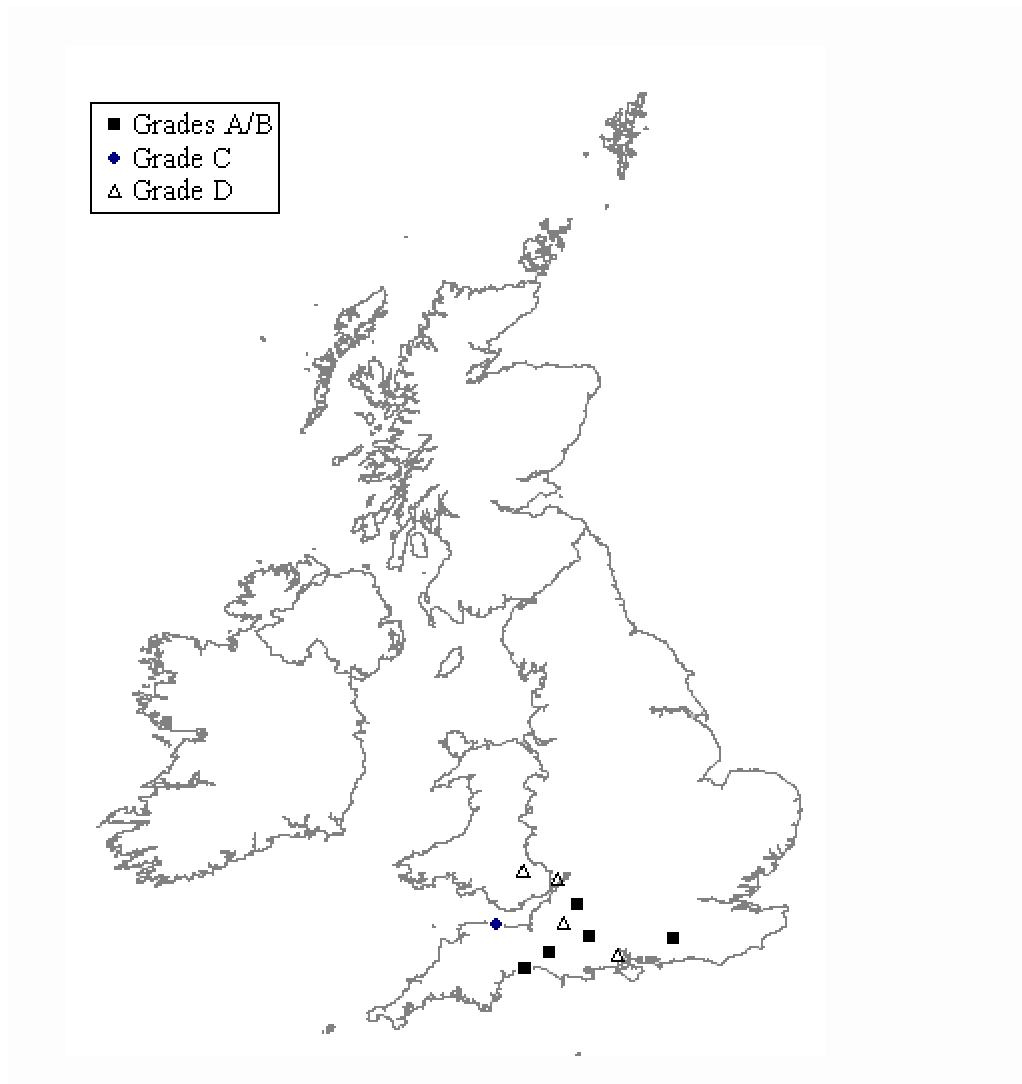
S1303: *Rhinolophus hipposideros* – Lesser horseshoe bat.



S1304: *Rhinolophus ferrumequinum* – Greater horseshoe bat.



S1308: *Barbastella barbastellus* – Barbastelle.



S1323: *Myotis bechsteinii* – Bechstein's bat.

Annex 3

CANDIDATE SPECIAL AREAS OF CONSERVATION

The following sites have been submitted to the European Commission as candidate Special Areas of Conservation, after being identified as important for their bat interest. The criteria under which the sites are selected are set out in Annex III of the Habitats Directive.

Candidate Special Areas of Conservation (cSACs) under the EU Habitats Directive

SPECIES	Greater horseshoe bat	Lesser horseshoe bat	Barbastelle	Bechstein's bat
Latin name	<i>Rhinolophus ferrumequinum</i>	<i>Rhinolophus hipposideros</i>	<i>Barbastella barbastellus</i>	<i>Myotis bechsteini</i>
SITE NAME	* = occurs			
Alyn Valley Woods/ Coedwigoedd Dyffryn Alun		*		
Avon Gorge Woodlands	*	*		
<i>Bath and Bradford-on-Avon Bats</i>	*	*		*
Beer Quarry and Caves	*	*		*
Berwyn a Mynyddoedd de Clwyd/ Berwyn and South Clwyd Mountains		*		
Bracket's Coppice				*
Breckland			*	
Cardiff Beech Woods	*	*		
Carmarthen Bay and Estuaries/ Bae Caerfyrddin ac Aberoedd	*	*		
Carmarthen Bay Dunes/ Twyni Bae Caerfyrddin	*	*		
Cernydd Carmel	*			
Chilmark Quarries	*	*	*	*
Coed y Cerrig		*		
Coedwigoedd Dyffryn Elwy/ Elwy Valley Woods		*		
Coedwigoedd Penrhyn Creuddyn/ Creuddyn Peninsula Woods		*		
Coedydd Derw a Safleoedd Ystlumod Meirion/ Meirionnydd Oakwoods and Bat Sites		*		
Coleg Glynllifon		*		
Cotswold Beechwoods	*	*		
Cwm Clydach Woodlands / Coedydd Cwm Clydach		*		
Ebernoe Common			*	*
Exmoor and Quantock Oakwoods		*	*	*
Gower Ash Woods/ Coedydd Ynn Gwyr		*		
Gower Commons/ Tiroedd Comin Gwyr		*		
Great Orme's Head/ Pen y Gogarth		*		

Hestercombe House		*		
Kenfig/ Cynffig		*		
<i>Limestone Coast of South West Wales/ Arfordir Calchfaen de Orllewin Cymru</i>	*	*		
Llangorse Lake/ Llyn Syfaddan		*		
Mells Valley	*	*		*
Mendip Limestone Grasslands	*	*		
Mendip Woodlands	*	*		
Mole Gap to Reigate Escarpment	*			
Mwyngloddiau Forest Gwydir/ Gwydyr Forest Mines		*		
<i>North Somerset and Mendip Bats</i>	*	*		
Paston Great Barn			*	
<i>Pembrokeshire Bat Sites and Bosherton Lakes/ Safleoedd Ystlum Sir Benfro a Llynnoedd Bosherton</i>	*	*		
River Camel	*	*		
River Usk/ Afon Wysg		*		
River Wye/ Afon Gwy	*	*		
Sidmouth to West Bay		*		
South Dartmoor Woods		*		
South Hams	*	*	*	
St Albans Head to Durlston Head	*			
<i>Tanat and Vyrnwy Bat Sites/ Safleoedd Ystlumod Tanat ac Efyrynwy</i>		*		
The New Forest			*	*
Tintagel–Marsland–Clovelly Coast	*	*		
<i>Usk Bat Sites/ Safleoedd Ystlumod Wysg</i>	*	*	*	*
<i>Wye Valley and Forest of Dean Bat Sites/ Safleoedd Ystlumod Dyffryn Gwy a Fforest y Ddena</i>	*	*		*
Wye Valley Woodlands/ Coetiroedd Dyffryn Gwy	*	*		

(Please note sites already included in the 1998-99 Report are shown in italic.)

Annex 4

RESEARCH PROJECTS UNDERWAY IN 2001

<u>SUBJECT</u>	<u>RESPONSIBLE ORGANISATION</u>
Biodiversity Project	BCT, funded by EN and the Esmee Fairbairn Trust
Radio tracking	The Wildlife Trust West Wales, funded by CCW
The use of landscape elements by bats in N.E. Scotland	University of Aberdeen
Bridge survey	Manx Bat Group
Catchment and population in N. England	University of Leeds
Sexual segregation in nesting and foraging of the <i>M. daubentoi</i> .	University of Leeds
Molecular ecology of the greater horseshoe	University of Bristol
Autumnal swarming behaviour	University of Bristol
The effect of torch light on foraging Daubentons in Surrey	University College, London
Dispersal and foraging behaviour of greater horseshoe bats	EN
Radio tracking of greater horseshoe bats	EN
Greater horseshoe	EN
Winter feeding studies on greater horseshoe bats	EN
Advice on bat colony management and mitigation	EN
Greater horseshoe	Dorset Wildlife Trust

Annex 5

EXAMPLES OF LEAFLETS AND BOOKLETS RELEVANT TO THE AGREEMENT PUBLISHED DURING THE REPORT PERIOD

Habitat management for bats, JNCC, 24 August 2001

Greater Horseshoe Bat Project, November 2000 – 2001, Abbott. S. & Powne. J., Unpublished report to English Nature

Greater Horseshoe Bat Project: Annual Report 2000-2001, Diamond. J., Unpublished Report to English Nature

Outbreeding increases offspring survival in wild greater horseshoe bats (*Rhinolophus ferrumequinum*), Rossiter. S.J., Jones. G., Ransome. R.D., & Barratt. E.M., *Proceedings of the Royal Society, London*, 268B: 1055-1061

World of Bats slide pack, BCT, September 2001

Bats and trees in England, BCT, Updated edition to take account of CROW

Bats and buildings, BCT, Updated edition to take account of CROW

Bats and the law – what to do when the law is broken, BCT, Updated edition to take account of CROW

The BCT's teachers pack, BCT, ongoing publication.

The effects of torchlight on foraging Daubenton's bats in Surrey, MSc thesis, University College, London (2001).

The use of landscape elements by bats in N. E. Scotland, PhD Thesis, The University of Aberdeen, (2001).