NATIONAL REPORT ON THE IMPLEMENTATION OF THE AGREEMENT ON THE CONSERVATION OF POPULATIONS OF EUROPEAN BATS

(EUROBATS)

2003 – 2005

UNITED KINGDOM

Prepared by the Department for Environment, Food and Rural Affairs
August 2006

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AGREEMENT FOR THE CONSERVATION OF BATS IN EUROPE (EUROBATS)

Report on the implementation of the Agreement in the United Kingdom

2006 / 5 MoP

This document reports on actions undertaken by the UNITED KINGDOM from 2003 to 2005 to meet its obligations under the Agreement.

A. GENERAL INFORMATION

Party: United Kingdom

Date of Report: August 2006

Period Covered by Report: 2003 to 2005

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

Changes Regarding:
Competent Authority -
Appointed member of the Advisory Committee -
Membership of other committees/working groups -

A. Abbreviations

AC	Advisory Committee
ASSIs	Areas of Special Scientific Interests
BCT	Bat Conservation Trust
CCW	Countryside Council for Wales
CIWEM	Chartered Institution of Water and Environmental Management
CRoW	Countryside and Rights of Way Act
cSAC	Candidate Special Area of Conservation
CSS	Countryside Stewardship Schemes
DEFRA	Department for Environment, Food and Rural Affairs,
EBLV	European Bat LyssaVirus
ED	Environment Division
EHS	Environment and Heritage Service (NI)
EN	English Nature
ESA	Environmentally Sensitive Areas
FC	Forestry Commission
FCS	Favourable Conservation Status

A. Abbreviations Continued

GONHS	Gibraltar Ornithological and Natural History Society
HLS	Higher Level Scheme
JNCC	Joint Nature Conservation Committee
NBMP	National Bat Monitoring Programme
NGOs	Non Government Organisations
NI	Northern Ireland
RDS	Rural Development Service
SACs	Special Area of Conservations
SAPs	Species Action Plans
SNCOs	Statutory Nature Conservation Organisations
SNH	Scottish Natural Heritage
SSSI	Site of Special Scientific Interest
WCO	Wildlife Crime Officers
WIIS	Wildlife Incident Investigation Scheme
UK	United Kingdom
UKBAP	United Kingdom Biodiversity Action Plan

B. STATUS OF BATS WITHIN THE TERRITORY OF THE PARTY

1. Summary Details of Resident Species

United Kingdom: There are seventeen species of bat resident and breeding in the UK. In the last triennial report, there were sixteen species but after an individual Greater Mouse-eared bat was found to be resident in the UK over this reporting period, this has been raised to seventeen. The Greater Mouse-eared bat was officially declared extinct in the UK in 1991; however, a single male Greater Mouse-eared bat was recorded at the same hibernation roost as in the winters of 2002, 2003 and 2004. No female Greater Mouse-eared bats or maternity roosts have been recorded for this species, and so it officially remains as non-breeding in the UK.

In autumn 2005, an adult female pond bat was captured during research at an underground SSSI in Suffolk. Subsequent radiotracking revealed that the female used a tree cavity as a day roost and later returned to hibernate underground in the SSSI where a second pond bat was also found. A pond bat was also recovered by bat workers in Kent in 2004. These recent findings raise the possibility that the pond bat may be more than an occasional visitor from the European mainland. Further work is required to determine whether the species has always been or has recently become a UK resident.

Scotland: There is anecdotal information suggesting a possible expansion in the range of noctules in the south-east of Scotland. However, caution is required as it is unclear whether the observations reflect a real change in distribution, or simply increased survey effort/awareness of the species in the area.

Gibraltar: It been reported that around 30 to 50 Schreiber bats are present in Gibraltar.

Guernsey: There are four species of bats resident on the island, the Pipistrelle (widespread), Grey Long-eared bat (widespread), Brown Long-eared bat (3 only) and Nathusius' Pipistrelle (winter only)

Northern Ireland: NI and EHS have produced the table below, representing the resident species of NI.

Common name	Specific name	Population estimate	Distribution/status
Leisler's bat	*Nyctalus leisleri*	*18 000	Widespread/frequent
Brown long-eared bat	*Plecotus auritus*	*45 000+	Widespread/frequent
Common Pipistrelle	*Pipistrellus pipistrellus*	*1 150 000	Widespread/common
Soprano Pipistrelle	*Pipistrellus pygmaeus*	*580 000	Widespread/common
Nathusius' Pipistrelle	*Pipistrellus nathusii*	*12 000	Widespread/ rare
Natterer's bat	*Myotis nattereri*	*48 000	Widespread/rare **
Daubenton's bat	*Myotis daubentonii*	*410 000	Widespread/frequent **
Whiskered bat	*Myotis mystacinus*	*24 000	Widespread/rare **
Brandt's bat	*Myotis brantii*	Not yet known	Not yet confirmed

* Mean population estimates based on flying individuals (see Russ, 1999)
** Status not confirmed, due to lack of information

Russ, J.M. 1999. *The microchiroptera of Northern Ireland: community composition, habitat associations and ultrasound*. The Queen's University of Belfast. Unpublished PhD thesis.

2. Status and Trends

United Kingdom: For the first time in 2005, the BCT and JNCC produced an information leaflet entitled "*The state of the UK's bats – Summary report from the National Bat Monitoring Programme*". (Copies provided at the Eurobats Advisory Committee meeting in May 05.) A summary of the leaflet follows:

- There have been significant increases in the populations of four species and no significant decreases in the others. Two species on the increase are UK BAP priority species, Lesser Horseshoe bat and Common Pipistrelle. Other species on the increase are the Daubenton's bat and Natterer's bat.
- Trends for Greater Horseshoe bat, Soprano Pipistrelle, Noctule and Brown Long–eared bat indicate declines but they are not statistically significant.
- Trends for Whiskered bat and Brandt's bat indicate increases but they are not statistically significant.
- A new survey method has been developed to monitor the Barbastelle bat, another UK BAP priority species.

Trends in UK Biodiversity Action Plan species

Seven species are currently identified as priorities in the UK BAP, with six having dedicated action plans. More information on these SAPs can be found at www.ukbap.org.uk

Methodology

The NBMP has been run by BCT since 1996 and funded by JNCC since 2001. It is the longest running multi-species monitoring programme for mammals in the UK, producing statistically robust population trends for eleven of the UK's seventeen resident bat species. Three survey methods are employed to monitor the UK's bats:

- Field surveys with bat detectors
- Hibernation site surveys
- Summer maternity colony counts

The NBMP's datasets are unique in that some species are monitored using more than one of the survey methods and may have two trends described. However, the robustness of data obtained may vary with survey method. As a general rule, trends from field surveys take priority, followed by the hibernation survey, and then by the colony counts unless otherwise stated.

Status of UK's bat species monitored by NBMP at the end of 2005

Lesser Horseshoe bat

- **Hibernation Survey:** The trend shows a significant increase of 45% since 1997, with an annual increase estimated at 8%. This is the first year that a significant upward trend has been identified from the Hibernation Survey.
- **Colony Counts:** The trend also shows a significant increase (44%) since 1998, with an annual increase estimated at 6%. This is good news as significant upward trends from both surveys strongly suggest that the population is increasing. This result provides an independent measure of the success of targeted actions under the SAP. Lesser Horseshoe bats in the UK are at the northern limit of their distribution and the recent run of mild winters is also likely to have contributed to the increase as over wintering survival is highest during mild winters.

Daubenton's bat

- **Hibernation Survey:** The trend shows a significant increase of 27% since 1997 with a consistent upward rise of 4 % annually.
- **Field Survey:** Waterway surveys indicate a 16% increase since 1997, but no significant trend. The continuing improvement in water quality throughout the UK is likely to be one factor contributing to the present increase. The extent to which milder winters, which are known to increase over wintering survival, are contributing is unknown but is another likely factor.

Natterer's bat

- **Hibernation Survey:** The analysis shows a significant increase of 36%, representing an upward trend of 4% annually.

Common Pipistrelle

- **Field Survey**: Shows a significant increase of 64% since 1998, which is considered to be more robust and reflects what is occurring in the wider population.
- **Colony Counts**: shows a decrease of 33% for the same period.

The two surveys of field and colony counts show opposing results, but this species is very mobile, using multiple summer roosts, a factor which may impact on the validity of the colony counts.

Soprano Pipistrelle

- **Field Survey:** Although there are indications of a 42% decline since 1998, this is not statistically significant.
- **Colony Counts:** Although there are indications of a 16% increase since 1998, this is not statistically significant. With no significant change in either direction, indications are that populations are stable. This species forms more sedentary colonies than the Common Pipistrelle, so the effect of colony mobility on interpreting results is likely to be less.

Nathusius' Pipistrelle

The long term aim of the monitoring programme is to use broadband detectors on all field surveys and to identify species post-survey through sonogram analysis. When resources are available, it will be possible to incorporate this species into the existing field surveys.

Noctule bat

- **Field Survey:** Although there are indications of a 25% decline in this species since 1998, there is no statistically significant trend. However, this species may be of concern if the apparent decline continues.

Barbastelle bat

In 2004, the NBMP developed and piloted a survey protocol on woodland SAC sites and established that barbastelle bats can be monitored using ultrasonic detectors. A larger scale, volunteer based monitoring project is feasible but is dependent on additional funding.

Brown Long-eared bat

- **Hibernation Survey:** There has been an apparent decline of 24% since 1997, but no significant trend detected. However, this species may be of concern if the apparent decline continues.

Grey Long-eared

This is one of the rarest mammals in the UK and its distribution is confined to the south of England. At present, no population monitoring options appear feasible although collation of existing and new records is ongoing.

Scotland: No significant changes since last report in Scotland.

Wales: The Vincent Wildlife Trust in Wales reported in 2005 the presence of barbastelle bats through bat detector recordings at the same locations previously recorded in 2003. Numerous records at another location, suggests that a roost site was in close proximity, but no further roost sites have yet been confirmed for this species in Wales.

Gibraltar: Habitat succession on the Upper Rock may continue to restrict the number of Schreiber's bats below former levels.

Guernsey: One male Natterer's found on Guernsey for this reporting period.

Jersey: The status of all recorded local species is as follows:

SPECIES		STATUS
Greater Horseshoe	*Rhinoloplus ferrumequinum*	Last recorded 1959
Natterer's Bat	*Myotis nattereri*	Uncommon resident
Grey long-eared	*Plecotus austriacus*	Relatively common resident
Brown long-eared	*Plecotus auritus*	Two individuals recorded 2002 and 2003
Common Pipistrelle	*Pipistellus pipistellus* *Pipistrellus pygmaeus*	Very common resident Relatively common resident
Nathusius' Pipistrelle	*Pipistrellus nathusii*	Relatively common resident
Kuhl's Pipistrelle	*Pipistrellus kuhli*	Uncommon resident
Serotine	*Eptesicus serotinus*	Unknown, believed uncommon resident
Leisler's bat	*Nyctalus leisleri*	One male individual recorded 20.5.02 Believed to be a vagrant

No significant change from 2002

Two new resident species of bats, the Brown long-eared bat and Kuhl's Pipistrelle, have been confirmed, whilst the two phonic types of Pipistrelle (Common and Soprano) have been recorded. The Grey long-eared bats were also found to be more widespread than previously thought and are probably under represented in detector surveys due to their quiet calls. The resident status of Nathusius' Pipistrelle was established although breeding roosts are yet to be identified. Natterer's bats were found to be the only Myotis bat on the Island but it appears more widespread than previously thought. A Leisler's bat was found in 2002 and thought to be a vagrant individual whilst the status of a suspected Serotine colony remains unconfirmed

The breakdown of surveys for 2003 to 2005 is as follows:

	No of sites in 2003	No of sites in 2004	No of sites in 2005
Field (5 species)	340	442	529
Hibernation (6 species)	294	291	452
TOTAL	**634**	**733**	**981**

3. Habitats and Roost Sites

United Kingdom: Many of the ninety five bat groups in the UK undertake habitat management and roost monitoring/creation. This work is mainly funded by the SNCOs and other Government agencies. BCT, a non-government organisation, has a Bat Support Fund from which it can help local bat conservation projects. The work undertaken contributes to conservation of bat habitats and roosting sites. In addition, the UKBAP has field survey, habitats and roost sites identified on its database.

Paston Barn (Barbastelle roost and SAC) – Essential maintenance and repair to the main Barn building is now largely completed. In August 2005 a total of forty two individuals were counted, which is a reduction from fifty adults and young in 2004 and fifty six adults and young in 2003.

The Wye Valley and Forest of Dean Bats Sites cSAC is considered to be one of the best areas in the UK for the Greater Horseshoe bat (Natura 2000 standard data form, 1996). In addition, this cSAC also supports important colonies of the Lesser Horseshoe bats. A project funded by CCW was started in 2004 to undertake a survey of suitable feeding habitat within a 4km radius of the maternity roost to radio-track pre-breeding adults to identify the main flight and feeding areas within and outside of the 4km radius of the core maternity roost; to monitor the current condition of the suitable feeding habitat within a 4km radius of the maternity roost, taking into account connectivity and condition of flight lines between habitat patches.

Scotland: There is no evidence of significant changes in bat habitat and roost sites since the last report. Following the EBLV incident in 2002, there was concern about possible subsequent public backlash against bats and an increase in requests for advice on exclusion of bat colonies from domestic dwellings. Whilst there have been a few cases where rabies has been cited as a reason for exclusion, the issue does not appear to have resulted in a dramatic negative change in the public's tolerance towards bats and the prediction of a dramatic increase in requests to exclude bats has fortunately not been realised.

Wales: The largest pre-parturition count of Lesser Horseshoe bats in Wales at Buckland House SSSI, near Brecon amounted to 607. The largest pre-parturition count of Pipistrelle bats in Wales was 1172 at Bryn-y-gwin Isaf SSSI, near Dolgellau.

Preliminary discussions have been held between CCW and the Agents for the Crown Estates in relation to agreements about grilling mine sites for safety reasons, in particular where there may be increased public access following the CRoW Act 2000. CCW wishes to ensure that access is maintained to allow monitoring of bat sites.

Jersey: The ED of the Planning and Environment Department States is responsible for administering the Conservation of Wildlife (Jersey) Law 2000, which applies protection to all species of bats and their roosts. The ED scrutinises development application and identifies existing or new roost sites through surveys at the application stage. A large-scale woodland management regime and hedgerow restoration scheme has been underway to help preserve local flagship species, .i.e. the red squirrel. Measures taken for squirrels are also considered to be equally beneficial to bat populations, for example, the planting of 35,000 hedgerow trees to increase woodland connectivity. Artificial hibernacula were also created from pillboxes in a key local wood in 2003 and 2005.

Guernsey: The dense housing population affords many roost sites, particularly through fascia boards over rough granite for Pipistrelles and barns for all species

Isle of Man: A new roost of Natterer's Bats was found in 2003 in a suburban house.

4. Threats

Main threats to bat conservation identified are:

- Building demolition,
- Building maintenance and alterations,
- Tree works,
- Barn conversions,

- Loss of habitat due to planning proposals,
- Loss of traditional farmed landscape,
- Works to underground sites.

Training, monitoring and survey initiatives and a Five Year Plan are co-ordinated to address these concerns.

5. Data collection, analysis, interpretation and dissemination

United Kingdom: For ten species, there is sufficient coverage to carry out robust statistical analysis. Where species have been encountered on less than forty sites trend analysis confidence is reduced to a low precision. The table below show the species monitored, monitoring method employed and the number of sites for this reporting period.

HIBERNATION COUNTS				
	2003	Total Network	2004	Total Network
Greater Horseshoe	31	66	26	68
Lesser Horseshoe	84	133	89	145
Daubenton's	87	150	88	161
Natterer's	108	179	116	197
Whiskered	7	20	7	21
Serotine	0	4	0	4
Noctule	0	2	0	2
Common Pipistrelle	0	0	1	1
Soprano Pipistrelle	0	0	0	0
Pipistrellus sp	6	23	5	24
Brown long-eared	77	170	65	178

COLONY COUNTS						
	2003	Total Network	2004	Total Network	2005	Total Network
Greater Horseshoe	0	0	0	0	0	0
Lesser Horseshoe	41	184	51	195	54	99
Daubenton's	0	0	0	0	0	0
Natterer's	42	54	44	64	47	73
Whiskered	0	0	0	0	0	0
Serotine	38	82	44	103	49	106
Noctule	0	0	0	0	0	0
Common Pipistrelle	0	0	186	0	202	321
Soprano Pipistrelle	0	0	118	0	131	215
Pipistrellus sp	316	829	168	1001	186	561
Brown long-eared	49	64	72	91	85	117

FIELD SURVEY				
	2003	Total Network	2004	Total Network
Greater Horseshoe	0	0	0	0
Lesser Horseshoe	0	0	0	0
Daubenton's	*187	*862	*259	*873
Natterer's	0	0	0	0
Whiskered	0	0	0	0
Serotine	*153	*480	*183	*505
Noctule	*153	*480	*183	*505
Common Pipistrelle	*153	*480	*183	*505
Soprano Pipistrelle	*153	*480	*183	*505
Pipistrellus sp	0	0	0	0
Brown long-eared	0	0	0	0

* Site surveyed (including sites where species surveyed for but absent

Trends for 2005 will be published in a report by BCT. A summary leaflet 'State of the UK's bats' has was produced for the first time last year for dissemination to volunteers and other interested parties. Volunteers also received personalised feedback on the sites they survey for the first time.

The NBMP has involved many volunteers in active bat conservation. Eighteen NBMP bat detector workshops were held throughout 2003; this helped ensure a high quality of data was returned. The need to increase the number of workshops given by the NBMP in order to meet high demand was addressed in 2003. This involved NBMP running a training workshop to which three carefully selected individuals were invited. Those invited expressed an interest and were capable of delivering Heterodyne Detector Workshops on behalf of NBMP within their regions. Two of those trained ran their own detector workshops; using the training resources BCT developed specially for trainers, and trained 21 volunteers in use of heterodyne detectors.

Scotland: SNH now has a fully functional centralised bat roost database which will greatly facilitate the analysis, interpretation and dissemination of information on bats and their roosts throughout Scotland.

Wales: CCW has been researching the effects of reducing the entrance size of underground hibernation sites. This is in relation to the development of automated bat counters for monitoring the condition of Lesser Horseshoe bat SACs where access is restricted.

Jersey: Following the publication and dissemination of the results of the baseline survey, a SAP for local bats has been developed. Habitat management initiatives have been run in tandem with the existing programme to de-fragment and diversify woodland habitat. A monitoring programme has been designed and implemented as part of an Environmental Monitoring Strategy.

Gibraltar: Mainly casual observations made during this reporting period. Visits to the Schreiber's bats roost revealed small numbers were still present (thirty to fifty) in 2005. GONHS will be undertaking a full survey, for the Gibraltar Government, which is to include the use of bat detectors.

Northern Ireland: All bat records are collated and stored at the Centre for Environmental Data and Recording at the Ulster Museum.

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

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

United Kingdom: The UK is bound by the provisions of Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive). All species of Microchiroptera are listed and protected under Annex IV of the Directive. Five UK species are included in Annex II.

The findings of a two year project looking at bat crime investigations was published in 2003 ("Bat crime – is the legislation protecting bats?'). Much interest and press coverage, including national TV and radio was generated by this report. It has also encouraged further training and closer liaison between bats groups and the local police to ensure reporting of bat crime is dealt with more effectively. The results from this project were reported in the last Triennial report.

Scotland: The Nature Conservation (Scotland) Act 2004 is now in force. Among the significant changes it has made to the existing UK legislation in Scotland is the introduction of the concept of 'recklessness' in relation to offences concerning bats.

Wales: Approximately 72 incidents involving bats were reported to the police for this reporting period. Of those, on 30 occasions the police in conjunction with CCW and sometimes local bat groups provided advice to potential offenders which prevented offences occurring. Forty two cases where considered for prosecution but in twenty five cases no further action was taken due to insufficient evidence. Police where unable to trace the culprits in five cases. The outcome of three cases is unknown at this time and four cases are still ongoing. In three cases, no charges were made on the advice of the Crown Prosecution Services. One case resulted in a Caution and one in an official warning.

Jersey: Procedures are in place for the enforcement of the Conservation of Wildlife (Jersey) Law 2000. Locations of known roosts are held on a register in the Geographical Information System in order to cross reference with planning applications and identify potential roosts.

Once a roost is identified, the Department assesses the extent of the threat to the population concerned and either provides recommendation for a refusal or proposes mitigation should be put in place. These screening processes combined with the appropriate mitigation measures and follow up with architects, builders and contractors has led to the protection of approximately twenty four unknown roosts that would have been lost to development over this reporting period.

Northern Ireland: Approximately 1,647 calls concerning bats in dwelling houses have been received in NI over the reporting period. In 102, cases guidance on means of exclusion was provided. One license to destroy a bat roost for reasons of overriding public interest and two licenses to allow repairs to buildings and development were issued.

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

United Kingdom: Section 28 of the Wildlife and Countryside Act 1981 provides for the protection of any area of land which is of special interest with regards to its flora, fauna, or geological or physical features by its designation as an SSSI. Designation of a site may include conditions restricting activities on the land which may harm the feature which it contains. Thus far, designated sites have all been roost and no key foraging sites have been identified for protection, although a few SSIs so have a little foraging area.

Since the last Triennial report, the UK submitted twenty six candidate SACs to the European Commission, under the provisions of the Habitats Directive.

Scotland: There are no SSSIs or cSACs in Scotland where bats are part of the notified interest of the site.

Wales: Over this reporting period, six new SSSIs were notified for their bat interest and one extension was made to an existing SSSI.

Jersey: Two key woodland sites have been proposed as SSSIs – St Catherine's Wood and St Peter's Valley. Both sites were due to be designated in accordance with revised procedures in 2005 but designation is awaiting final sanction. No sites have yet been designated purely on their value for bats.

Northern Ireland: No further ASSIs or SACs have been designated for their bat interest for this reporting period.

8. Consideration given to habitats which are important to bats

United Kingdom: Agricultural intensification, loss of wetland, fragmentation, the effects of pollution, and the use of pesticides has resulted in a change in the nature of the UK's agricultural lands. The use of pesticides might also have affected the availability of bat prey species. Since 1987, the Agriculture Departments in the UK have developed a number of schemes to encourage farming practices that protect and enhance the environment, most notably, the ESA and the CSS.

A new agri-environment scheme 'Environmental Stewardship' was launched in March 2005 and replaces the existing CSS and ESA schemes. The "Higher Level" component of this scheme has been designed to specifically address the habitat management requirement of nationally protected and UKBAP Priority Species. As 2005 was not a full application year, specific recorded agri-environment scheme contribution to bats has been lower than in past years. However, this contribution is expected to rise in 2006 where the HLS enters its first full operational year. Figures for 2006 are not yet known at this time.

Fifty eight new CSS and ESA agreements were set up over this reporting period before the new agri-environment scheme was introduced. Since the new scheme has been in place ten HLS agreements have been introduced to benefit Lesser Horseshoe, Greater Horseshoe , Brown long eared, Pipistrelle, Noctule and Natterer's bats which are either present on or adjacent to the agreements.

Wales: The National Parks in Wales and CCW set up a project to provide a "Review and Synthesis of Published Information and Practical Experience on Bat Conservation within a Fragmented Landscape" which is due for publication shortly.

Jersey: Artificial summer roost and winter hibernacula have been provided for bats in three critical woodland habitats and were sponsored by local businesses and an environmental charity. Hedgerow planting and woodland management initiatives have been developed as part of a proposed Agri-environment scheme.

Gibraltar: An upper Rock Management Plan prepared by GONHS for the Government of Gibraltar making recommendations for habitat management which would benefit bats is currently under consideration.

Northern Ireland: In NI, there are five distinct areas that have, since 1993, been designated as ESAs. The five areas total two hundred and twenty two thousand hectares of agricultural land, representing 20% of Northern Ireland's total land area. More than four thousand five hundred farmers are currently entered into ten year agreement with the Department of Agriculture and Rural Development. The Countryside Management Scheme is essentially the same scheme but was set up to encourage farmers outside the designated ESA's to positively manage habitats. Since 2001, some two thousand five hundred farmers have entered Countryside Management Schemes agreements.

In 2005, these two schemes have been revised to be more in line with the biodiversity targets. Many scheme options now contribute to the NI Biodiversity Action Plan targets concerning bats.

Isle of Man: In 2001, a pilot Agri-environment Scheme was introduced on the Isle of Man and a review of this scheme took place in 2004. A report of the findings of this review was produced in 2005, and is being considered before a full scheme is introduced.

A Manx bat group representative attends the meeting of the Manx Rivers Improvement Association. The Association aims to improve the environment in and around rivers of the Isle of Man, benefiting fishing wildlife and amenity. Management proposals take into account bat interests.

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

United Kingdom: The UK has continued to provide funds for publication and activities which it hopes will make all sectors of the public and institutions sympathetic to the conservation status of bats. Example of activities include exhibitions, walks, talks, bat box making workshops, course to train licensed bat worker and tree wardens. The funds and support have been provided to BCT by a range of Government institutions including Defra and EN, and also the Peoples' Trust for Endangered Species.

BCT created new publication and training materials for European Bat Weekend (funded by Defra). These included posters that could be used for advertising events

such as bat walks, a leaflet on how to recognise the most common bats seen on bat walks and a CD-Rom giving guidance on how to run a bat walk. These resources were enthusiastically received by bat groups across the UK. BCT continues to attend events and conferences to promote awareness of the importance of conservation of bats. For example the British Birds Fair, the Welsh Agricultural Show and Hidden Earth conference.

Bat walks, talks and visits (one hundred and fifteen over the last three years) were carried out in several Forest Districts by the FC in the UK.

RDS ecologists made presentations to farmers in England, participating in agri-environment schemes on bat conservation. They also provided advice and guidance internally to technical staff and to building specialists about the needs for bat surveys prior to restoration of traditional farm buildings. Bats were also listed as Key or Secondary Targets in eighty eight out of one hundred and fifty nine of the National RDS 'Joint Character Area Agri-environment Targeting Statements' for the new Higher Level Scheme. A presentation on 'Agri-environment Schemes and Bats' was delivered by an RDS ecologist to the National Bat Workers Conference. An article was published in a local newspaper in the South West of England to publicise the creation of new roosts through Agri-environment schemes.

Scotland: SNH continues to provide the majority of the funding for the BCT's Scottish Bat Officer. This officer is responsible for promoting bat conservation in Scotland, increasing public awareness of bats, providing training and supporting Scottish bat groups.

Wales: A new bat officer has been appointed and is funded by CCW and the Elite Group plc. The aims of the post are:

- To support the existing work of the Bat Group volunteers and other bat workers across Wales, and facilitate their greater integration into BCT and to encourage the involvement to new volunteers.
- To engage with key target audiences, facilitate their wider involvement and actively promote greater awareness of bats and their conservation across Wales.
- To support the existing work of Police WCO's, facilitate their involvement with BCT and enable effective responses to bat casework.

The Bat Groups of Wales held a two-day conference and workshop at Pontypool in June 2005. There was a series of talks about aspects of bat work in the UK and workshops were held on the Habitats Regulations licensing process, choosing a bat detector and identifying a bat roost. In the evening, the delegates carried out surveys around the Greater Horseshoe bat nursery roost at Ruperra Castle to determine which routes the bats used to commute from the roost.

A one-day Wales Bat workers Event was held in October 2005 in Llandrindod Wells.

Jersey: The building trade continues to receive targeted information on their statutory obligations in relation to bats. Routes of communication and training for authorised officers have been established with the States of Jersey Police. Procedures and guidelines remain in place to cope with the extremely unlikely event of contact with a

diseased bat. Those involved with rehabilitating sick bats or rescuing grounded bats have been consulted, appraised, provided with best guidelines and advised that a pre-exposure vaccine is available

Guernsey: Guernsey held a bat detector workshop aimed at promoting awareness which was followed up by second more advanced workshop covering the application of Bat Sound software.

Isle of Man: The Manx Bat Group organised a Wildlife Crime Seminar. This was an open meeting and resulted in some lively discussion, raising awareness of the current issues and points of contact. It was followed by a small, closed meeting to discuss law enforcement issues.

A colourful Isle of Man Bat Walks booklet has been published by the Manx Bat Group. This was designed and researched by a group of undergraduate students from the Oxford Brookes University Department of Planning in collaboration with the Manx Bat Group. It incorporates seven walks where bats are relatively easy to find, together with background information on identifying the local species in flight, observing and finding bats, and actions to encourage bats.

An independent film maker, Steve 'Ianson', published a DVD on Manx wildlife, including a film of Manx bats taken with the help of the Manx Bat Group. A new Natural History Gallery at the Manx Museum displays bat specimens and an interactive computer system provides further information.

Northern Ireland: An advisor in the Ulster Museum spends 75% of their time dealing with bat related issues.

A manager has been contracted to help deliver the Bat SPAs in NI and promote bat walks, talks and displays on bat at National Trust properties and elsewhere in NI.

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

Bat Conservation Trust
Environment Department of the States of Guernsey
La Societe Guernesiaise
Nature Conservation Council (Gibraltar
Gibraltar Ornithological and Natural History Society
Jersey Environment Department

11. Additional action undertaken to safeguard populations of bats

United Kingdom: BCT have been involved in the following projects over this reporting period:

- Modified Hibernacula Project (funded by the Peoples' Trust for Endangered Species) – further work to be undertaken.
- Three Parks Project, investigation looking at bats in a fragmented landscape with particular reference to effect of land use planning (Funded by CCW, the three Welsh national parks and Pembrokeshire County Council).

- FCS – World Wide Fund for nature is funding this project with collaboration from Herpetological Conservation Trust and others. The aim is to further the debate over what FCS is, and when it applies.
- Woodland Management for Bats guide – produced, published and disseminated in a series of one day seminars (in partnership with FC England and Wales, EN and the CCW).
- Production of best practice guidance in enhancement of highways design for bats for us in forthcoming revision of the Highways Agency's Design Manual for Roads and Bridges.
- Ongoing preparation of guidance on standards for surveying for bats
- Contribution of practical examples to a paper on the legal interpretation and practical application of FCS in partnership with several NGOs.
- Supporting a PhD student at the University of East Anglia who is investigating habitats associations of UK bats with a view to informing further development, land use and planning process.
- A wide range of training project to help inform and train bat workers on the best method to use in their day to day contact with bats and how to use specialised equipment.

Scotland: SNH continues to provide statutory advice to members of the public in relation to issues concerning bat roosts and houses. They have installed two heated bat boxes at the site of the organisation's new Headquarters building. The bat boxes are identical to those that have been shown, experimentally, to be effective at attracting maternity colonies of Pipistrelles. In order to construct the new Headquarters building it was necessary to demolish an existing building which had two Pipistrelle roosts present. Thus, although the work was undertaken as a mitigation measure, it is hoped that it can be used to demonstrate best practice to developers in other situations where bat mitigation measures are required.

Wales: CCW commissioned technical support and the following research projects in 2004:

- Smith, P, G., Morgan, P.L (2004). Radio tracking of Lesser Horseshoe bats from Agen Allwedd cave (Craid y Cilau NNR), spring 2003. Unpublished Report.
- Colin Catto, C., Langton, S. (2004) National Bat Colony Count: Analysis of Colony Size Trends in Wales.

They have also continued to fund a project investigating the landscape features and habitats used by the Lesser Horseshoe bat. This project is also funded by EN, FC and the Mammals Trust UK.

Welsh bat groups continue to take part in the annual Lesser Horseshoe bat roosts count using non-intrusive standardised methods. The results are fed into the NBMP.

The Species Challenge Fund funded a project to convert a disused pump house on Anglesey to a bat roost and otter holt and also the Gwent Bat Project to train volunteers to undertake survey work to improve knowledge of the distribution of bats in the County. The Clwyd Rare Mammal project continues it survey work and Gwynedd Bat Group was given funding towards the creation of a web site.

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: Research projects are taking place across a range of Departmental and institutional organisation. The UK Government is fully committed to supporting research which is directed at improving the conservation status of bats.

The project to enhance the feeding areas around Greater Horseshoe bat roosts has now extended into other areas of England and is a partnership project with Local Authorities and others organisations. An article describing the project and summarising progress to date was published in *British Wildlife* (Longley, 2003).

A new project on the ecology of the Lesser Horseshoe bat was started. This project is using radio tracking to look at the foraging behaviour of this specie so key foraging habitats and habitat features can be identified. The output from this work will be used to begin a habitat management project similar to the successful work of the Greater Horseshoe bat. The work is being funded by EN, the FC, Mammals Trust and the CCW.

BCT continues to attend the Biodiversity Strategy for England Local and Regional Action Meetings. The main emphasis of the discussion is to ensure community strategies incorporate biodiversity. Out of this meeting, a publication will be produced aimed at Local Strategic Partnerships and Local Authorities informing them of the relevance of biodiversity in all areas of the community – social and economic.

BCT was involved with a number of projects over this reporting period (in addition to those mentioned elsewhere in the report:

- Role of the voluntary sector in the SNH Draft Action Plan for Bats (in conjunction with Aberdeen University, funded by SNH) – completed.
- Protocols and Scenarios for Bat Helpline Officers (in light of human death from EBL) (funded by SNH) – completed.
- BCT co-authored a chapter on Buildings for a habitat management book for CIWEM

Scotland: Considerable work in relation to EBLV2 in British bats has been undertaken in conjunction with other key UK organisations. On-going liaison between the relevant organisations has been maintained through the UK and Scottish EBL Liaison groups. In Scotland, SNH implemented a Bat Action Plan. This was coordinated and delivered by a full-time Project Manager in conjunction with a Steering Group. The Bat Action Plan provided a strategic framework for bat-related work in Scotland throughout the year and beyond. It identified key priorities for research, provision of advice, public relations/awareness and Health and Safety. SNH has also operated a 24-hour Help line service throughout the year.

SNH commissioned a review of the current state of knowledge of EBLV and other lyssaviruses. The study also provided an overview of the status of Scottish bats and considered how the voluntary sector can be engaged with the Action Plan and help to

further bat conservation in Scotland. This report was made available on the SNH website www.snh.org.uk in 2004.

A research project has focussed on EBLV seroprevalence amongst (principally) Daubenton's bats. This pilot study using blood samples and mouth swabs from live bats found the presence of antibodies to EBLV-2 in a number of bats. The presence of antibodies showed that some Daubenton's bats have been exposed to the disease. However, none of the mouth swabs examined were found to have live EBLV-2 virus. The study, in Scotland funded by SNH and the Scottish Executive, involved the development of new techniques not previously tested in the UK. Further work is necessary to improve the scientific understanding of the preliminary findings and to inform the relationship between antibodies and the live virus. This initial pilot work provided a platform for a longer-term, more extensive study into the incidence of EBLV2 in Scottish bats.

The monitoring programme of EBLV seroprevalence in Daubenton's bats continued through 2004 and 2005 building on the information already gathered through the pilot study. SNH is also collaborating with Aberdeen University on a study of the ecology of Daubenton's bats in relation to the epidemiology of EBLV-2.

SNH has also contributed to a research study testing the use of heated bat boxes as a practical alternative to buildings.

Wales: CCW continue to fund the automatic bat counters in Lesser and Greater Horseshoe bat roosts as well as research on juvenile Greater Horseshoes. Welsh bat groups continue to take part in the annual Lesser Horseshoe bat roosts count using non-intrusive standardised methods. Results were fed into the NBMP. Species Challenge Fund projects included the continuation of the Brcknock Pipistrelle bat project and the completion of the National Trust, mid and south east Wales Pipistrelle Survey and the completion of the project on Population Trends on *Pipistrellus spp* in Wales by BCT.

CCW commissioned technical support and the following research project reports during the reporting period:

- Andrews, P.T. (2003). Monitoring of Horseshoe Bats through the use of automatic bat counters, 2002. CCW Contract Science Report No. 581.
- Andrews, P.T. (2005) Monitoring of Horseshoe Bats through the Use of Automatic Bat Counters 2004 CCW Natural Science Report No. 694, CCW, Bangor.
- Bickmore C.B. (2003). Review of work carried out on the trunk road network in Wales for bats. CCW Contract Science Report No. 585.
- Billington, G. (2005) Report on a radio tracking study of Lesser Horseshoe bats associated with the Glynllifon Special Area of Conservation.
- Knight, T. (2005). The use of landscape features and habitats by the Lesser Horseshoe bat *Rhinolophus hipposideros*: implications for conservation. Unpublished Year 2 Steering Group Report. School of Biological Sciences, University of Bristol.
- Smith, P (2005) Ogof Draenan & Siambre Ddu (Usk Bat Sites SAC) February 2005 Survey of Lesser Horseshoe Bats (*Rhinolophus hipposideros*). Unpublished report to CCW.

- Smith, P (2005) Ogof Cynnes (Usk Bat Sites SAC) January 2005 Survey of Lesser Horseshoe Bats (Rhinolophus hipposideros). Unpublished report to CCW.
- Turner, V.L. (2003). Selection of foraging habitat by Daubenton's bats (*Myotis daubentonii*) and the two phonic forms of Pipistrelle (*Pipistrellus pipistrellus* and *P. pygmaeus*) in a north Wales upland river catchment. CCW Contract Science Report No. 588.

Jersey: The completion of a baseline survey, have helped SAP's to be developed. Distribution and abundance data is now available for all local species. The survey was a Government funded project and received extra grants from Action for Wildlife and the Gerard Le Claire Environmental Trust (two local NGOs). A roost and habitat-monitoring programme has been implemented as part of a wider on the condition of Jersey's environment.

Gibraltar: Monitoring is being planned as part of Biodiversity monitoring

Northern Ireland: A study, "Pre-hibernal and hibernal activity and dispersal patterns of Leislers bat, *Nyctalus leisleri*, in Northern Ireland" was undertaken by Hopkirk and Russ Bat Ecology funded by EHS.

Twenty nine adult bats were captured, tagged with radio transmitters and tracked by car, for a total of one hundred and ninety five nights over a two year period. Overall, on average, bats moved for approximately 2km in a southerly direction over the entire study period. Trees (primarily oaks and beech) and buildings were used as roosts from August until the start of November. After this period, individual bats were only found in trees. 50% of roosts were on forest edges and paths and 34.5% were within 15m of an edge. The remainder (15.5%) were within 200m of a path or 'edge'. A peak in roost switching activity occurred in the first week in October. After the first week in November, when temperatures reached around $10^{\circ}C$, bats spent all of their time in the roost.

The study demonstrated the importance of deciduous tree species such as oak and beech for Leisler's bats during pre-hibernation and hibernation. It also revealed that although Leisler's bats in NI disperse to mate and find hibernation roosts do not undergo large migrations, as they do in some areas of continental Europe. This is probably because conditions in Ireland in winter are favourable for hibernation.

Isle of Man: In 2003, a BSc research project entitled 'The Comparative Distribution of the Foraging Habitats of the Common and Soprano Pipistrelle Bats with Relation to Altitude on the Isle of Man', involved transect work from sea level to 400m revealed remarkably high densities of bats on the island. Common Pipistrelle selected woodland interiors and riparian habitats, but showed a clear altitudinal effect on its density, possibly due to temperature or insect abundance effects. Soprano Pipistrelle used woodland and avoided arable land; its altitudinal variation was explained by its habitat use.

The Wildlife and Conservation Grants Scheme 2004 was agreed and brought into force, this scheme is designed to contribute to local initiatives, such as habitat enhancements, raising public awareness and research.

In 2005, a house owner that released a female whiskered bat from her cat was bitten, drawing a little blood. The patient was advised to seek medical advice and the bat was held by the Bat Group until the situation had been properly considered. The bat appeared healthy, with no signs of unusual behaviour. The health service did not require the bat to be tested and it was eventually released. This raised a range of issues regarding health and safety, advice procedures and the public support for voluntary workers. In this case, the BCT guidelines were followed and advice sought from the statutory authorities. News regarding rabies and bats is routinely passed on to the Department of Health and Social Security.

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

United Kingdom: The Wildlife and Countryside Act 1981 affords protection to wild animals from poisoning. Throughout the European Union, the regulation of plant protection products and biocides is changing. National controls are gradually being replaced with those introduced by EC Council Directive 91/414/EEC, concerning the placing of plants protection products on the market and Directive 98/8/EC of the European Parliament and of the Council concerning the placing of biocidal products on the market. In Great Britain, the use, storage and sale of plant protection products are controlled by the Plant Protection Regulations 1995 (as amended) and the Plant Protection Products (Basic Conditions) Regulations 1997 (PPPR), and the use, storage and sale of biocides is controlled by The Biocidal Products Regulations 2001. Where pesticide products are not subject to these regulations and are not regulated as veterinary medicines, they remain the Control of Pesticides Regulations 1986 (as amended). Similar regulations are in place in NI.

The WIIS is operated by the four UK agriculture departments and is co-ordinated by the Pesticides Safety Directorate (an executive agency of Defra). Although there are some local differences in detail, the basic operation of the scheme is the same throughout the UK. 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. 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. Over this reporting period, only two cases involving bats were accepted into this scheme. Analysis for pesticides in both cases was negative, so the deaths of these bats could not be determined.

Scotland: SNH continues to advise on the use of approved compounds such as permethrin/cypermethrin or boron-based compounds. A list of approved products is available and periodically updated.

Jersey: The standard advice continues to be issued on the use of approved timber treatment pesticides in bat roosts. This work is ongoing and forms part of the standing statutory advice in relation to bats.

D. FUNCTIONING OF THE AGREEMENT

14. Co-operation with other Range States

United Kingdom: The UK co-operates with other Range States and welcomes advice on their experiences. It has participated in the "European Bat Weekend" which takes place each year and provides funding to BCT to carry out events to raise awareness of bat with the general public.

In 2005, several representatives of various Eurobats Range States attended a Pan-European workshop in London. A workshop was also held in Slovenia on the theme of sharing knowledge on monitoring methods. Reports of these workshops were submitted at the 10th AC.

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

MoP2, Resolution 2 - Consistent Monitoring Methodologies:

In 2004, a successful three day workshop organised by BCT was attended by UK Government Agencies. The aim of the workshop was to work toward the production of a survey manual tailored to specific target groups, which would also be relevant for bat surveyors across Europe. Good practice in forestry management that delivers for conservation of bats was also covered at this workshop.

Also in 2004, a workshop was held by BCT in Georgia to build consensus on monitoring techniques and their implementation for priority bats species by parties to the European Bats Agreement (funded by Defra). It was attended by fifteen delegates who represented the following countries:

Georgia, Armenia, Azerbaijan, Russia, Netherlands and the UK.

The workshops included under section 14 (Co-operation with other Range States), also contributed towards implementing consistent monitoring methodologies.

Population Trends for UK bat species covered by surveillance schemes, to 2005					
Species	**Status**	**Overall trend (%)**	**Annual trend %**	**Trend time period**	**Comments**
Rhinolophus ferrumequinum	**Rare**	**increase (39)**	**4,85**	**1998-2005**	Significant increase in NBMP Colony Counts Survey. Hibernation survey stable
Rhinolophus hipposideros	**Rare**	**increase (46 / 53)**	**5.6 / 6.3**	**1997-2005**	Significant increase in NBMP Colony Counts and Hibernation Survey
Barbastella barbastellus	**Rare**				No trend data available. Survey protocol using ultrasonic detectors being tested.
Eptesicus serotinus	**Widespread but scarce in southern Britain**	Stable (17)	2,7	1999-2005	No significant trend
Myotis bechsteinii	**Very rare**				No data on trends. Protocol for baseline distribution surveys developed and tested
Myotis daubentonii	**Common**	**Increase (20 / 25)**	**2.9 / 3.3**	**1998-2005**	Significant increase in NBMP Field and Hibernation Surveys
Myotis myotis	**Status unconfirmed**				Only one individual record for this species at present. Status as resident in UK not confirmed
Myotis mystacinus/ M. brandtii	**Common in north and west England, rare elsewhere**	Stable (25.3)	3,3	1998-2005	No significant trend
Myotis nattereri	**Common**	**Increase (47)**	**5,6**	**1998-2005**	Significant increase in NBMP Hibernation Survey. More years of data required to confirm trends
Nyctalus noctula	**Uncommon**	Stable (7)	1	1999-2005	No significant trend
Pipistrellus pipistrellus	**Common**	**Increase (-31 / 58)**	**-5 / 8**	**1999-2005**	Significant increase in NBMP Field Survey and significant decline in Colony Survey. Field survey most robust result because of behaviour of the species
Pipistrellus pygmaeus	**Common**	Stable (-21 / -13)	-3.3 / -2.2	1999-2005	Decline became significant for the first time in 2005 in the NBMP Colony Count Survey. The Field Survey was stable and this is considered to be the most robust survey for this species

Nyctalus leisleri	**Scarce in GB, common in Northern Ireland**				No trend data available. Survey protocol using ultrasonic detectors attached to moving vehicles being tested. Particularly effective in Northern Ireland
Pipistrellus nathusii	**Rare**				No trend data available. Survey protocol using ultrasonic detectors attached to moving vehicles being tested. Particularly effective in Northern Ireland
Plecotus auritus	**Common**	Stable (-21 / 26.3)	-3.3 / 6	1998-2005	Covered in both Hibernation Survey and Colony Counts, but no significant trends detected.
Plecotus austriacus	**Very rare**				No data on trends available. No survey methods avaialble because of rarity/ lack of knowledge of distribution and roost locations.

Key

Bold indicates statistically significant changes at 5%, p<0.05 (variation in percentage change between surveys in brackets)

NBMP = National Bat Monitoring Programme report 2007. Run by the Bat Conservation Trust with core funding from JNCC