

SEROTINE BAT

Eptesicus serotinus

Hampshire Biodiversity Partnership

1 INTRODUCTION

The Hampshire Biodiversity Partnership has identified the Serotine bat *Eptesicus serotinus* as a species requiring action in Hampshire.

2 CURRENT STATUS

2.1 Ecology and Habitat Requirements

The basic needs of the Serotine bat are those which are common to all temperate bat species and they include requirements for breeding, hibernating and mating roosts, as well as feeding areas. The serotines' principal known roost sites are in buildings, generally those over 80 years old; it is only rarely recorded using tree roosts. It is a crevice dwelling bat with a small colony size (normally 20 to 30), which makes it inconspicuous and vulnerable, often roosting in inaccessible sites such as cavity walls. It is widespread in southern England, although not common, and a highly nomadic species which makes population estimates difficult to ascertain. Maternity roosts are returned to faithfully, however a colony of bats may use a number of roosts in an area and individuals may switch between them.

Little is known about Serotine hibernation sites, although bats have been found hibernating inside cavity walls and disused chimneys. They can live up to 19 years and produce only one young per year (as do most British bats¹) and so are slow to recover from population declines.

A typical 'landscape species' the serotine prefers unimproved/semi-unimproved permanent pasture adjacent to mature semi-natural woodland, interlinked by hedgerows. Grazed permanent pasture with a high population of dung beetles forms an important component of this bat's foraging habitat. Although they can forage up to 6km from their roost, the majority of foraging takes place within 2km of the roost when a good supply of large prey items, many associated with dung, are required with young newly on the wing. Serotines frequently 'hang up' to rest between foraging bouts, often frequenting regular spots such

as porches where insect wing cases may be found.

Uncultivated arable field margins adjacent to hedgerows and woodland rides also enhance valuable foraging areas. Aquatic and marshy habitats provide valuable feeding sources. White streetlights attract insects and are used as foraging sites by serotines.

2.2 Population and Distribution

The status of the Serotine bat is not presently understood. Studies in Kent indicate a decline in recent years with the loss of at least 2 out of 12 known maternity roosts since 1986. Dorset perhaps has the most known roost sites. Although a number of records are known for Hampshire, these span over 25 years and are not sufficiently detailed or systematic enough from which to draw conclusions; little therefore is known about population fluctuations in the county. During surveys in Hampshire between 2002/3 only 5 active maternity roosts were confirmed after surveying 76 old records.

2.3 Protection

The Serotine bat is protected under Schedule 5 of the Wildlife and Countryside Act 1981 and included in Annex IV of the EU Habitats and Species Directive, Schedule 2 of the Conservation (Natural Habitats etc.) Regulations 1994, Appendix II and the Agreement on the Conservation of Bats in Europe of the Bonn Convention, and Appendix II and III of the Bern Convention. All bats and their roosts are protected by law and it is an offence to disturb or destroy them.

The "CROW Act 2000," (Countryside & Rights of Way) under Schedule 12 para 5 adds "reckless" to the offence of damaging/destroying roosts or disturbing a bat."

Planning Policy guidance note (PPG) 9 states that the presence of a protected species (e.g. any UK bat species) is a material consideration. Therefore, local planning authorities are required to consider the impacts of proposed development on protected species when determining planning applications.

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¹ although Pipistrelles in Scotland have been recorded with twins

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3 CURRENT FACTORS AFFECTING SEROTINE BAT

- Disturbance and destruction of roosts. Their affinity with buildings over 80 years old leaves Serotine roosts and hibernation sites susceptible to remedial timber treatment, cavity wall insulation, other remedial works and demolition.
- Loss of insect-rich feeding areas, particularly unimproved / semi-improved natural and semi-natural permanent pasture and associated features (trees, hedgerows etc.)
- Use of insecticides and animal parasite treatments e.g. avermectins. There has been a sharp decline in chafers and dung fauna, which form an important part of this bat's diet. Insecticide treatment of wireworms, cutworms or leatherjackets also limit foraging opportunities as serotines depend upon these prey items at certain times of the year.

4 CURRENT ACTION

4.1 National

Some national research projects on the species' ecology and distribution. These focus mainly on Cambridgeshire, Essex, Suffolk and Sussex. There are pilot survey projects in Kent. "Managing Landscapes for the Serotine Bat" – (an advisory leaflet) has been produced by the Kent Bat Group.

The Serotine is a National Bat Monitoring Project species (Bat Conservation Trust).

4.2 Local

English Nature and Hampshire Bat Group (HBG) volunteers continue to undertake bat visits to buildings and offer advice as required under the Wildlife and Countryside Act 1981. There are very few records of Serotines using trees as day-roosts.

Publicity, educational events and surveys are undertaken by Hampshire Bat Group and others such as BCT, English Nature, BCT, Hampshire Wildlife Trust, Forestry Commission and HCC staff throughout the year for all bat species.

Training for bat workers is carried out by EN with support from HBG.

Hampshire Bat Group (HBG) in conjunction with BCT's National Bat Monitoring Programme monitor all known Serotine maternity roost sites annually. HBG actively survey the county to locate new maternity roosts.

HBG and EN have collated all roosting, hibernation and feeding records since 1985 and surveyed them for current activity. This research will continue to look at new records and to search for roosts where field observations are made.

Bat awareness and information leaflets are given to householders and builders / developers by an increasing number of local authority planning departments, most notably Southampton and Fareham.

5 OBJECTIVES

The overall aim of this Plan is to protect existing populations of serotines in Hampshire and enhance opportunities for population growth. This broad aim translates into the specific objectives set out below. The 'Proposed Action' table in section 6 identifies the action to be taken to meet these objectives.

	OBJECTIVES	PROPOSED ACTIONS
A	Acquire knowledge of Serotine distribution, status and ecological requirements within Hampshire by researching, surveying and monitoring existing populations.	7,8,9,10,12,15
B	Protect known roosting/hibernation and mating/feeding sites.	1,2,3,4,5,6,11,14,17
C	Enhance habitat for Serotine bats by adopting sensitive land management through existing incentive schemes. Where these are inadequate offer protection for important sites through SINC designation.	3,4,5
D	Raise awareness of the needs of the Serotine bat to those advising landowners and managers as well as directly to householders, planners and developers and the building profession	1,4,6,11,13,14,16,17

6 PROPOSED ACTION

The following table lists the actions required to achieve the objectives set out in this Plan. Each action has been assigned to one or more 'Key Partners'. Key Partners are those organisations that are expected to take responsibility for the delivery of the actions assigned to them, according to the targets set in this Plan. Other organisations may also be involved in the delivery of action, and they have been indicated in the 'Others' column.

Key to symbols in Action Table:

- ◆ To be completed by the indicated year. Work can commence at any time before the due date, at the discretion of the Key Partner.
- ◆⇄ Design or production of a plan/strategy to be completed by this year and then followed by its implementation.
- ◆➔ To start by the indicated year and usually followed by ongoing work. A start arrow in year 2002 can indicate a new action, or a new impetus to existing work.
- ⇄ Work that has already begun and is ongoing.

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ACTION	DELIVERY BY		YEAR					MEETS OBJ.		
	Key Partner	Others	◆ = complete by ➔ = start by	2003	2004	2005	2006		2007	2010
Site and Species Policy and Protection										
1	Raise awareness of needs and habits of Serotine bats amongst planners, developers and builders. Use existing legislation to protect roosting and hibernation sites. Ensure LAs implement PPG9 in respect of bats and their habitats (including roosts), by effective monitoring of planning applications and organisation of surveys followed by appropriate action where roosts or important foraging habitat may be threatened		HBG, BCT HCC, EN, ECs, DEFRA, LAS BCT, HWT WLO							B, D
2	Maintain existing, and increase the opportunity for, new roost and hibernation sites in buildings		HCC, ECs EN, HBG	⇄						B
3	Consider obligations of Habitats and Species Directive, and Bern and Bonn Conventions (including the Agreement on Conservation of Bats in Europe), to develop appropriate policies on wider habitat conservation for bats.		HCC, DEFRA, EN, LAS	➔						B, C
4	Ensure needs of bats are considered in local development plans, LEAPs and those of other statutory bodies.		EA, LAS, EN, AONB	➔						B, C, D

ACTION	DELIVERY BY		YEAR					MEETS OBJ.	
	Key Partner	Others	2003	2004	2005	2006	2007		2010
Site and Species Management									
5	FWAG HBIC EN, HCC AONB	DEFRA FC, EA FRCA NFU, HWT WLO	➔						B, C
6	EN, HBG					◆			B, D
Research, Survey and Monitoring									
7	HBG EN	BCT	➔						A
8	HBG	BCT	➔						A
9	HBG, HBIC			➔					A
10	HBG EN		↔						A
11	HBG		↔						B, D
Communication, Awareness and Promotion									
11	FWAG, EN, AONB, DEFRA, HCC	HBG	↔						B, D
12	HBG HWT, HBIC	EN, BCT	◆↔						A
13	HMR All partners		↔						D

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ACTION	DELIVERY BY		YEAR					MEETS OBJ.	
	Key Partner	Others	2003	2004	2005	2006	2007		2010
14	EN	LAs	↔						B, D
15	HBG BCT EN		◆↔						A
16	HBBG HCC HWT		↔						D
17	EN, HWT HCC, FWAG AONB NFU	LAs	↔						A, D

KEY TO ORGANISATIONS:

- | | | | |
|-------|--|------|--|
| AONB | Area of Outstanding Natural Beauty (officer) | HBG | Hampshire Bat Group |
| BCT | Bat Conservation Trust | HBBG | Hampshire Bat Biodiversity Group |
| CA | Countryside Agency | HBIC | Hampshire Biodiversity Information Centre |
| DEFRA | Department of Environment | HCC | Hampshire County Council |
| EA | Environment Agency | HMR | Hampshire Mammal Recorder |
| ECs | Environmental Consultancies | HWT | Hampshire Wildlife Trust |
| EN | English Nature | LAs | Local Authorities |
| FC | Forestry Commission | NFU | National Farmers Union |
| FWAG | Farming and Wildlife Advisory Group | WLO | Wildlife Officers (Hampshire Constabulary) |

REFERENCES

- 1 **Bat Workers Manual**, JNCC., Ed A.J. Mitchell-Jones & A.P. McLeish, 1999
- 2 **Action Plan for the Conservation of Bats in the United Kingdom**, BCT, A.M. Hutson, 1993
- 3 **The diet of *Eptesicus serotinus* in southern England**, C.M. Catto, A.M. Hutson & P.A. Racey, *Folia Zoologica* - 43 (4) : 307-314 (1994)
- 4 **Activity patterns of the Serotine bat (*Eptesicus serotinus*) at a roost in southern England**, C.M. Catto, P.A. Racey & P.J. Stephenson, *Journal of Zoology*, 235, pp635 - 644 (1995)
- 5 **Foraging behaviour and habitat use of the serotine bat (*Eptesicus serotinus*) in southern England**, C.M. Catto, A.M. Hutson, P.A. Racey & P.J. Stephenson, *Journal of Zoology*, 238, pp623 - 633 (1996)
- 6 **The diets of British bats (Chiroptera)**, N. Vaughan, *Mammal Review*, Vol., 27, No. 2, 77-94 (1997)
- 7 **A Review of British Mammals: population estimates and conservation status of British mammals other than cetaceans**. JNCC, Peterborough. Harris, S., Morris, P., Wray, S. & Yalden, D. (1995.)
- 8 **Planning Policy Guidance: Nature Conservation (PPG9)** HMSO, London DoE, 1994

SPECIES ACTION PLAN

This is one of many Habitat, Species and Topic Action Plans being prepared by the Hampshire Biodiversity Partnership. It will be monitored by the Partnership and fully reviewed and updated.

This species action plan has been prepared by Colleen Mainstone and the Hampshire Bat Group on behalf of the Hampshire Biodiversity Partnership.

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