

Sandleford Park, Newbury

Appendix F8: Bat Emergence/Return Survey



Bloor Homes & The Sandleford Farm Partnership February 2019

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Document Control

Project:	Sandleford Park, Newbury		
Client:	Bloor Homes		
Job Number:	A070660-24		
File Origin:	I:\Projects\Projects A070000 on\A070660-24 Sandleford Park Application 3a Duplication\REPORTS		

Issue 1	March 2018	Final
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Rev:	Date:	Updated by:	Verified by:	Description of changes:
2	10.12.18	Ben Cooke	Tamsin Clark	Updated to reflect the current proposals
3	14.02.19	Tamsin Clark	N/A	Updated as ES addendum to application 3a

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Executive Sum	mary	
Contents	Summary	
Site Location	The site is located at Sandleford Park in Newbury, West Berkshire, centred on OS Grid Reference SU 46847 64550. The site comprises agricultural fields with areas of grassland and several copses of ancient woodland. A central valley runs from the north-western corner of the site towards the River Enborne at the site's southern boundary.	
Existing Site Information	WYG completed an initial ecological appraisal in 2008 with update surveys completed in 2011, 2013, 2015, 2016 and 2017. In addition, a number of protected species surveys have been completed at the site.	
Scope of this Survey(s)	The scope of this report is to summarise the results of bat emergence/return surveys over this time, and to determine if any of the trees which are likely to be impacted by development are used by roosting bats.	
Results	 T46, T67, T114, T121, T122, T123, T128 and G120 are all considered to be active bat roosts which are to be retained, and as such avoidance measures are recommended to be implemented over the course of the construction phase. Roosts at T127 and T130 have been proposed for felling or pollarding in the arboricultural assessment (Barrell Tree Care, 2018), but this does not form part of the masterplan. If in the future, arboricultural works are proposed, they will be informed by surveys, and a licence application to Natural England, if found to remain active. T61, T109, T116, T154, T173 and the mature ash within G47 were assessed as having high or moderate suitability for roosting bats during emergence/return and climbed inspection surveys and are scheduled for felling/partial felling or pollarding within the arboricultural assessment (Barrell Tree Care, 2018). All of these trees will require pre-commencement surveys and a license from Natural England prior to works commencing if active roosts are known/identified. 	
Recommendations	<u>Mitigation</u> : Pre-commencement surveys of trees scheduled for felling/partial felling or pollarding with known roosts , or a high or moderate suitability for roosting bats. An EPSM (European Protected Species Mitigation) license application from Natural England will be required if roosting bats are discovered. Wherever trees with low potential to support roosting bats require removal, we would recommend that, where possible, removal or pruning should be undertaken sympathetically using "soft-felling methodology". <u>Avoidance</u> : To reduce disturbance to roosting bats, trees with confirmed roosts will be protected during construction, and all construction works in proximity to woodland and hedgerows will cease 30 minutes prior to dusk. The lighting across the development footprint will be sensitively designed. <u>Enhancement</u> : Additional measures to enhance the site for bats include hedgerow in-fill planting and the provision of artificial bat roosts, which can be attached to trees that are being retained on the proposed development site.	



AONB Area(s) of Outstanding Natural Beauty	
Badger Act Protection of Badgers Act 1992	
BCT Bat Conservation Trust	
BoCC Bird(s) of Conservation Concern	
BTO British Trust for Ornithology	
CEcol Chartered Ecologist	
CEnv Chartered Environmentalist	
CIEEM Chartered Institute of Ecology & Environmental Management	
CRoW Act Countryside and Rights of Way Act 2000	
EcIA Ecological Impact Assessment	
ECoW Ecological Clerk of Works	
EIA Environmental Impact Assessment	
EMP Ecological Management Plan	
EPS European Protected Species	
EPSL European Protected Species Licence	
GCN Great Crested Newt	
Habitat Regulations Conservation of Habitats and Species Regulations 2017	
HAP Habitat Action Plan	
Hedgerow Regulations Hedgerow Regulations 1997	
HPI Habitat(s) of Principal Importance	
HRA Habitats Regulations Assessment	
JNCC Join Nature Conservancy Council	
LERC Local Ecological Record Centre	
LBAP Local Biodiversity Action Plan	
LNR Local Nature Reserve	
LPA Local Planning Authority	
LWS Local Wildlife Site	
MCIEEM Member of Chartered Institute of Ecology & Environmental Manageme	nt
Natura 2000 site A European site designated for its nature conservation value	
NE Natural England	
NERC Act Natural Environment and Rural Communities Act 2006	
NNR National Nature Reserve	
NPPF Revised National Planning Policy Framework	
PEA Preliminary Ecological Appraisal	
RSPB Royal Society for the Protection of Birds	
SAC Special Area of Conservation	
SAP Species Action Plan	
SNCO Statutory Nature Conservation Organisations	
SPA Special Protection Area	
SPI Species of Principal Importance	
SSSI Site(s) of Special Scientific Interest	
W&CA Wildlife & Countryside Act 1981	



1.0 Introduction

1.1 Background

WYG was commissioned by Bloor Homes and the Sandleford Farm Partnership in December 2018 to produce a summary report of all bat emergence/return surveys completed between 2011-2017 on the site known as Sandleford Park, Newbury, with reference to the current proposals.

This follows extended Phase 1 habitat surveys completed by WYG in 2008 (updated in 2011, 2013, 2015, 2016 and 2017) which identified the potential for bats to be roosting within trees and buildings within the site boundary. Hibernation surveys involving tree climbing and building inspections were completed in 2015 and updated in 2018. Ground level tree assessments were completed in 2012, 2014, 2015 and 2017. Nocturnal emergence/return surveys have been carried out on trees identified as having roost potential between 2011-2017 (Appendix F8).

This report has been prepared by Assistant Ecologist Alex Hellyar, and updated by Tamsin Clark MCIEEM.

1.2 Site Location

The site is located at Sandleford Park in Newbury, West Berkshire and is centred at Ordnance Survey National Grid Reference SU 46847 64550. The survey area, hereafter referred to as the 'site', is shown on Figure 1 and comprised of agricultural fields with areas of grassland and several copses of ancient woodland dispersed throughout. A central valley runs from the north-western corner of the site towards the River Enborne at the site's southern boundary.

For details of the development description, please see the main ES chapter.

1.3 Purpose of the Report

The ecological investigations for bats undertaken by WYG included the following objectives:

- A suite of dusk emergence/pre-dawn return surveys to gain an understanding of bat species' usage of the site and an indication of population numbers; and
- An assessment of the potential ecological constraints to the proposed works at the site relating to bat species and recommendations for further survey, avoidance, mitigation and enhancement where appropriate.



2.0 Methodology

2.1 Desk Study

2.1.1 Previous Reports

WYG completed an initial ecological appraisal in 2008 with update surveys completed in 2011, 2013, 2015, 2016 and 2017 which identified habitat suitable for roosting bats (Appendix F1). Subsequent bat roost assessment of trees and bat hibernation surveys (Appendix F7) were completed to identify the trees and buildings which offer potential to support roosting bats. It is important to note that pre-2016 reports were written under guidelines which have since been updated. The findings of these assessments provided the basis for emergence/return surveys conducted between 2012-2017.

2.1.2 Local Ecological Records Centre

Updated information was requested from the Hampshire Biodiversity Information Centre (HBIC) and the Thames Valley Environmental Records Centre (TVERC) in November 2017, for information on any nature conservation designations and protected or notable species records within 2 km of the site.

The data search covers:

- Statutory designated sites for nature conservation, namely SACs, SPAs, Ramsar sites, SSSIs, NNRs and LNRs;
- Non-statutory designated sites for nature conservation, namely LWS;
- Legally protected species, such as great crested newts, bats and badger;
- Notable habitats and species, such as those listed as Habitats or Species of Principal Importance; and,
- Priority habitats or species within both HBIC and TVERC areas.

The data search did not cover:

- Tree Preservation Orders (TPOs); or
- Conservation Areas designated for their special architectural and historic interest.

2.2 Field Surveys

Nocturnal bat surveys were completed for the specific trees and groups of trees shown to provide roosting suitability and considered most likely to be impacted by the proposed works. In addition, a number of trees were surveyed along Warren Road, to the West of the site by WYG in 2016, with bat roost found in two trees. However, Warren Road is no longer part of the redline boundary, and as such the results of these surveys have not been included within this report.

It is important to note that in 2016 the tree assessment categories were changed from numerical values (1*,1,2,3) as outlined in the Bat Conservation Trust Guidelines, 2nd Edition (2012) to suitability (negligible, low, medium, high) as per the Bat Conservation Trust Guidelines, 3rd Edition (Collins, 2016).

Surveys were conducted at dusk and dawn between May to September In line with BCT (Collins, 2016) guidelines, each dusk emergence survey commenced thirty minutes before sunset and was concluded one and a half hours after sunset. Each Dawn survey commenced one and half hours

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before sunrise and was concluded approximately fifteen minutes after sunrise. In the event that bats were still found to be present after this point, dawn return surveys continued until activity had ceased. Trees assessed as having moderate suitability were subjected to at least one dawn emergence and one dusk return survey. Trees with high suitability were subjected to at least two dawn emergence and one dusk return survey.

In order to detect any bat activity, each surveyor was equipped with either a 'Bat Box Duet' bat detector, used in frequency division mode with an attached MP3 recorder, or an Elekon Batlogger. This allowed all ultrasonic frequencies to be monitored and recorded simultaneously.

2012 Survey

A large number of trees on site were initially assessed for their potential to support roosting bats (Appendix F7). Of these, trees that were most likely to be impacted by the development proposals at the time were identified to be the focus of the nocturnal emergence/return surveys. See Figure 2 for tree locations.

2014 Survey

A total of 21 trees/groups of trees identified as holding moderate or high suitability (Appendix F7) to roosting bats (at the time of survey) and the open stable building were subject to nocturnal emergence/return surveys. See Figure 3 for tree locations.

2015 Survey

One tree (T61) with high potential was subjected to two dawn re-entry and one dusk emergence survey. See Figure 4 for tree locations.

2016 Survey

The mature oak tree T114 and offsite trees (labelled at the time as) 1, 2, 3 and 6 were subject to three dusk emergence surveys between May and October 2016.. See Figure 5 for tree locations.

2017 Survey

Trees T121, T122, T123, T127, T128, T129, T130 and tree group 3 were subjected to an updated assessment for their bat roost potential. The results of the tree assessment are given in appendix F7. See Figure 6 for tree locations.

2.3 Limitations

All survey visits were carried out within the optimal survey season (March – October) as recommended within the BCT (Collins, 2016) guidelines. The surveys were conducted during periods of suitable weather conditions (i.e. not during heavy rain, low temperature or strong winds).

A dawn return survey was not completed on T114 in 2016 as the temperatures overnight in early October dropped to a point where dawn survey was not considered suitable in line with recommended guidelines. Instead, an additional dusk survey was carried out in October. As a bat was recorded emerging from the tree during this survey, we do not consider that the change to normal survey practice constitutes a significant limitation on the results of the surveys.



Bat surveys have been ongoing over the site for past 10 years, so we have a good understanding of bat use of the site. Further update bat roost assessments and nocturnal bat surveys are scheduled for the 2019 bat survey season.



3.0 Results

3.1 Desk Study

A total of 185 records of bats within 2km of the site were returned including the following species: Daubenton's; Whiskered bat; Natterer's bat; noctule; common pipistrelle; soprano pipistrelle; brown long-eared bat and serotine. In addition to this, records were returned for unidentified bats from the *Pipistrellus* genus; *Myotis* genus and *Plecotus* genus. The nearest bat records are of a daubenton's, whiskered, brown long-eared and pipistrelle spp. >0.48km NNE from site, though the location is sensitive. The nearest recorded roost is of a brown long-eared roost which contained 12 individuals approximately 1.7km WNW along Enborne Street, Newbury. Both noctule and brown-long eared bats are Priority species under the NERC Act and noctule, brown long-eared and soprano pipistrelle bats are listed on the Berkshire Biodiversity Strategy 2014-2020.

3.2 Weather Conditions

Date	Dusk / Dawn times	Survey Time(s)	Weather	
30/08/2012 (Dusk)	19.55	19.25 – 21.25	12.5°C; 85% cloud cover; light breeze; no precipitation	
31/08/2012 (Dawn)	06.17	04.47 – 06.30	8°C; 0% cloud cover; still; no precipitation	
03/09/2012 (Dusk)	19.45	19.15 – 21.15	19°C; 10% cloud cover; still; no precipitation	
04/09/2012 (Dawn)	06.23	04.53 – 06.30	14 °C; 90% cloud cover; light breeze; no precipitation	

3.2.1 2012 Weather Conditions

3.2.2 2014 Weather Conditions

Date	Dusk / Dawn times	Survey Time(s)	Weather	
28/08/201 4	20:01	19:31 – 21:31	17.0°C; 85% cloud cover; light breeze; no precipitation	
29/08/201 4	06:13	04:43 – 06:13	13.5°C; 4 0% cloud cover; light breeze; no precipitation	
11/09/201 4	09:29	18:59 – 20:59	16.0°C; 100% cloud cover; still; no precipitation	

3.2.3 2015 Weather Conditions

Date	Dusk / Dawn times	Survey Time(s)	Weather
19/06/201 5	20:24	19:54 – 21:54	18.0°C; partly cloudy; light wind; no precipitation
20/06/201 5	03:50	03:20 - 05:20	10°C; partly cloudy; still; no precipitation



Date	Dusk / Dawn times	Survey Time(s)	Weather
22/06/201 5	20:25	19:55 – 21:55	15.0°C; scattered clouds; light wind; no precipitation
25/06/201 5	03:51	03:21 – 21:51	11.0°C; scattered clouds; still; no precipitation

3.2.4 2016 Weather Conditions

Date	Dusk / Dawn times	Survey Time(s)	Survey Commencement weather conditions	Survey End Weather Conditions
31/08/201 6	19:53	Start: 19:23 End: 21:53	18.0°C; 25% cloud cover; wind speed: 11.1km/h; no precipitation.	15.0°C; 20% cloud cover; wind speed: 5.6km/h; no precipitation.
05/10/201 6	18:32	Start: 18:02 End: 20:32	12.0°C; <10% cloud cover; wind speed: 11.1km/h; no precipitation.	10.0°C; <10% cloud cover; wind speed: 14.2km/h; no precipitation.
19/10/201 6	18:03	Start: 17:48 End: 20:18	9.0°C; <10% cloud cover; wind speed: `calm'; no precipitation.	9.0°C; < 10% cloud cover; wind speed: `calm'; no precipitation.

3.2.5 2017 Weather Conditions

Date	Dusk / Dawn Times	Survey Timings	Weather Conditions	Surveyed Trees
26.06.17	21:26	20:56 – 22:56	18.0°C; 60% cloud cover; light breeze; no precipitation.	T1, T2
28.06.17	21:25	20:55 – 22:55	13°C; 100% cloud cover; light breeze; no precipitation.	T5, T6, T7, T8
29.06.17	21:25	20:55 – 22:55	14.8°C; 75% cloud cover; still; no precipitation.	T3, T4, TG3
14.07.17	05:05	03:35 – 05:20	13°C; 75% cloud cover; still; no precipitation.	T1, T2, T6, T8
26.07.17	21:03	20:33 – 22:33	16°C; 70% cloud cover; light breeze, no precipitation.	T1, T2, T5, T6, T7
27.07.17	05:21	03:51 – 05:36	14.5°C; 90% cloud cover; still; no precipitation.	T3, T4



Date	Dusk / Dawn Times	Survey Timings	Weather Conditions	Surveyed Trees
03.08.17	05:32	04:02 – 05:47	14.7°C; 55% cloud cover; light breeze; very light precipitation towards survey end.	T5, T7, TG3

3.3 Survey

3.3.1 2012 Survey

30/08/2012: Dusk Emergence

During the dusk emergence survey, no bats were recorded emerging from any of the trees on site.

Six species of bat were recorded during this survey comprising common pipistrelle, soprano pipistrelle, brown long-eared, noctule, *Myotis* (likely whiskered/ Brandt's) and *Myotis* (likely natterer's). A relatively high level of bat activity was recorded by all surveyors, indicating that the tree lines where the surveyors were positioned are of importance for commuting and foraging bats.

31/08/2012: Dawn Swarming

During the dawn swarming survey, no bats were recorded returning to roost within any of the trees surveyed on the site.

The level of bat activity was significantly lower than during the dusk emergence survey, with only two passes of one species (soprano pipistrelles) recorded.

03/09/2012: Dusk Emergence

During the dusk emergence survey, no bats were recorded emerging from any of the trees on site.

A high level of bat activity, comprising five species of bat, was recorded during this survey. Species recorded were common pipistrelles, soprano pipistrelles, noctule, *Myotis* (likely whiskered/ brandt's) and *Myotis* sp. The area with the highest level of bat activity was within the centre of the site, which comprises an area of marshy grassland surrounded by hedgerows and blocks of woodland.

04/09/2012: Dawn swarming

During the dawn swarming survey, no bats were recorded returning to roost within any of the trees surveyed on the site.

A relatively high level of bat activity, comprising four species of bat, was recorded during this survey. Species recorded comprised common pipistrelles, soprano pipistrelles, noctule and serotine. High levels of bat activity were, again, recorded within the area of marshy grassland within the centre of the site.



3.3.2 2014 Survey

28/08/2014: Dusk Emergence

During the dusk emergence survey, no bats were recorded emerging from any of the trees or the open stable building on site.

Two species of bat were recorded during this survey comprising common pipistrelle and soprano. Surveyors 3 and 4 recorded a slightly higher level of activity along the hedgerow which runs along the western boundary of the site, indicating that this hedgerow is of importance for commuting and foraging bats.

29/08/14: Dawn Return

During the dawn return survey, no bats were recorded returning to roost within any of the trees or the open stable building surveyed on the site. All surveyors returned to the same positions as during the dusk emergence survey.

Three species of bat were recorded during the dawn return survey including common pipistrelle, soprano pipistrelle and a serotine. The level of bat activity was lower than during the dusk emergence survey.

11/09/2014: Dusk Emergence

During the dusk emergence survey, no bats were recorded emerging from any of the trees or the open stable building on site. In general, a higher level of bat activity was seen than on the previous surveys completed.

A fairly high level of bat activity, comprising four species of bat, was recorded during this survey. Species recorded were common pipistrelles, soprano pipistrelles, noctule and *Myotis* (likely Natterer's). Higher levels of activity were noted along the hedgerow which is present along the western boundary of the site and surrounding the open stable building.

3.3.3 2015 Survey

19/06/2015: Dusk Emergence Survey (T61)

During the dusk emergence survey, no bats were recorded emerging from T61. In general, a low level of bat activity was seen throughout the survey.

20/06/2015: Dawn Return Survey (T61)

During the dawn return survey, no bats were recorded returning to T61. In general, a low level of bat activity was seen throughout the survey.

22/06/2015: Dusk Emergence Survey (T61)

During this dusk emergence survey of tree T61, no bats were recorded emerging from T61. In general, a slightly higher level of bat activity was recorded than during the previous emergence survey completed at T61 on 20/06/2015.



25/06/2015: Dawn Return Survey (T61)

During this dawn return survey of tree T61, no bats were recorded returning toT61. A lower level of bat activity was recorded than during the previous return survey completed at T61 on 19/06/2015.

3.3.4 2016 Survey

31/08/2016: Dusk Emergence (T114)

No emergence behaviour recorded. Overall low levels of activity throughout the survey. Common pipistrelle, soprano pipistrelle and noctule were recorded foraging and commuting around woodland edge and up and down well-lit edge of the rugby fields.

05/10/2016: Dusk Emergence (T114)

No emergence behaviour recorded. Overall low levels of activity throughout the survey. Common pipistrelle and soprano pipistrelle were recorded foraging and commuting around the woodland edge and up and down the well-lit edge of the rugby fields.

19/10/2016: Dusk Emergence (T114)

A common pipistrelle emerged from the canopy of the tree on the western elevation at **18:26 (23 minutes after dusk).** Overall low levels throughout the survey. Common pipistrelle and noctule bats were recorded foraging and commuting around the woodland edge up and down the well-lit edge of the rugby fields.

17th May 2016 – Dusk Emergence Survey (T1 only)

Overall, a low amount of activity was recorded around the surveyors position, with up to four individual bats recorded over the course of the survey, despite being carried out in suitable conditions. No occurrences of emergence behaviour were observed.

23rd June 2016 – Dusk Emergence Survey (T2, T3, T6)

Despite the high levels of activity around the target trees, the large amount of commuting behavior observed early in the survey suggests that bats may be travelling into the area from offsite. No occurrences of emergence behaviour were observed.

30th June 2016 – Dusk Emergence Survey (all four trees)

Two unidentified bats were observed emerging from the north-western side of the mature lime tree (T6), before flying clockwise around it and re-entering into the same emergence point at 21:51 (thirty-three minutes after sunset), although these individuals did not trigger the bat recording equipment. One common pipistrelle was observed emerging from the north side of the Lime tree at 22:14 (fifty minutes after sunset) and a further two common pipistrelles were observed emerging from the south-west side of the same tree at 22:17 and 22:25 (fifty-three minutes after sunset and one hour and three minutes after sunset respectively). The results of this survey reinforce the previous results suggesting that bat activity is particularly concentrated along the central hedgerow, and that there is a high overall amount of foraging and commuting activity particularly by common pipistrelles on the site.

The observed roosting behaviour of this survey confirms that the mature lime (T6) supports a common pipistrelle roost of at least three bats and may support at least two more bats of the same or different species.



26th July 2016 - Dawn Return Survey (all four trees)

Common pipistrelle, soprano pipistrelle and noctule were recorded during the survey. Noctule bats were heard but not seen with all recordings being noted as brief and faint, suggesting that individuals may have been foraging or commuting in another area of the site or just offsite. **No occurrences of roosting behaviour were observed.**

3.3.5 2017 Survey

26th June 2017 Dusk Emergence Survey (T128)

One common pipistrelle was observed emerging from T128 during this survey.

Two species of bat were recorded during the survey; common pipistrelle and noctule. One common pipistrelle was observed emerging from an upper branch of the tree at 21:44 (18 minutes post-sunset) before flying south-west towards the central track and out of sight.

14th July 2017 Pre-Dawn Return Survey (T128)

No bats were observed emerging from or returning to T128 during this survey.

Three species of bat were recorded during the survey; common pipistrelle, soprano pipistrelle and noctule.

26th July 2017 Dusk Emergence Survey (T128)

Two common pipistrelle were observed emerging fromT128 during this survey.

Only two bats were recorded during this survey, both of which were common pipistrelle. The first was observed emerging from high in the trunk of T128, flying west towards the central track at 21:12 (24 minutes post-sunset). Following this, a second common pipistrelle was observed emerging from a low branch on the western aspect of T128 at 21:21.

26th June 2017 Dusk Emergence Survey (T127)

One common pipistrelle and one unidentified bat (likely *Pipistrellus sp.*) were observed emerging from T127 during this survey.

Two species of bat were recorded during the survey; common pipistrelle and noctule. The surveyor positioned at T127 observed an unidentified bat (likely of the *Pipistrellus* genus) exhibiting an emergence routine at the top of T127 at 21:53 (27 minutes post-sunset) before flying south-west towards the central track and out of sight. A second common pipistrelle was observed emerging from T127 before flying away to the south at 22:04 (37 minutes post-sunset).

14th July 2017 Pre-Dawn Return Survey (T127)

Two common pipistrelle were observed returning to T127 during this survey.

Two species of bat were recorded during the survey; common pipistrelle and one unidentified bat considered likely to be a long-eared bat. A common pipistrelle was observed returning to T127 at 04:10 (70 minutes prior to sunrise). A second common pipistrelle was observed exhibiting roosting behaviour, circling the eastern aspect of T127 from 04:14, before returning into the tree at 04:28.



26th July 2017 Dusk Emergence Survey (T127)

Three common pipistrelle were observed emerging from T127 during this survey.

Only common pipistrelle were recorded during this survey. An individual was observed emerging from high up T127 from a limb making up the vertical section of the crown, flying away to the south at 21:27 (24 minutes post-sunset). Two more common pipistrelle emerged from the same feature at 21:33 and 21:34 (30 and 31 minutes post-sunset). Both flew away to the east.

29th June 2017 Dusk Emergence Survey (T130)

One common pipistrelle and one unidentified bat (likely *Pipistrellus sp.*) were observed emerging from T130 during this survey.

Two species of bat were recorded during the survey; common pipistrelle and noctule. Following this, an unidentified bat was seen emerging from a large high branch on the western aspect of T130, flying away to the north-east at 21:59 (33 minutes post-sunset). At 22:01 (35 minutes post-sunset) a common pipistrelle was observed emerging from the same feature, flying around the southern aspect of the tree before flying away to the north-east. As the second bat recorded emerging from the feature was confirmed to be a common pipistrelle, it is considered likely that the first unidentified bat was from the same species.

27th July 2017 Pre-Dawn Return Survey (T130)

One common pipistrelle was observed emerging from T130 during this survey.

A single common pipistrelle was recorded during the survey. The bat was observed emerging from a high branch on the northern aspect of T130 at 04:36 (45 minutes prior to sunrise), flying immediately away to the north, following the central track.

29th June 2017 Dusk Emergence Survey (T129)

No bats were observed emerging from or returning to T129 during this survey.

Three species of bat were recorded during the survey; common pipistrelle, soprano pipistrelle and noctule.

27th July 2017 Pre-Dawn Return Survey (T129)

No bats were observed emerging from or returning to T129 during this survey.

Three individual bats were recorded during the survey. The first, a common pipistrelle was heard but not seen commuting at 04:10 (19 minutes after the survey start). A soprano pipistrelle was heard but not seen at 04:27. Finally, a noctule was heard but not seen at 04:36 (60 minutes prior to sunrise).

28th June 2017 Dusk Emergence Survey (T133)

No bats were observed emerging from or returning to T133 during this survey.

Four species of bat were recorded during the survey; common pipistrelle, soprano pipistrelle, noctule and serotine.

Sandleford Park, Newbury: Bat Emergence/Return Survey



26th July 2017 Dusk Emergence Survey (T133)

No bats were observed emerging from or returning to T133 during this survey.

Two species of bat were recorded during the survey; common pipistrelle and soprano pipistrelle.

3rd August 2017 Pre-Dawn Return Survey (T133)

No bats were observed emerging from or returning to T133 during this survey.

Two species of bat were recorded during the survey; common pipistrelle and soprano pipistrelle.

28th June 2017 Dusk Emergence Survey (T123)

Two common pipistrelle were observed emerging from T123 during this survey.

Three species of bat were recorded during the survey; common pipistrelle, soprano pipistrelle and noctule. The first bat, a common pipistrelle, was observed emerging from a large, central branch high up in T123 from its eastern aspect at 21:35 (10 minutes post-sunset) flying north. A second common pipistrelle emerged from the same feature, again flying north at 21:39 (14 minutes post-sunset).

14th July 2017 Pre-Dawn Return Survey (T123)

No bats were observed emerging from or returning to T123 during this survey.

Two species of bat were recorded during the survey; common pipistrelle and noctule.

26th July 2017 Dusk Emergence Survey (T123)

No bats were observed emerging from or returning to T123 during this survey.

Two species of bat were recorded during the survey; common pipistrelle and noctule. The first bat, a noctule was observed flying off site to the east from the tree line in which T123 sits at 21:17 (14 minutes post-sunset), however the surveyor could not confirm whether this bat emerged from either T123 or any other tree within the line. Up to two additional noctule were observed foraging around the dried out pond to the west of T123 from 21:21 - 21:33.

14th July 2017 Pre-Dawn Return Survey (T122)

No bats were observed emerging from or returning to T122 during this survey.

Two species of bat were recorded during the survey; soprano pipistrelle and noctule.

26th July 2017 Dusk Emergence Survey (T122)

No bats were observed emerging from or returning to T122 during this survey.

Two species of bat were recorded during the survey; noctule and soprano pipistrelle.

3rd August 2017 Pre-Dawn Return Survey (T122)

No bats were observed emerging from or returning to T122 during this survey.

Up to two species of bat were recorded during the survey; common pipistrelle and brown long-eared bat.



28th June 2017 Dusk Emergence Survey (T121)

Two common pipistrelle were observed emerging from T121 and two common pipistrelle were observed returning to T121 during this survey.

Two species of bat were recorded during the survey; common pipistrelle and noctule. The first bat, a common pipistrelle, was observed emerging from high up from a hole in the trunk of T121 on the western aspect, before flying away to the west at 21:40 (15 minutes post-sunset). This emergence was immediately followed by a second common pipistrelle which emerged from the same feature, again flying away to the west at 21:52 (27 minutes post-sunset). A common pipistrelle was observed returning to T121, entering the same feature from which individuals had previously emerged from at 22:04 (39 minutes post-sunset), followed immediately by a second individual that returned to the same feature two-minutes later (22:06).

14th July 2017 Pre-Dawn Return Survey (T121)

No bats were observed emerging from or returning to T121 during this survey.

Two species of bat were recorded during the survey; soprano pipistrelle and noctule.

29th June 2017 (G120)

3 common pipistrelle and 2 unidentified bats (likely *Pipistrellus sp.*) were recorded emerging from the easternmost oak within G120 during this survey.

One confirmed species of bat was recorded during the survey; common pipistrelle. Two common pipistrelle were observed emerging one after the other from a hole high up on the eastern aspect of the easternmost tree within G120 before flying east at 21:59 (33 minutes post-sunset). A third common pipistrelle was observed emerging, this time from a hole in the southern aspect of the same tree one minute later (22:00). Two additional unidentified bats emerged from the same feature on the eastern aspect of the tree at 22:04 (38 minutes post-sunset) where two common pipsitrelle had emerged from, however no calls were recorded. Whilst it is likely that these bats were also common pipsitrelle, it cannot be ruled out that they may instead by long-eared bats (particularly due to the lack of echolocation when emerging despite the surveyors suitable position.

3rd August 2017 Pre-Dawn Return Survey (G120)

No bats were observed emerging from or returning to any tree within G120 during this survey.

Two bat species were recorded during this survey; common pipistrelle and a single noctule individual.

27th July – Emergence During Activity Survey (G120)

One common pipistrelle was recorded emerging from oak tree T67 above Dirty Ground Copse during activity survey on 27th July 2017. This tree is therefore considered a confirmed bat roost.



3.4 Summary of Results

2012 Survey

No bats were recorded roosting within any of the trees or small open stable buildings surveyed on site. Up to eight species of bat were recorded foraging and commuting within the site. During the bat roost assessment, one tree T46 within G47 was identified as a 'known or confirmed roost'.

2014 Survey

No bats were recorded roosting within any of the trees or small open stable building surveyed on the site. However, five species of bat were recorded foraging and commuting within the site including common pipistrelle, soprano pipistrelle, noctule, serotine and a *Myotis* species considered likely to be a Natterer's bat.

2015 Survey

No bats were recorded roosting within tree T61. However, six species of bat were recorded foraging and commuting within the site including common pipistrelle, soprano pipistrelle, noctule, serotine, likely brown long-eared bat and a *Myotis* species considered likely to be a Natterer's bat.

2016 Survey

A common pipistrelle was recorded emerging from the canopy of tree T114 from its western elevation.

Two unidentified bats were observed emerging from the north-western side of the mature lime tree (T6). One common pipistrelle was observed emerging from the north side of the same tree and a further two common pipistrelles were observed emerging from the south-west side (see Figure 5). These trees are no longer within the current site boundary.

2017 Survey

- A total of three pipistrelle were observed emerging from T128 throughout the survey period.
- Five common pipistrelle and one unidentified bat (likely to be *pipistrellus* sp.) were observed emerging from T127 with one pipistrelle observed returning.
- Two common pipistrelle and one unidentified bat (likely *Pipistrellus sp.*) were observed emerging from T130. Two common pipistrelle were observed emerging from T123.
- Two common pipistrelle were observed emerging from T121 and two common pipistrelle were observed returning.
- Three common pipistrelle and two unidentified bats (likely *Pipistrellus sp.*) were recorded emerging from the easternmost oak within G120.
- T67 had a roost confirmed based on an observed emergence of a common pipistrelle during a 2017 bat activity survey (Appendix F9).

For the results of this survey see Figure 6.



4.0 Relevant Legislation

All 18 British bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and under Schedule 2 of the Conservation of Habitats and Species Regulations 2017, as European Protected Species (EPS). Furthermore, the Countryside and Rights of Way Act 2000 (Schedule 12, Paragraph 5) has amended Section 9 of the 1981 Act. They are, therefore, fully protected under Section 9 of the 1981 Act and under Regulation 41 of the Conservation of Habitats and Species Regulations 2017, which transposes the Habitats Directive into UK law.

This makes it an offence to:

- Deliberately capture, injure or kill any bat;
- Deliberately disturb bats, in particular where it is likely to:
 - Impair their ability to breed or reproduce, or to rear or nurture their young;
 - Impair their ability to hibernate or migrate; or
 - Affect significantly the local distribution or abundance of bats.
- Intentionally or recklessly damage, destroy or obstruct the access to the place of shelter or protection; and
- Damage or destroy a bats breeding site or resting place.

The direct loss or modification of bat roosts are therefore offences under this legislation. So too is the disturbance of roosting bats while they occupy a place of rest. Any construction or demolition works to, or in proximity to, a bat roost may require an EPSM licence in order to proceed without causing an offence.

Section 41 (S41) of the NERC Act 2006 requires the Secretary of State to publish a list (in consultation with Natural England) of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal (e.g. planning) functions. The S41 list includes seven species of bat; barbastelle, Bechstein's bat, noctule, soprano pipistrelle, brown long-eared bat, greater horseshoe and lesser horseshoe.



5.0 Interpretations and Recommendations

5.1 **Potential Impacts on Roosting Bats**

The masterplan has sought to retain mature trees and known bat roosts. Two trees (**T127** and **T130**) identified as containing active roosts have been recommended for possible felling or pollarding in the *Arboricultural Assessment* (Barrell Tree Care, 2018). However, these works do not form part of the current proposal. In the event that felling or pollarding is required in the future, precommencement surveys and a license from Natural England will be required prior to works. This is further discussed in the emergence/return report (Appendix F8).

There are nine further trees which are scheduled for felling/partial felling or pollarding in the *Arboricultural Assessment* (Barrell Tree Care, 2018) which were assessed as having high or moderate suitability. Pre-works surveys, and licence applications should roosting bats be found will be required prior to future works.

5.2 **Potential Impacts Should Proposals Change**

- If any further **moderate or high** suitability trees are to be impacted by the development, nocturnal bat emergence/return surveys will be required for these trees during the bat survey season (May to September). If roosts are confirmed then a Natural England development licence will need to be obtained.
- If other trees are to be impacted that have not been assessed for their potential to support roosting bats, further assessment will be required to determine their potential to support roosting bats.

5.3 Mitigation Prior to Felling

5.3.1 Update Assessment

Where trees identified as holding **moderate or high** potential for roosting bats are to be felled or subject to works, it is recommended that a pre-commencement emergence/return surveys are carried out between May and August. This applies to the following trees with high or moderate roosting potential which will be directly impacted as part of the final development:

• T61, T109, T116, T153, T154, T173 and the mature ash within G47

Alternatively, if works are scheduled for September to April, then a pre-commencement climbed inspection to confirm the absence of bats would be recommended. If a bat is confirmed to be roosting, a Natural England European Protected Species Mitigation licence would be required to facilitate the works. Any felling, tree surgery or potential disturbance works should be undertaken between **late October and April inclusive** where possible, as these are the months during which bats (if present) are least likely to be occupying the trees. Reasonable avoidance measures are considered to be good practice.

5.3.2 Soft-felling

Wherever trees with any potential to support roosting bats (including low potential) require removal, we would recommend that, where possible, removal or pruning should be undertaken sympathetically



using "soft-felling methodology". This is a generic term used to describe more cautious felling approaches. Where possible, cross cutting in proximity to cavities or hollows should be avoided, and any sections felled containing cavities should be lowered carefully using rope and cushioning techniques to reduce the impact of felling limbs which may still have bats within cavities. The felled sections should left on the ground (preferably for up to 48 hours) with the openings clear, allowing any remaining bats to escape. Split limbs that are under tension may need to be wedged open to prevent their closure when pressure is released, to avoid trapping bats.

5.4 Disturbance

T46, **T67** and **T114** were identified as active roosts during tree assessment, emergence/return and activity surveys. These trees will be retained as part of the final development.

To accommodate the A339 access road, trees which were identified as active bat roosts during emergence/return surveys (**T114**, **T121**, **T122**, **T123**, **T128**, **T130** and **G120**) may be subject to indirect disturbance from the works.

To reduce disturbance to roosting bats during works, trees with confirmed roosts will be protected during construction, and all construction works in proximity to woodland and hedgerows will cease 30 minutes prior to dusk.

The potential for the construction / operational impacts on commuting and foraging bats has been addressed within the scheme design and is discussed in detail in the bat activity report (Appendix F8).

Ecological consultation has been ongoing throughout the design stage so as to help avoid impacts to bats, and where this is not possible, to advise as to suitable mitigation measures.

5.5 Avoidance

The lighting across the development footprint has been sensitively designed with bats in mind, so that valuable foraging and commuting areas are retained and existing/new roost sites are not impacted by ambient light. No vegetated boundary including hedgerow, woodland or the central valley area will exceed 1 lux and hence it is unlikely to impact bats. Lighting mitigation comprising the installation of cowls, hoods or louvers into those lamps located close to hedgerows will help mitigate the effects of light spill into the surrounding environment (Appendix F20, Lighting Strategy).

5.6 Enhancement

Enhancement is required under the revised National Planning Policy Framework (NPPF, 2018). A number of the measures outlined in the mitigation section, such as the planting of 'bat-friendly' plants (Appendix A) have the potential to enhance the site for bats.

5.6.1 Artificial roost provision

Additional measures to enhance the site for bats include the provision of artificial bat boxes in suitable habitat across the site.

Sandleford Park, Newbury: Bat Emergence/Return Survey



Twenty bat boxes will be installed on mature trees within the site boundary. Trees within the existing woodland have been identified as the most suitable locations for bat boxes, as they are well connected to further areas of off-site habitat suitable for foraging and commuting bats. Bat boxes to be installed at the site will comprise a mixture of the following Schwegler bat boxes: Bat Box 2F, Bat Box 1FF and Bat Box 1FD, which are suitable for brown long-eared, noctule, common pipistrelle and soprano pipistrelle bats. Further details of specifications of bat boxes, bat tubes and their proposed location to be installed on site can be found in the ecological mitigation and management plan (Appendix F18).

Tree bat boxes will be installed at a height of 3 - 6 m, and will not be obstructed by branches or foliage that would restrict access to them by bats. Two or three bat boxes will be installed on each tree, facing differing directions around the tree trunk, so that if one box gets too hot or cold the bats can move to another. Boxes will be attached to the tree using an aluminium nail or tied in position using wire/leather.



6.0 References

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- WYG (2017) Sandleford Park, Newbury, Bat Emergence / Return Survey of Trees
- WYG (2018) Sandleford Park, Newbury: Lighting Strategy



FIGURES

Figure 1 – Site Location Plan Figure 2 – Tree Emergence/Return Surveys – 2012 Figure 3 – Tree Emergence/Return Survey – 2014 Figure 4 – Tree Emergence/Return Survey 2015 Figure 5 – Tree Emergence/Return Survey 2016 Figure 6 - Tree Emergence/Return Survey 2017

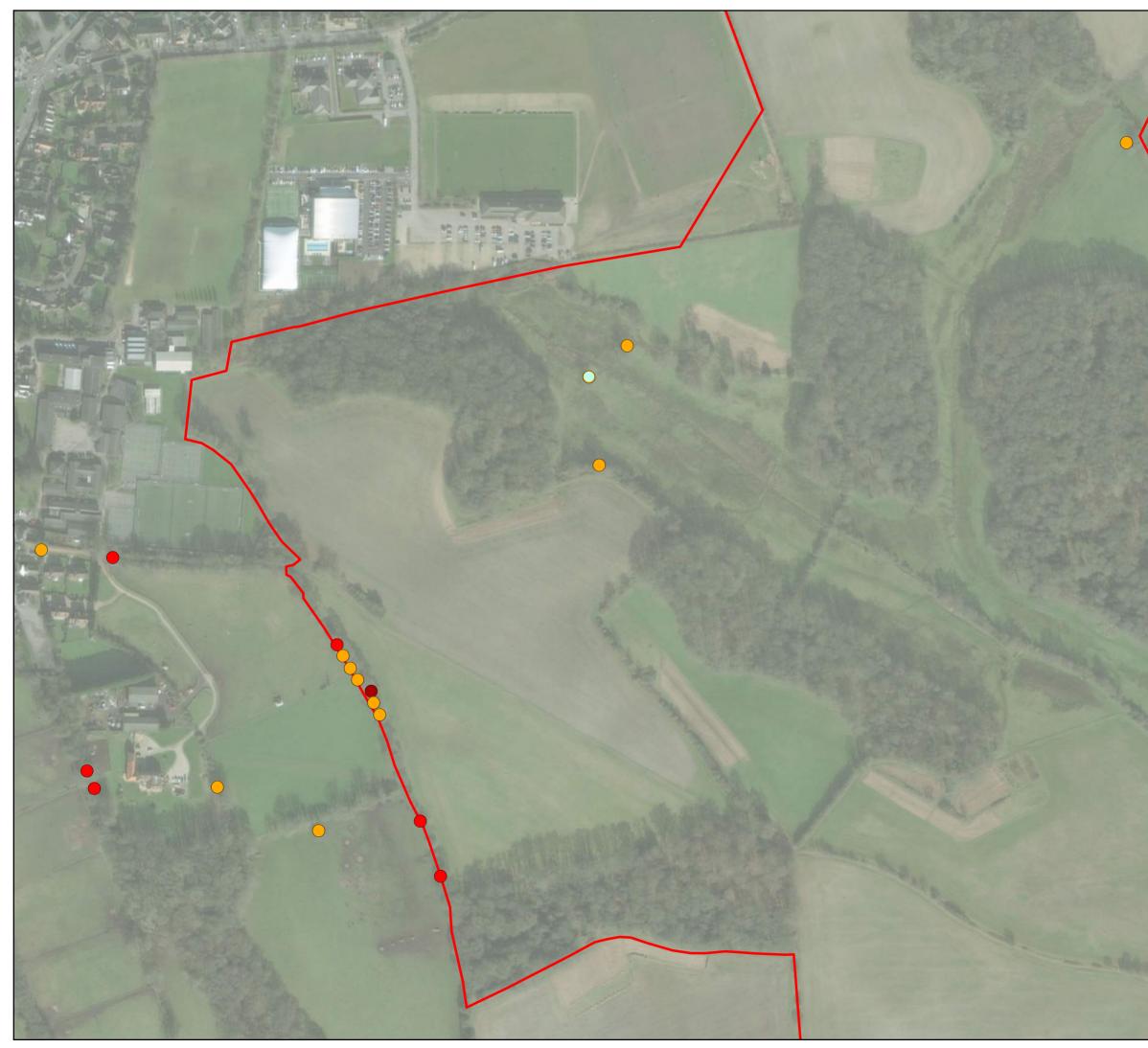


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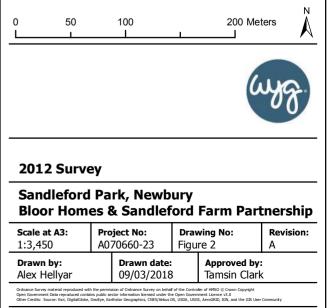
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Rev A

Tree with bat potential

- High
 Moderate
 Low
 Negligible
 Confirmed Roost
 - SiteBoundary

Basemap provded by Bloor Homes, drawing title SOxxx-SL-301 (Merged Masterplan Layouts 1-2000) - DL.jpg





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Notes Initial map production

Legend

Tree with bat potential

- **High**
- Moderate
- Low
- Negligible
- Building
 - SiteBoundary

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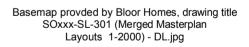
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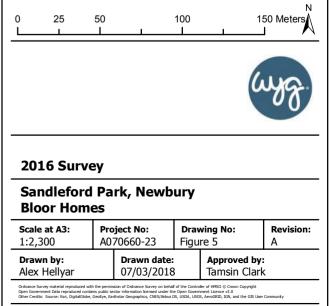
Tree with bat potential

Moderate



→ Bat Emergence







Legend

- Site Boundary
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- Trees of interest
- Common Pipistrelle emergence or return
- ------> Unidentified bat emergence or return

Label colours identify date of survey

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Appendix A – Native/Wildlife Friendly Plant Species

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Aim at having flowers in bloom through the year, including both annuals and herbaceous perennials. Below are some suggestions, but this is by no means an exhaustive list. See what grows well in YOUR garden, and what seems most attractive to insects. Flowering times are approximate, varying in different areas. Regular dead-heading extends flowering period in many flowers. A=annual, HA=hardy annual, HHA=hardy annual, P=perennial, W=wild flower, ary officinalis

	, I PULLING, W WILL	INMAI,			¢.		1
Flowers for borders	1135			Rosemary	Rosemary officinalis	alis	March - N
St John's Wort	Hypericum	٩.	March-	Lemon balm	Melissa officinalis		
marigolds	Calendula	H/A	March - Oct.	Coriander	Coprianrum sativum	un	June - Au
aubretia	a. delitoidea	٩	March-June	Lavenders	Lavendula sp.		
honesty	Lunaria rediva	HB	March	Marjoram	Origanum sp	to state and	
forget-me-not	Myosotis sp.	A/P	March - May	Trees, shrubs a	Frees, shrubs and climbers important to insects	ant to insects	
elephant ears	Bergenia	٩	April	Oak	Quercus sp.	large gardens only	s only
Waliflowers	Erysimum	8	April - June	Silver birch	Betula pendula	- 32	
Cranesbills	Geranium sp	٩	May - Sept.	Common alder	Alnus glutinosa	Suitable for coppicing	oppicing
Yarrow	Achillea	٩	May -	Hazel	Corylus avellana	Suitable for coppicing	oppicing
Poppies	Papaver sp.	A	May - July	Elder	Sambucus nigra	Small	
Dames violet	Hesperis matronalis	٩	May - August	Pussy willow	Salix caprea	Suitable for coppicing	oppicing
Red Valerian	Centranthus ruber	٩	May - Sept.	Hawthorn	Crataegus monogyna	Suitable for coppicing	oppicing
Poached egg plant	Limnanthes	HA	June – Aug.	Honeysuckle	Lonicera sp.	grow a variety for succes	/ for succes
Knapweed	Centaurea nigra	٩	June- Sept.	Dog rose	Rose canina	Climber	
Phacelia	- 23	HA	June – Sept.	Bramble	Rubus fruticosus	Climber	
Ox-eye daisy	Leucanthemum vulgare	٩	June – Aug.	lvy	hedera helix	Climber	
Evening primrose	Oenathera biennis	ю	June-Sept.	Buddleia	Buddleia davidii	shrub	
Candytuft	Iberis umbellata	HA	June – Sept.	Guelder rose	Vibernum opulus	shrub	
Sweet William	Dianthus barbatus	8	June - July	Gorse	Ulex sp.	shrub	
Blanket flowers	Gailfardia	Р	June -	Plants for pond	Plants for pond edges and marshy areas	areas	G
Verbena	V.bonariensis	HHA	June – Oct.	Purple loosestrife	Lythrum salicaria	W	June – Aug
Scabious	knautia arvensis	٩.	July-Aug.	Meadow sweet	Filipendula ulmaria	W	June – Sep
Night-scented stock	mattiola bicomia	HA	July-Aug	Ladv's smock	Cardamine pratensis	W	April - June
Pincushion flower	Scebious sp.	A/P	July – Sept.	Water mint	mentha aquatica	W	July - Sept
Cherry pie	heliotrope	HHA	July – Oct.	Angelica	Angeliica sylvestris	W	July - Sept
Mexican aster	Cosmos sp.	A/P	July – Oct.	Hemp agrimony	Eupatorium cannabinum	W	July - Sept
Cone flower	Rudbeckia sp.	A/P	August-Nov.	Marsh marigold	Celtha palustris	W	March - M
Mallow	lavatera sp.	Ъ	August-Oct.	Creeping Jenny	Lysimachia nummularia	W	May - Augi
Michaelmas daisy	Aster sp.	Р	August-Sept.	Fringed water lily	Nymphoides peltata	W	June – Sep
Ice plant 'Pink lady'	Sedum spectabile	٩	Sept.	Water forget-me-	Myosotis scorpioides	W	June – Sep
Herbs – both leave	Herbs – both leaves and flowers are fragrant	rant		not		1	
Fennel	Foeniculum vulgare		July – Sept.				
Bergamot	Monarda didyma		June - Sept	Allow part of your	Allow part of your lawn to grow long in summer and cut in autumn,	immer and cut it	n autumn,
Sweet Cicely	Myrrhis odorata		April - June	removing the clipp	removing the clippings. Avoid using fertilizers.	zers.	
Hyssop	Hyssopus officianlis		July - Sept	Compost heaps at	Compost heaps are good producers of insects too.	sects too.	
Feverfew	Tanacetum parthenium		June – Sept.	100			
Borage	Borago officinalis		May - Sept.	5	Add a seal	Add a seat to watch your garden com	garden com
201 B11 D100 D10 D100 D100 D100 D100 D100				T			

Add a seat to watch your garden come to life!

March - May May - August June – Sept. June – Sept.

July – Sept. July – Sept July – Sept. April - June

June – Aug. June – Sept.

grow a variety for succession

June - August March - May





Appendix B – Bat Boxes, Bricks and Tubes



BAT BOXES FOR TREES



Woodcrete boxes have the highest rates of occupation of all box types. The 75% wood sawdust, concrete and clay mixture allows natural respiration, stable temperature, and durability. They are long lasting (approx. 25 years) and are rotand predator-proof. Hang from a tree branch near the trunk, or fix to a trunk with the supplied 'tree-friendly' aluminium nail. This box is attractive to the smaller British bats.

Material: Woodcrete (75% wood sawdust, concrete and clay mixture) **Diameter:** 16cm

Height: 33cm

Weight: 4kg

HIBERNATION BOX FOR CREVICE DWELLING SPECIES



This box is designed to provide a protected environment, particularly through the cold winter months when bats hibernate. It has three internal wooden panels imitating crevices.

Schwegler woodcrete boxes have the highest rates of occupation of all box types. The 75% wood sawdust, concrete and clay mixture allows natural respiration, stable temperature, and durability. They are extremely long lasting and rot- and predator-proof.

This very heavy box (30kg) is supplied complete with special fixing brackets. It is important to fit it very securely if mounting above the ground, and to site it well away from public areas.



BAT BOXES FOR BUILDINGS

Bat access and roost bricks



Marshall's Bat Access Brick, which is now also evailable in stane

A Bat Brick should ideally he placed as high as possible, or the gable apex or close to the solfit.