A Bat Assessment of Blessington, County Wicklow Site Including A visual Assessment, a Bat Activity Survey and Desktop Survey for previous Records

Brian Keeley B.Sc.(Hons) in Zool.

Wildlife Surveys Ireland

October 2024

Introduction

Bats are a widespread element of the Irish fauna. They are known to occur from much of the rural landscape, but they are also present within the urban environment and here they occupy buildings and occasionally trees for short or long periods. Houses and other buildings are a vital element of the annual cycle of all Irish bat species and at no time more so than the period May to August, but many bats may also avail of buildings as hibernation sites. Summer is the easiest time to identify the presence of bats due to the often-increased numbers present, the high level of activity and the milder, drier weather allowing bat signs to accumulate.

The presence of bats in winter may be impossible to determine in many buildings unless there is adequate access to confirm either signs of bat usage or the presence of the bats themselves. Signs may still be available to confirm this at a later stage in the year if the roost area is accessible to a trained observer.

Changes to a site including demolition, extension to or modification of existing buildings as well as new construction may remove or modify bat roosting sites and may also affect their feeding and commuting activity.

Bats are protected by Irish and EU law and to prevent unlawful injury or death, it is essential that a full understanding of the site is available in advance to protect the resident bats from unintentional harm and to create a pathway by which a legal derogation and exemption may be designed in consultation with the National Parks and Wildlife Service of the Department of Housing, Local Government & Heritage.

The site behind the Main Street, Blessington is a field surrounded by housing and retail. The proposed development would see modification to the existing lands and the construction of new buildings and vegetation changes as well as the removal of a single oak tree. This assessment will address the potential for bat roosting within the site and neighbouring lands and the level of bat feeding and commuting within the site and around the surrounding vegetation within which the project is proposed.

Based on Bat Conservation Ireland and NPWS data, the bat fauna in the area includes common and soprano pipistrelle, Leisler's bat, Daubenton's bat, Natterer's bat, Whiskered bat and brown long-eared bat. The first record for Wicklow (and one of the first for Ireland) of Nathusius' pipistrelle was close to Blessington and the only Brandt's bat record that is fully confirmed was from Glendalough. A Whiskered bat was found in the pharmacy on the Main Street of Blessington and confirmed by NPWS (*pers. comm* Enda Mullen NPWS East Coast Senior Ecologist, retired) and whiskered bats were noted by Wildlife Surveys Ireland in a survey close to the Main Street in 2019.

Desktop Survey of the existing environment

Bat data from Wildlife Surveys Ireland in Blessington from previous surveys

Roosting species (2019 and 2020 surveys)

Soprano Pipistrelle	*Pipistrellus pygmaeus*
Brown long-eared bat	*Plecotus auritus*
Whiskered bat	*Myotis mystacinus*

Species of bat feeding and commuting

Soprano Pipistrelle	*Pipistrellus pygmaeus*
Common Pipistrelle	*Pipistrellus pipistrellus*
Leisler's bat	*Nyctalus leisleri*
Brown long-eared bat	*Plecotus auritus*
Whiskered bat	*Myotis mystacinus*

Bat Conservation Ireland data: results 31st July 2024 within 1 km of site

Search parameters: Roosts Transects Ad-hoc observation sites with observations of all species within 1000m of N9806214689			
Roosts			
Name	Grid reference	Species observed	
Blessington Rectory	N9814	Pipistrellus pygmaeus	
House, Naas Rd.	N9714	Pipistrellus pipistrellus	
Joyce Residence	N9814	Pipistrellus spp. (45kHz/55kHz)	
Santry Hill	N9815	Pipistrellus pipistrellus	
Transects			
Name	Grid reference start	Species observed	
Ad-hoc observations			
Survey	Grid reference	Date	Species observed
BATLAS 2020	N9814	19/07/2016	Pipistrellus pipistrellus

Thanks to Bat Conservation Ireland for their data .All data from this report will be placed on their database.

Distribution data

See Appendix II for bat data within 10km of the site

Habitat Classification (Fossitt 2000)

WL2 (Treelines) semi- mature and mature trees, WL1 (Hedgerow), GAI (Grassland)

Date of survey: 9th to 10th July 2024 bat activity survey and 29th August 2024 tree evaluation and static detector monitoring up to 6th September 2024.

Temperature and weather conditions : 13º Celsius. Very light Rain for long periods. Light breeze. Bat activity was recorded throughout the survey and the rain did not prevent bat activity. .

Lux levels No direct illumination of the site

Sunrise/ Sunset 05.12 hours / 21.50 hours

Complexity of lands and ability to cover ground during surveys

–All areas were accessible.

Methodology

Nighttime assessment – Emergence and re-entry assessment

Surveys are designed with reference to the recognised documents below:

- Heritage Council's Bat Survey Guidelines for the Traditional Farm Buildings Scheme
- National Parks and Wildlife's Bat Mitigation Guidelines for Ireland
- Bat Surveys: Surveying Buildings (Including Bat Identification) Developed on behalf of the Bat Conservation Trust
- English Nature's Bat Mitigation Guidelines
- - Bat surveys for Professional Ecologists - good practice guidelines; fourth edition (2023); Bat Conservation Trust; London.
- - A conservation plan for Irish Vesper Bats , Irish Wildlife Manual No. 20; National Parks and Wildlife Service; Department of Environment, Heritage and Local Government. - The status of E.C. Protected Habitats and Species in Ireland - Conservation status in Ireland of habitats and species listed in the European Council directories on Conservation of Habitats; Flora and Fauna 92/43/EFC. (Department of Environment, Heritage and Local Government) –
- Bat Mitigation Guidelines for Ireland (Irish Wildlife Manual no.25) Department of Environment, Heritage and Local Government.

Surveying was undertaken by 2 bat surveyors availing of a Batlogger M2 handheld bat detector an Echometer Touch 2 Pro handheld bat detector (smartphone attachment) and a static Songmeter Mini Bat placed close to the vegetation at the northwestern edge of the site.

Surveying commenced prior to sunset and continued for 1 hour 45 minutes. Surveying re-commenced 1.5 hours prior to sunrise and continued up to sunrise.

Survey constraints

(1) Mobility of bats – Bat species are mobile and can move from roost to roost, depending on roost availability, feeding availability and weather conditions. They may move to roosts which have not been identified in this report in order to hibernate or create mating or feeding perches. A bat survey is a snapshot of bat activity over the survey time.

(2) Identification of bats- It can be difficult to differentiate *Myotis* species. For this reason, where signals are in any doubt, they will be attributed to *Myotis* genus in this report and not to a definite species. Brown long eared bats are very quiet, and their presence can be overlooked in bat surveys as they may not register on bat detectors.

(3) Timing of survey. Bat surveys generally take place when the bats are active – May – September. A bat survey which takes place outside these dates may miss roosting activity. There were 2 seasons of survey undertaken within the site which is comprised of 2 visual assessments (July and August), a bat activity survey carried out by two surveyors in July and two surveys using static monitors in July and again in August / September.

(4) Weather. While every effort is made to avoid inclement conditions that may affect bat activity, local weather conditions may differ from the overall forecast conditions. There was a light rain for periods of the survey date which may have reduced bat activity. This may affect Leisler's bat activity in particular as this species reacts to colder conditions and rain. However, in this assessment, Leisler's bats were noted throughout the survey period.

Preliminary Ecological Appraisal

Daytime Assessment/ Preliminary Roost Appraisal

(1) Description of each building numbered with photos, and description of roof type (none within his site)
(2) Description of trees with PBR values – Ground level tree assessment

Tree Bat Roost Category Classification System (Collins, 2016).

Tree Category

Description 1 Trees with multiple, highly suitable features (Potential Roosting Features = PRFs) capable of supporting larger roosts.

Description 2 Trees with definite bat potential but supporting features (PRFs) suitable for use by individual bats;

Description 3 Trees have no obvious potential although the tree is of a size and age that elevated surveys may result in cracks or crevices being found or the tree supports some features (PRFs) which may have limited potential to support bats;

Description 4 Trees have no potential.

Results

Bat Roosts within the site None

(1) Description of each building numbered with photos, and description of roof type. There are no buildings within this site. The nearest buildings are the “Cocoon Childcare” premises on the eastern perimeter of the site. To the northeast, there is the small housing estate of “Hazelbrook” while to the northwest, there is the very new “Sorrel Wood” estate. The latter is separated by a public road (Oak Drive) from the site while the former shares a hedgerow and treeline with the site.

(2) Description of trees with PBR values – Ground level tree assessment

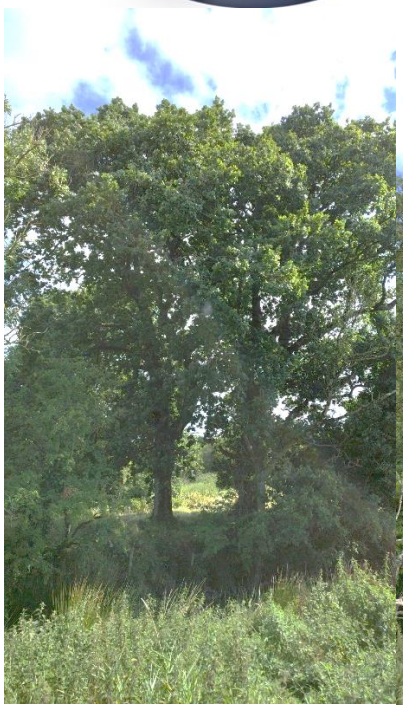
A further evaluation of the trees was undertaken on 29th August 2024 and the following was the determination of potential roosts within or immediately adjoining the site based on the two visits.

Oak tree within the site with highly suitable roost features

Trees in north-western corner (Description 2 trees)

Tree along the northern perimeter (Description 4 trees)

Site with high bat feeding potential and with tree roost potential northwest of the site



2 trees Description 3,

Trees Description 3 to 4,

Trees meeting Description 4

There are limited opportunities for roosting within the site. There are trees at the northwestern edge of the site and a free-standing oak tree south of the centre point of the site, none of which were used by bats during this assessment. Based upon a visual assessment of these trees in July and August, the oak tree is considered a transition point between a Description 1 and Description 2 tree (as it is in an isolated area of the field, is not especially tall but has several roost-supporting features). The trees at the northwestern corner of the site offer some roost potential (approaching Description 2 but best described as Description 3) while the remaining trees along the northern perimeter are Description 4 trees (no bat roost potential).

Tree with the highest roost potential – Description 2 (approximate location of the static monitor in late August to September 2024)

Roosts close to the site	*Nyctalus leisleri*	Leisler's bat

In combination with the Bat Activity Survey, it can be stated that there were no bat roosts within the site on July 9th to 10th 2024 (see below). Furthermore, the visual evaluation and static monitor evaluation of August / September 2024 provided a similar conclusion; there were no bat roosts in this period (August to September).

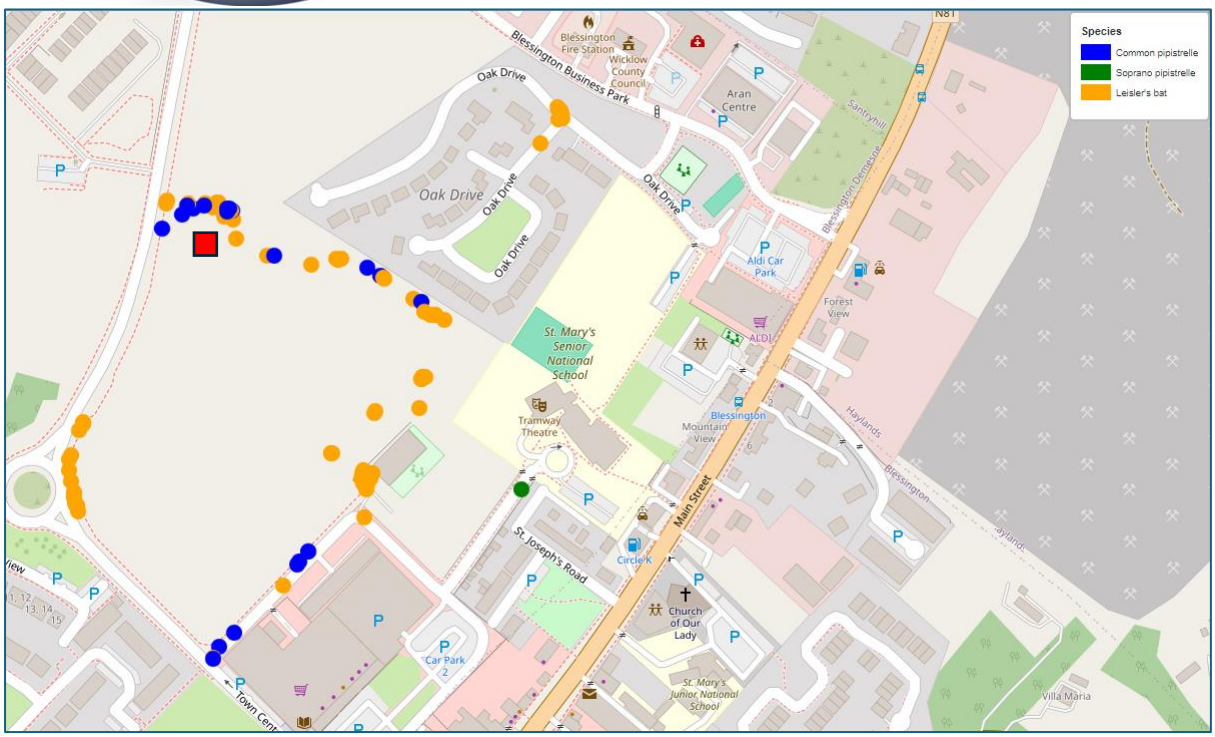
Bat activity survey

Bat activity within the site	*Nyctalus leisleri*	Leisler's bat
	Pipistrellus pipistrellus	Common pipistrelle
	Pipistrellus pygmaeus	Soprano pipistrelle

Bat activity commenced with bats moving south at sunset and ended with bats moving north prior to sunrise. Pipistrelles were noted to commence activity in the northern area at 22.09 hours by the surveyors. A very low number of pipistrelle passes were noted prior to sunrise, and this may have been due to the light rain reducing feeding availability. On the other hand, Leisler's bats were present after sunset and throughout the survey, only finally disappearing after 05.02 hours (10 minutes before sunrise). The last bat was noted within the housing estate to the north (Oak Drive). It is highly probable that this species is roosting within a house in this estate. Leisler's bat activity was sustained in the area in front of the school and childcare centre. Leisler's bat activity was also noted around the street lights.

Most or all other bat activity was common pipistrelle. This was mainly at the trees along the northern perimeter. A possible soprano pipistrelle was noted close to the Tramway Theatre. The overnight static monitor provided no additional species. However, the static monitor installed in August and September provided at least one additional species and potentially two; Daubenton's bat (*Myotis daubentonii* and possibly also Natterer's bat (*Myotis nattereri*).

Bat activity within the site is depicted in the following images and tables based on the active survey and the use of static monitors in July and August / September 2024.



Bat activity plotted from the recordings made from the 2 surveyors bat detectors July 9th to 10th 2024. The red box is the location of the Songmeter Mini bat (the data for this is below)

Bat data from static monitor within site at Blessington July 9th to 10th 2024

	Bat passes per hour				
Species	**4**	**21**	**22**	**23**	**Grand Total**
Leisler's bat	4	1	8	2	15
Common pipistrelle		1	25		26
Grand Total	**4**	**2**	**33**	**2**	**41**

Bat data surveyor 1 within / around the site at Blessington July 9th to 10th 2024

	Bat passes per hour				
Species	**4**	**5**	**22**	**23**	**Grand Total**
Leisler's bat	76	2	49	1	128
Common pipistrelle	2		12		14
Grand Total	**78**	**2**	**61**	**1**	**142**

Bat data surveyor 2 within / around the site at Blessington July 9th to 10th 2024

	Bat passes per hour				
Species	**4**	**5**	**22**	**23**	**Grand Total**
Leisler's bat	62	1	10	2	75
Common pipistrelle	3	1	8	3	15
Grand Total	**65**	**2**	**18**	**5**	**90**

All bat data between 29th August and 6th September 2024 recorded by a static monitor at the northwestern corner of the site

Bat Species On Each	7	8	9	10	11	12	13	14	15	16	17	18	Grand
29/08/2024		**15**	**68**	**147**	**120**								**350**
Daubenton's Bat			2										2
Myotis					1								1
Noid		3	15	20	24								62
Leisler's Bat			14	116	87								217
Common Pipistrelle		12	37	11	4								64
Soprano Pipistrelle					4								4
30/08/2024		**5**	**219**	**191**	**270**	**87**	**64**	**47**	**2**	**3**	**2**	**2**	**892**
Daubenton's Bat			4	2			2						8
Noid		1	11	51	50	26	11	12		1		2	165
Leisler's Bat			9	77	113	52	47	28	2	2			330
Common Pipistrelle		4	135	52	95	2	3	1			2		294
Soprano Pipistrelle			60	9	12	7	1	6					95
31/08/2024		**10**	**184**	**166**	**251**	**176**	**208**	**121**	**53**	**49**	**22**		**1240**
Daubenton's Bat			7	5	1								13
Noid			14	51	23	32	36	17	15	8	5		201
Leisler's Bat		3	52	60	75	81	132	99	34	35	8		579
Common Pipistrelle		7	107	45	139	60	13		4	6	8		389
Soprano Pipistrelle			4	5	13	3	27	5			1		58
01/09/2024	**1**	**45**	**201**	**227**	**223**	**185**	**301**	**163**	**115**	**97**	**50**		**1608**
Daubenton's Bat								1	1				2
Noid			10	6			22	3		1			42
Leisler's Bat	1	2	103	184	196	51	59	66	52	40	27		781
Common Pipistrelle		43	36	33	8	134	220	93	61	55	23		706
Soprano Pipistrelle			52	4	19				1	1			77
02/09/2024						**192**	**224**	**167**	**34**	**63**	**24**	**2**	**706**
Daubenton's Bat										1			1

Noid						19	13	5	16	7	1		61
Leisler's Bat						156	202	127	14	51	20	2	572
Common Pipistrelle						14	6	13	2	2	3		40
Soprano Pipistrelle						3	3	22	2	2			32
03/09/2024			**89**	**90**	**166**								**345**
Daubenton's Bat				4									4
Noid			2		15								17
Leisler's Bat			65	57	130								252
Common Pipistrelle			20	18	10								48
Soprano Pipistrelle			2	11	11								24
04/09/2024		**5**	**17**			**141**	**78**	**19**	**52**	**23**	**6**	**2**	**343**
Daubenton's Bat			2			2					1		5
Noid							1					2	3
Leisler's Bat		2	5			90	7			2			106
Common Pipistrelle		1	6			24	69	19	44	14			177
Soprano Pipistrelle		2	4			25	1		8	7	5		52
05/09/2024		**166**	**297**	**222**	**259**								**944**
Myotis				1	1								2
Noid		2		3	4								9
Leisler's Bat				2	25								27
Common Pipistrelle		69	172	161	161								563
Soprano Pipistrelle		95	125	55	68								343
06/09/2024		**47**	**115**	**85**		**260**	**316**	**398**	**146**				**1367**
Myotis			1										1
Noid		1	1			1	2						5
Leisler's Bat		16	65	25		29	13	2					150
Common Pipistrelle		28	44	49		186	238	274	49				868
Soprano Pipistrelle		2	4	11		44	63	122	97				343
Grand Total	**1**	**293**	**1190**	**1128**	**1289**	**1041**	**1191**	**915**	**402**	**235**	**104**	**6**	**7795**

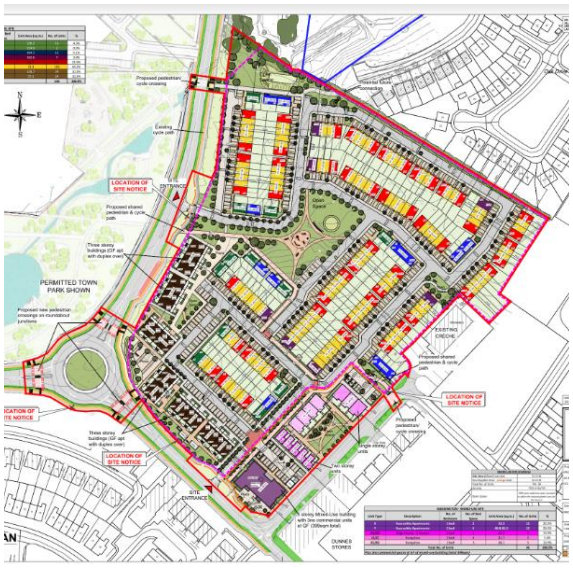
Focus on 3 nights' activity for which all signals were analysed (including all signals not identified to species level by Kaleidoscope Pro)

	Bats In Each Hour										
Bat Species On Each Date	**8**	**9**	**10**	**11**	**12**	**01**	**02**	**03**	**04**	**05**	**Grand Total**
29/08/2024	***13***	***64***	***147***	***118***							***342***
Daubenton's Bat		1									1
Myotis		2	1								3
Leisler's Bat		14	127	99							240
Common Pipistrelle	13	43	12	6							74
Common Pipistrelle Leisler's Bat		1	1	3							5
Soprano Pipistrelle		3	5	8							16
Soprano Pipistrelle Leisler's Bat			1	2							3
30/08/2024	***5***	***221***	***177***	***219***	***84***	***64***	***45***	***2***	***3***	***2***	***822***
Daubenton's Bat						2					2
Myotis		3	1			2					6
Leisler's Bat		10	87	124	61	50	31	2	2		367
Common Pipistrelle	4	140	66	54	2	4	1		1	2	274
Common Pipistrelle Myotis Leisler's Bat			1								1
Common Pipistrelle Leisler's Bat		1	7	1	1						10
Common Pipistrelle Soprano Pipistrelle Leisler's Bat		1	1								2
Soprano Pipistrelle	1	66	13	34	18	6	13				151
Soprano Pipistrelle Leisler's Bat			1	6	2						9
31/08/2024					***63***						***63***
Leisler's Bat					24						24
Common Pipistrelle					34						34
Common Pipistrelle Soprano Pipistrelle Leisler's Bat					1						1
Soprano Pipistrelle					3						3
Soprano Pipistrelle Leisler's Bat					1						1
Grand Total	**18**	**285**	**324**	**337**	**147**	**64**	**45**	**2**	**3**	**2**	**1227**

Description of proposed project

Marshall Yards Development Company Ltd intend to apply for permission for a Large-Scale Residential Development at this site of 6.05 hectares at Blessington Demesne, Blessington, Co. Wicklow. The site is generally bound to the north-east by undeveloped land and Oak Drive; to the south-east by Saint Mary's Senior National School, Cocoon Childcare and Newtown Centre (across a local street); to the south-west by Downshire Park (across a local street); and to the north-west by the Blessington Inner Relief Road. The proposed development principally comprises the construction of a mixed-use development with a gross floor area of 23,219.1 square metres and ranging in height from 1 No. to 5 No. storeys that includes: 233 No. residential dwellings (24 No. 1-bed, 103 No. 2-bed, 94 No. 3-bed and 12 No. 4-bed), of which 185 No. are houses (103 No. 2-bed, 70 No. 3-bed and 12 No. 4-bed) and 48 No. are apartments/duplexes (24 No. 1-bed and 24 No. 3-bed); 36 No. 'later living' dwellings (12 No. 1-bed and 24 No. 2-bed), of which 12 No. are houses (all 2-bed) and 24 No. are apartments (12 No. 1-bed and 12 No. 2-bed); a medical centre (224 sq m); a pharmacy (115 sq m); and a café (60 sq m).

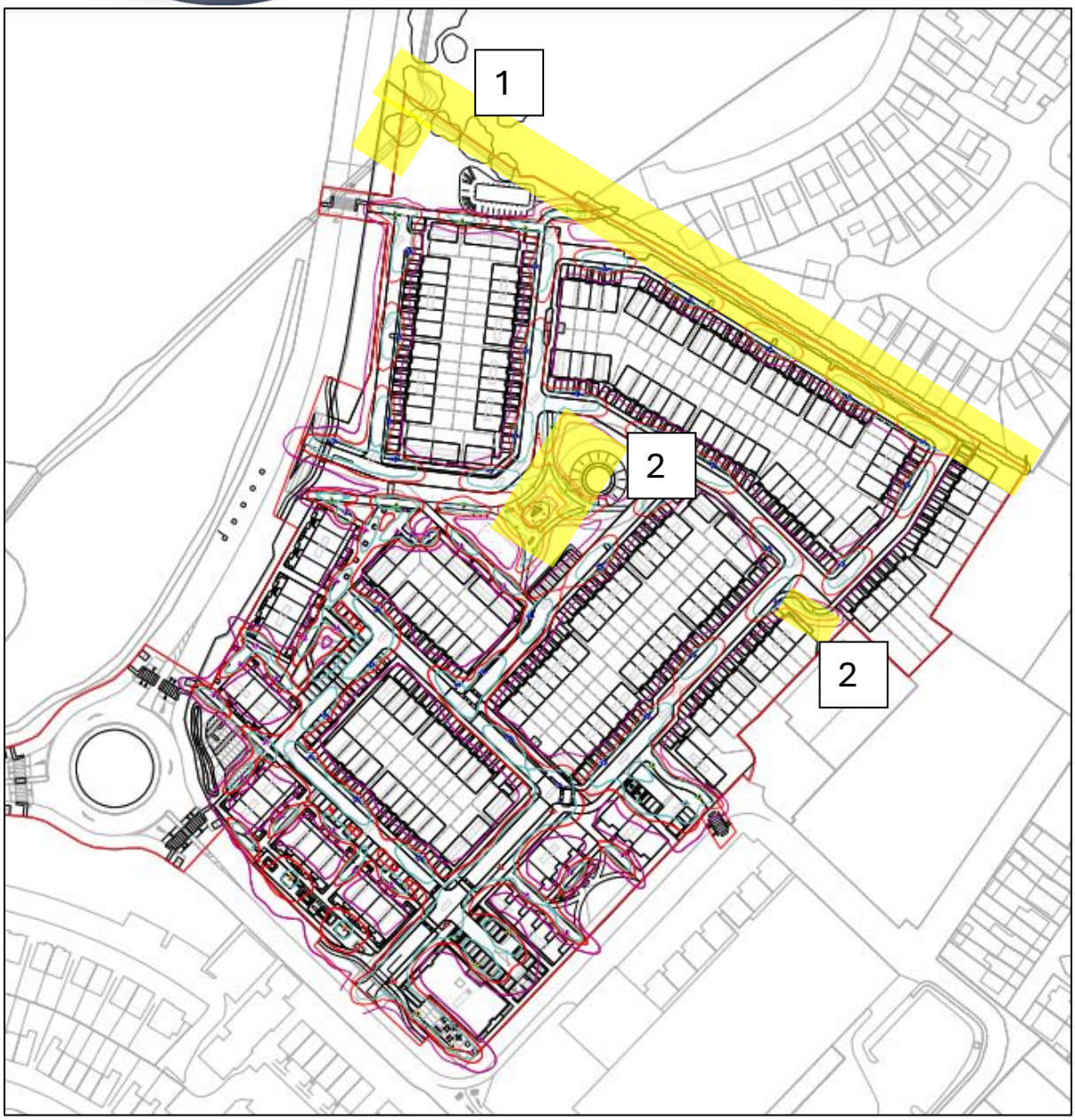
The development also comprises: 2 No. multi-modal entrances/exits with junctions at Blessington Inner Relief Road to the north-west and the local street to the south-west; a new pedestrian/cycle crossing to the south-east at the local street; upgrades to the Blessington Inner Relief Road roundabout to the west, including pedestrian/cycle crossings; new pedestrian/cycle crossing at Blessington Inner Relief Road to the north-west; 341 No. car parking space; cycle parking; hard and soft landscaping including public open space, communal amenity space and private amenity space (as gardens, balconies and terraces facing all directions); boundary treatments; 3 No. sub-stations; bin stores; public lighting; PV arrays atop all dwellings; PV array, lift overrun and plant atop the 5-storey mixed-use building; and all associated works above and below ground.



Existing aerial view of the site **Proposed Site Plan**

Open Space Allocation for the Proposed Development

The Open Space Allocation accounts for 15% of the Developable area of the site which will host 233 units. There is a number of green areas proposed. The best opportunities for bats include a Public Open Space incorporating the SUDS features, a local plaza and a “Pocket Park”



Areas where light control is most important in order of priority with 1. Being the most critical. The hedgerow and trees provide a connection with previous bat activity within the site. The small area at the childcare centre is where bat activity was high during the July 2024 survey while the large open space may offer future foraging areas for bats. 1 is a Public Open Space incorporating the SUDS features, 2 is a "Pocket Park" and a local plaza.

Predicted Impacts Before Mitigation

(1) Loss of feeding and commuting habitat. There will be a moderate long term negative impact on local bat populations due to lost feeding and commuting opportunities. Without mitigation and under the effects of lighting, the loss of the northern trees and scrub will have the greatest impact, but loss of scrub and pasture will also affect species such as Leisler's bat feeding within the site.

(2) Loss of roosting habitat – There will be a low risk of a mild long term negative effect on roosting bats from the loss of the oak tree and impacts from lighting (in the absence of mitigation). As the oak tree has not been identified as a bat roost from this assessment, this remains a potential rather than known risk.

(3) Light Pollution - There will be increased light pollution from the overspill of domestic lighting, street lighting and security lighting. In the absence of mitigation, there will be a mild negative long term to permanent negative impact on individual bats.

Mitigation and Habitat Enhancement Measures

Tree Felling

The oak tree shall be assessed by a bat specialist prior to felling. A bat activity survey may allow assessment of the tree in advance of felling to provide further protection to bats. The tree may also be assessed by means of a MEWP (hoist, cherry picker etc.) and given its size, this could be comprehensive. Felling in September or October would ensure that no breeding bats are present, and bats are not in hibernation as well as avoiding nesting birds.

Bat boxes

6 x Schwegler 2F bat boxes shall be erected on remaining mature trees or, where this is not possible, on buildings or walls that will not be illuminated.

Lighting

Lighting shall be controlled to avoid light pollution of green areas and shall be targeted to areas of human activity and for priority security areas. Motion-activated sensor lighting is preferable to reduce light pollution.

- None of the remaining mature trees shall be illuminated and any trees that are planted shall not be directly illuminated.

- Dark corridor for movement of bats through the site. Lighting should be directed downwards away from the treetops. The northern area must remain unlit. Areas such as the SUDS area, the Pocket Park and the local plaza must retain light levels of less than 3 lux and ideally approaching 0 lux.

- All lights shall lack UV elements when manufactured and shall be LED.
- A warm white spectrum (ideally <2700 Kelvin but as low as the Council limitations allow) shall be adopted to reduce blue light component.
- Lights shall feature peak wavelengths higher than 550 nm.
- Where lighting is required for pedestrians, bollard lighting shall be used.

Planting

Planting should include species that enhance nocturnal insect diversity including plants such as honeysuckle, night scented stock, *Nicotiana.* Mixes such as hawthorn, hazel and willow all benefit insects and therefore, bats.

Predicted Impacts After Mitigation

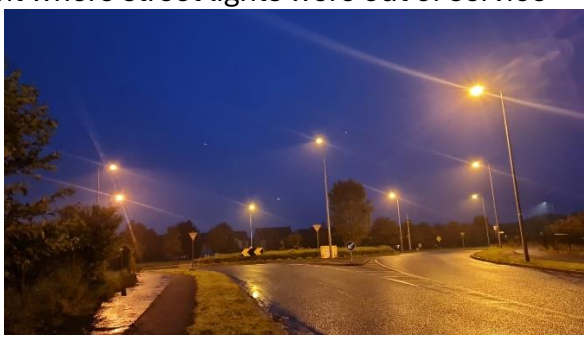
Given the loss of green cover within the site, there will be a loss of feeding and potentially roosting opportunities within trees. There may be increased roost potential within houses. While planting may offer future feeding opportunities, the increased concrete area will reduce insect availability. The retention of mature trees and the northern hedgerow will provide continued feeding areas for bats. Light control within the areas listed

APPENDIX I


Area within which Leisler's bat activity was relatively high



Common pipistrelle activity along pavement where street lights were out of service



Leisler's bat activity was noted at these lights as well as over dark areas of scrub and pasture

APPENDIX II

Bat Conservation Ireland data: results 31st July 2024 within 10 km of site

Search parameters: Roosts Transects Ad-hoc observation sites with observations of all species within 10000m of N9806214689			
Roosts			
Name	Grid reference	Species observed	
12KENS1T	N8919		
3 Castles	O0116	Pipistrellus pygmaeus	
Blackrock, Blessington	O0113	Pipistrellus pygmaeus	
Blessington Rectory	N9814	Pipistrellus pygmaeus	
Broadleas	N9308	Unidentified bat	
Gleeson Residence Kilteel	N9921	Pipistrellus spp. (45kHz/55kHz)	
House roost, Tinode	O0119	Pipistrellus pygmaeus	
House, Naas Rd. Blessington	N9714	Pipistrellus pipistrellus (45kHz)	
Joyce Residence	N9814	Pipistrellus spp. (45kHz/55kHz)	
King Residence	N9721	Unidentified bat	
Newtown Great Quarry Buildings	N9415	Unidentified bat	
Palmerstown House, Palmerstown Demesne	N9222	Pipistrellus spp. (45kHz/55kHz)	
Private Residence, Tobermaclugg Lane, Lucan, Co. Dublin	O0124	Nyctalus leisleri, Pipistrellus pipistrellus (45kHz)	
Santry Hill	N9815	Pipistrellus pipistrellus (45kHz)	
St John the Baptist Cloghleagh	O0416	Pipistrellus spp. (45kHz/55kHz),Plecotus auritus	
Stable buildings, Palmerstown Demesne, Naas,	N9122	Plecotus auritus	
The Heathers	N9713		

The Old Road	O0007	Plecotus auritus	
The Tramway	N9408	Unidentified bat	
Transects			
Name	Grid reference start	Species observed	
Ballymore Eustace Bridge Transect	N9209	Myotis daubentonii, Unidentified bat, Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus	
Naas Golf Club	N9023	Unidentified bat, Myotis daubentonii	
Oberstown M7 Bridge Transect	N8821	Myotis daubentonii;Unidentified bat	
Sallins Village Transect	N8922	Unidentified bat, Myotis daubentonii	
Transect 1: Ballinascorney	O0719	Pipistrellus pygmaeus, Pipistrellus pipistrellus (45kHz)	
Transect 2: Ballinascorney	O0619	Pipistrellus pipistrellus (45kHz),Nyctalus leisleri	
Transect 3: Ballinascorney	O0721	Unidentified bat, Nyctalus leisleri, Pipistrellus pipistrellus (45kHz),Myotis spp.,Pipistrellus pygmaeus, Plecotus auritus	
Transect 4: Ballinascorney	O0722	Pipistrellus pipistrellus (45kHz),Myotis spp.,Nyctalus leisleri, Pipistrellus spp. (45kHz/55kHz)	
Ad-hoc observations			
Survey	Grid reference	Date	Species observed
Bat Eco Services	N9221	26/09/2018	Myotis natterreri,Nyctalus leisleri, Pipistrellus pygmaeus, Pipistrellus pipistrellus (45kHz),Plecotus auritus
Bat Eco Services	N9823	29/05/2020	Nyctalus leisleri, Myotis daubentonii, Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Plecotus auritus
Bat Survey - Scott Cawley	N8822	11/06/2008	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Nyctalus leisleri
Bat Survey - Scott Cawley	O0720	19/06/2012	Nyctalus leisleri, Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Myotis spp.,Pipistrellus spp. (45kHz/55kHz)
Bat Surveys - Tina Aughney	O0420	14/09/2011	Myotis natterreri,Myotis daubentonii, Pipistrellus pygmaeus, Pipistrellus pipistrellus (45kHz),Nyctalus leisleri, Plecotus auritus
BATLAS 2010	O0514	04/09/2008	Myotis daubentonii
BATLAS 2010	N9914	30/08/2008	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Pipistrellus spp. (45kHz/55kHz),Nyctalus leisleri, Myotis daubentonii

BATLAS 2010	O0007	17/09/2008	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Myotis daubentonii
BATLAS 2020	N9408	13/06/2018	Pipistrellus pygmaeus
BATLAS 2020	N9509	13/06/2018	Pipistrellus pygmaeus, Myotis daubentonii
BATLAS 2020	N9509	12/06/2018	Pipistrellus pipistrellus (45kHz),Nyctalus leisleri
BATLAS 2020	N9209	13/06/2018	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Nyctalus leisleri, Myotis daubentonii
BATLAS 2020	N9312	20/07/2016	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Myotis mystacinus
BATLAS 2020	N9914	19/07/2016	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Nyctalus leisleri
BATLAS 2020	N9214	20/07/2016	Pipistrellus pipistrellus (45kHz)
BATLAS 2020	N9814	19/07/2016	Pipistrellus pipistrellus (45kHz)
BATLAS 2020	N9615	19/07/2016	
BATLAS 2020	N9217	20/07/2016	Pipistrellus pygmaeus
BATLAS 2020	N9518	19/07/2016	Pipistrellus pipistrellus (45kHz)
BATLAS 2020	N9319	19/07/2016	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Myotis spp.
BATLAS 2020	N9022	03/07/2018	
BATLAS 2020	O0007	30/05/2017	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Nyctalus leisleri, Myotis daubentonii
BATLAS 2020	O0208	30/05/2017	Pipistrellus pygmaeus, Nyctalus leisleri
BATLAS 2020	O0110	19/09/2015	Pipistrellus pygmaeus
BATLAS 2020	O0314	19/09/2015	Pipistrellus pipistrellus (45kHz),Nyctalus leisleri, Myotis mystacinus
BATLAS 2020	O0614	03/07/2015	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Nyctalus leisleri
BATLAS 2020	O0114	19/09/2015	Pipistrellus pygmaeus, Nyctalus leisleri, Myotis spp.
BATLAS 2020	O0514	17/09/2015	Pipistrellus pygmaeus, Myotis daubentonii
BATLAS 2020	O0515	18/09/2015	Pipistrellus pipistrellus (45kHz)
BATLAS 2020	O0216	30/07/2015	Pipistrellus pygmaeus, Nyctalus leisleri, Myotis daubentonii
BATLAS 2020	O0616	18/09/2015	Pipistrellus pipistrellus, Pipistrellus pygmaeus, Nyctalus leisleri
BATLAS 2020	O0416	17/09/2015	Pipistrellus pygmaeus, Nyctalus leisleri, Plecotus auritus
BATLAS 2020	O0617	18/08/2015	Pipistrellus pygmaeus, Myotis daubentonii

BATLAS 2020	O0218	17/09/2015	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Nyctalus leisleri, Myotis daubentonii, Myotis spp.,Myotis mystacinus
BATLAS 2020	O0622	06/07/2017	Pipistrellus pipistrellus, Nyctalus leisleri
BATLAS 2020	O0322	03/08/2017	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus
BATLAS 2020	O0223	03/08/2017	Pipistrellus pipistrellus (45kHz),Nyctalus leisleri
EIS and Road Surveys - Conor Kelleher	N8916	19/09/2005	Pipistrellus pygmaeus, Pipistrellus pipistrellus, Nyctalus leisleri, Plecotus auritus, Myotis nattereri, Myotis mystacinus/brandtii
EIS surveys - Brian Keeley	N9315	16/11/2007	Pipistrellus spp. (45kHz/55kHz)
Faith Wilson	N9122	2007-06-00	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus, Myotis daubentonii, Nyctalus leisleri, Myotis spp.
National Biodiversity Data Centre	N9119	22/05/2015	Pipistrellus pipistrellus (45kHz),Pipistrellus pygmaeus
National Biodiversity Data Centre	O0214	17/06/2015	Plecotus auritus
National Biodiversity Data Centre	N9816	27/06/2016	Nyctalus leisleri
Neighbourhood Bats 2022	N9220	16/08/2022	Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	17/08/2022	Nyctalus leisleri
Neighbourhood Bats 2022	N9220	18/08/2022	Nyctalus leisleri, Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	19/08/2022	Nyctalus leisleri, Pipistrellus spp. (45kHz/55kHz),Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	21/08/2022	Nyctalus leisleri, Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	22/08/2022	Nyctalus leisleri, Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	23/08/2022	Nyctalus leisleri, Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	24/08/2022	Nyctalus leisleri, Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	25/08/2022	Nyctalus leisleri, Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	26/08/2022	Nyctalus leisleri
Neighbourhood Bats 2022	N9220	27/08/2022	Nyctalus leisleri, Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	28/08/2022	Pipistrellus pipistrellus. Pipistrellus pygmaeus, Nyctalus leisleri
Neighbourhood Bats 2022	N9220	29/08/2022	Nyctalus leisleri, Pipistrellus pipistrellus

Neighbourhood Bats 2022	N9220	30/08/2022	Nyctalus leisleri, Pipistrellus pipistrellus, Pipistrellus pygmaeus
Neighbourhood Bats 2022	N9220	31/08/2022	Nyctalus leisleri, Pipistrellus pipistrellus, Pipistrellus pygmaeus
Neighbourhood Bats 2022	N9220	01/09/2022	Nyctalus leisleri, Pipistrellus pipistrellus, Pipistrellus pygmaeus
Neighbourhood Bats 2022	N9220	02/09/2022	Nyctalus leisleri, Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	03/09/2022	Nyctalus leisleri, Pipistrellus pipistrellus
Neighbourhood Bats 2022	N9220	04/09/2022	Pipistrellus pipistrellus (45kHz)
NPWS Calls	N9612	29/04/2008	Plecotus auritus

APPENDIX III

Legislation

Bats are protected under the 1996 Wildlife Act, the 2000 Wildlife (Amendment) Act, Stat Ist 94 of 1997, Stat Ist 378 of 2005, The Habitats Directive, The Bonn and Bern Convention, and the Euro bats agreement.

The European Community (Natural Habitats) Regulations S.I. No 94 of 1997 states:

23(1) The Minister shall take the requisite measures to establish a system of strict protection for the fauna consisting of the animal species set out in Part 1 of the First Schedule prohibiting –

a) All forms of deliberate capture or killing of specimens of those species in the wild.

1. The deterioration or destruction of breeding sites or resting places of those species.

The EU Habitats Directive

Article 12(1) of the 'Council Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora (Habitats Directive) states:

"Member States shall take the requisite measures to establish a system of strict protection for the animal species listed in Annex IV(a) and their natural range, prohibiting:

a) all forms of deliberate capture or killing of specimens of these species in the wild.

b) deliberate disturbance of these species, particularly during the period of breeding, rearing, hibernation, and migration.

c) deliberate destruction or taking of eggs from the wild.

d. deterioration or destruction of breeding sites or resting places."

The EU Habitats Directive (92/43/EEC) lists all Irish bat species in Annex IV and one Irish species, the lesser horseshoe bat (Rhinolophus hipposideros), in Annex II. Annex II includes animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation (SACs) because they are endangered, rare, vulnerable, or endemic. Annex IV includes various species that require strict protection. Article 11 of the Habitats Directive requires member states to monitor all species listed in the Habitats Directive and Article 17 requires States to report to the EU on the findings of monitoring schemes.

The Bern and Bonn Conventions

Ireland is also a signatory to a number of conservation agreements pertaining to bats such as the Bern and Bonn Conventions. The European Bats Agreement (EUROBATS) is an agreement under the Bonn Convention. Ireland and the UK are two of the 31 signatories. The Agreement has an Action Plan with priorities for implementation. Devising strategies for monitoring of populations of selected bat species in Europe is among the resolutions of EUROBATS.

1.3.1 The Bern Convention

Article 6 of the “Convention on the Conservation of European Wildlife and Natural Habitats’ (Bern Convention) reads:

“Each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the special protection of the wild fauna species specified in Appendix II. The following will in particular be prohibited for these species:

a) all forms of deliberate capture and keeping and deliberate killing.

b) the deliberate damage to or destruction of breeding or resting sites.

c) the deliberate disturbance of wild fauna, particularly during the period of breeding, rearing and hibernation, insofar as disturbance would be significant in relation to the objectives of this Convention; ...

Appendix II lists strictly protected fauna species and this list includes “Microchiroptera, all species except Pipistrellus pipistrelles”.

The EUROBATS Agreement

The ‘Agreement on the Conservation of Populations of European Bats’ (EUROBATS) was negotiated under the ‘Convention for the Conservation of Migratory Wild Species’ (Bonn Convention) and came into force in January 1994. The legal protection of bats and their habitats are given in Article III as fundamental obligations:

“1. Each Party shall prohibit the deliberate capture, keeping or killing of bats except under permit from its competent authority.

2. Each Party shall identify those sites within its own area of jurisdiction which are important for the conservation status, including for the shelter and protection, of bats. It shall, taking into account as necessary economic and social considerations, protect such sites from damage or disturbance. In addition, each Party shall endeavour to identify and protect important feeding areas for bats from damage or disturbance.”

The Agreement covers all European bat species.

APPENDIX IV

Bat Biology

Female bats gather in groups known as maternity roosts in summer to have their young. They generally have one baby each year, so are slow to reproduce, and disturbance of a maternity roost can be catastrophic.

In winter bats move to old stonework, trees, and caves to hibernate in addition to using all forms of buildings including modern houses. They are also found in modern buildings during building work or demolition. They are especially vulnerable here as they are slow to awaken, and if tree felling is carried out without checking for bats, they can easily be killed.

In the interim periods of spring and autumn, bats use roosts for short or long periods in small groups, large groups or individually. Mating occurs in summer and autumn and for some species, winter. Trees and buildings may serve as mating roosts. The spring gathering roost may comprise sub-groups of the summer maternity roosts as well as males and non-breeding females.