



Stage 2 Bat Survey – Caversham Court Gazebo

Client: Reading Borough Council

Contact: Christelle Beaupoux

Date: June 2026

Quality management

Author	Name	Toby Johnson BSc (Hons), MSc
	Title	Assistant Ecologist
	Signature	
Approver	Name	Claire Andrews BSc (Hons) MCIEEM
	Title	Director/Principal Ecologist
	Signature	
Issue Date		25 th June 2026
Version number		002
Revision notes		NA

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1 Summary

Proposal Outline	It is proposed to submit an application for planning permission and listed building consent to undertake a programme of conservation works to the Grade II listed Gazebo situated within Caversham Court Gardens.
Survey area and Zone of Influence	The building is a 17 th century, two storey gazebo with brick walls and clay roof tiles. A raised causeway accesses the first floor. The building is set in 1.3ha of public gardens. No trees or other structures will be affected.
Surveys Undertaken	A Stage 1 survey comprising a Preliminary Ecological Appraisal for bats and a Preliminary Roost Assessment was undertaken in March 2026. This was followed by Stage 2 surveys comprising dusk emergence surveys undertaken in May and June 2026.
Results	The desk study revealed that there are no designated sites within 2km for which bats are the primary reason for the designation. The building was determined to have moderate potential to support roosting and hibernating bats. No bats were seen to emerge from the building during the emergence survey.
Limitations	There were no limitations on the survey.
Evaluation	Surveys have confirmed the likely absence of summer roosting bats from the building however the presence of hibernating bats over winter has not been ruled out.
Potential Impacts	There are no predicted impacts of the proposed works on any summer roosts. If work were carried out during the winter months this could lead to killing and injury of any bats present. As a result of the proposals, a small number of potential roosting opportunities will be lost.
Recommendations	No further survey during the active season is required. Further survey during the winter months is not considered necessary, provided that the following measures are implemented: • No works shall be undertaken on the building between November and March inclusive. • None of the potential roost features considered suitable for hibernating bats will be directly affected by the proposed works. Opportunities for biodiversity enhancement are included in the main body of the report.
Survey Validity	Until June 2028

2 Introduction

2.1 Background and development proposals

- 2.1.1 It is proposed to submit an application for planning permission and listed building consent for a suite of internal and external conservation works including timber repairs, repointing and the installation of reinforcing window bars, a new timber support post and foundation, and repair work to the west wall plate. No landscaping works are proposed, and no trees or other structures are to be impacted.

2.2 Survey area

- 2.2.1 The Gazebo dates from the mid-17th century and is a Grade II listed structure of considerable historic significance. The two-storey building is constructed of brick, incorporating exposed flint panels within the wall elevations, and is surmounted by a pyramidal clay-tiled roof. The structure has a footprint of approximately 4.3 square metres and is approached from the north via a raised causeway, which provides access directly to the first-floor level.
- 2.2.2 The Gazebo is located within Caversham Court Gardens, close to the bank of the River Thames. Caversham Court is accessed from Church Road (RG4 7AD, grid reference SU 70835 74810). A site plan is shown in [Figure 1](#).

2.3 Ecology background

- 2.3.1 During a structural investigation on 27th November 2025, a Nathusius' pipistrelle (*Pipistrellus nathusii*) was discovered on the ground adjacent to the south side of the Gazebo and taken into care. CA Ecology were then commissioned to undertake a Stage 1 survey of the Gazebo comprising a Preliminary Ecological Appraisal and a Preliminary Roost Assessment for bats. The survey was undertaken on the 26th of March 2026. No evidence of roosting bats was recorded; however, potential roost features were identified both internally and externally, and the building was considered to have moderate potential to support both summer roosting and hibernating bats. Two further emergence surveys were therefore recommended. Full survey methodology and results are provided in the Stage 1 Bat Report (CA Ecology, April 2026).

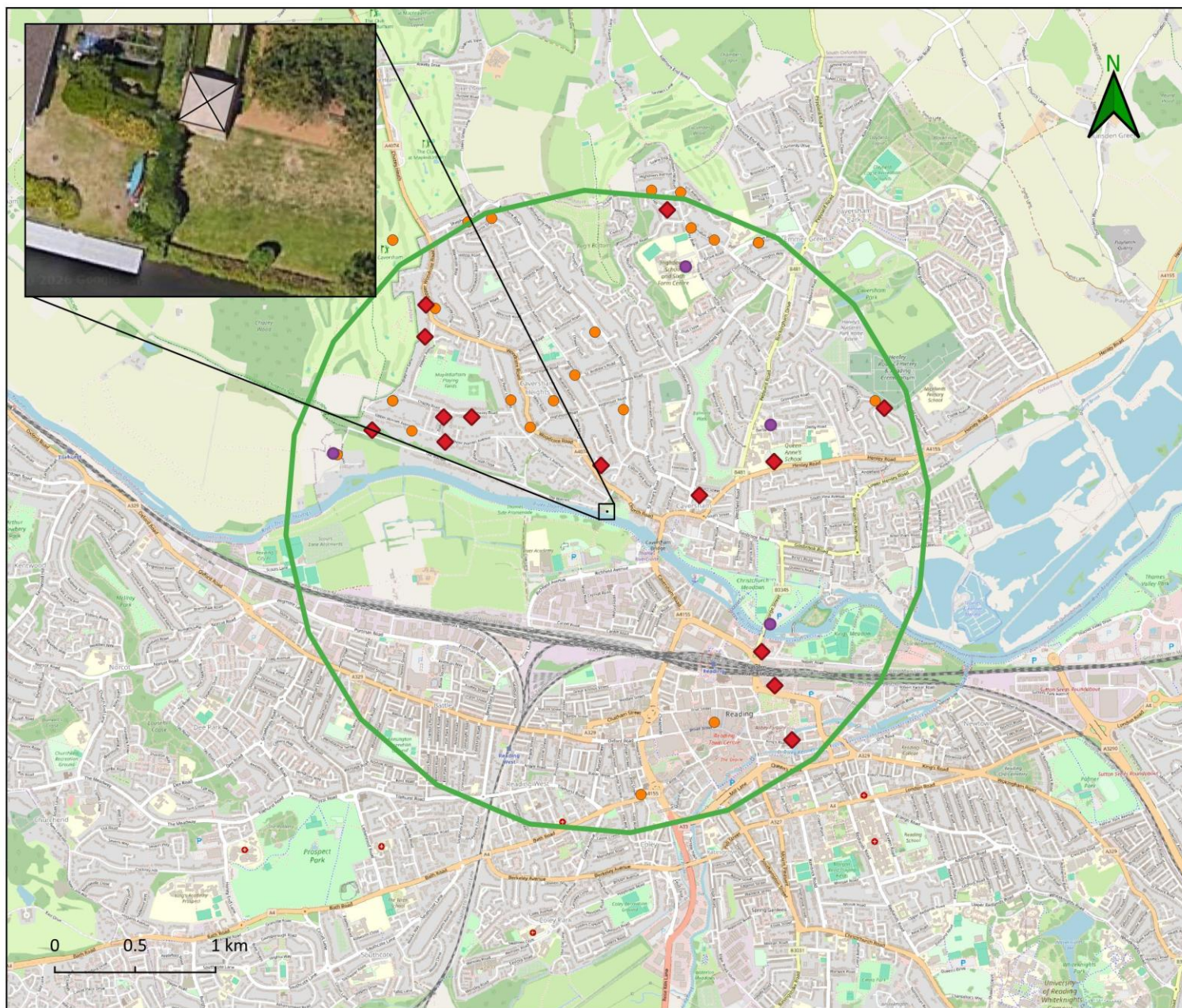


Figure 1

Client	Reading Borough Council
Project	Caversham Court Gazebo
Title	Location Plan and Desk Study Results
Date	June 2026

Location Information

RG4 7AD

SU 70835 74810

- Bat roost records
- CA Ecology roost records
- ◆ Bat EPSLs
- 2km buffer

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Map data ©2026

2.4 Purpose and scope

2.4.1 CA Ecology Ltd was contracted to conduct a Stage 2 bat survey comprising two emergence surveys of the Gazebo.

2.4.2 The key aims and objectives of the survey are to:

- Establish the presence or likely absence of summer roosting bats in the building and/or characterise any roost(s) present.
- Identify key constraints to the project and recommend design options to avoid significant impacts.
- Determine the mitigation and enhancement measures required, following the mitigation hierarchy.
- Identify opportunities for ecological enhancement and support the conservation of bat populations.

3 Methodology

3.1 Preliminary ecological appraisal for bats and desk study

3.1.1 The MAGIC website is reviewed for information on designated sites where bats are a qualifying or key feature of interest within a 2 km radius of the building, as well as details of European Protected Species Licences granted for bats within the same radius. Using a combination of OS maps and online aerial imagery, an estimate is made of the proportion of suitable commuting and foraging habitat surrounding the site, along with its connectivity to other suitable habitat areas. Measurements of the distance to the nearest woodland and water are also recorded. Records of bats and their roosts within 2 km were requested from the Berkshire and South Buckinghamshire Bat Group. The client or the client's agent is also consulted to determine whether previous surveys have been undertaken at the site. This data is then compiled and used to inform the overall assessment.

3.2 Zone of Influence

3.2.1 The Zone of Influence (Zol) for bats is the area where a development may affect roosting, foraging, or commuting bats. It is defined by combining a consideration of:

- Desktop review: Existing bat records, designated sites, and surrounding habitats.
- Site assessment: Identification of potential roosts, foraging areas, and commuting features such as hedgerows, treelines, and watercourses.
- Species ecology: Consideration of species present and their typical foraging ranges.
- Impact pathways: Direct impacts (roost loss) and indirect impacts (disturbance, lighting, habitat severance).
- Professional judgement: Integration of habitat connectivity, survey evidence, and published guidance (CIEEM, BCT) to set Zol boundaries.

3.2.2 The Zol ensures all areas potentially affected by the proposals are identified for assessment and mitigation.

3.3 Stage 2 surveys - Emergence surveys

3.3.1 The survey commences 15 minutes before dusk and continues for 90 minutes after dusk. Positions are chosen to allow all potential access or egress points to be covered during the survey. A combination of surveyors with cameras and autonomous cameras are used to cover the building as appropriate. At each survey location a Batlogger (set to record in real time 16-bit full spectrum and live monitored in heterodyne), along with night vision aid either a professional quality video camera with infrared shooting capabilities (models used include Canon XA30, Canon XA25 and Sony AX30) and additional IR illumination, or a Thermal Imaging device (Guide TK612gen2 with additional viewing screen) is used.

- 3.3.2 During the survey, the surveyors maintain constant vigilance from a seated position on the selection of potential access points within their view. Low-powered or red-light torches are used for note taking to maintain the surveyors' night vision.
- 3.3.3 In survey locations where a surveyor is present, the surveyor will mark the recording by narrating to the camera and pausing the footage any time the surveyor suspects or notices a bat emerge, and when *Myotis* or *Plecotus* bats are recorded. While the light conditions allow, the surveyor watches the building directly. When the light levels prevent this (usually the last 30 minutes or so of the survey) the surveyor will monitor the building via the camera screen. The short sections where the surveyor has stopped the video are then reviewed and those with emerging bats are retained. Where a camera and detector have been deployed autonomously, the resulting video is watched in its entirety in real time or up to 2x speed, with only sections showing emerging bats retained.
- 3.3.4 The species and activity of each bat are recorded and a note of the real time and track time are made, along with a note of the flight path recorded on a map of the site. Whilst the focus of the survey is on any bats emerging from or returning to roost, a record of all bat passes is made to gauge the level of activity and species present on and around the site. All bat calls are retained for later analysis where necessary.
- 3.3.5 Batloggers record bat calls in full spectrum and the resulting sound files are analysed in Bat Explorer software. The auto ID function is used to sort the files but all calls are reviewed manually, with at least 10% of all calls checked by a capable level analyst and all calls from emerging bats checked by an accomplished level analyst. A bat pass is defined as a single triggering event (detected ultrasound call).
- 3.3.6 Surveys are planned to be undertaken in conditions as close to optimal as possible (sunset temperature above 10°C, without heavy rain or strong wind).

3.4 Stage 2 Surveys - Roost characterisation survey

- 3.4.1 For the main part, the characterisation of the roost is part of the dusk emergence surveys carried out (see above section). Table 1 below shows the additional details that are recorded as appropriate when a roost is confirmed.

Table 1: Roost details

Species identification	If bats were not echolocating on emergence, additional methods are used to attempt to gain a species identification which might include returning to collect a sample of droppings from below/in the observed access point and or capturing and handling the bats within the roost or using a handheld net.
Physical characteristics of roost	In addition, some information about the physical characteristics of the roost and surrounding area are collected. Information on size and nature of the roost along with details of aspect and orientation are collected as part of the PRA.
Roosting surfaces	Additional information on roosting surfaces is collected, particularly where these will need to be replaced.
Temperature and humidity	Where proposals are likely to result in a loss of a maternity or hibernation roost the temperature and humidity inside and outside the roost are monitored whilst in use by bats.
Lighting	Lux levels at dusk and at the end of the survey are recorded at each surveyor location during each visit and the location of current lighting fixtures is plotted.
Habitat	Vegetation in close proximity to the roost is mapped along with any actual observations of flight lines recorded during the survey.

4 Survey findings

4.1 Preliminary ecological appraisal for bats and desk study

- 4.1.1 There are no statutory designated sites within 2km of the site. The surrounding area is predominantly urban in nature being placed within the large town of Reading. The River Thames which runs just 12 metres to the south of the gazebo provides a corridor through the town which bats can commute along and provides connectivity to foraging habitat including Rivermead Park on the direct opposite bank and areas of parkland and deciduous woodland to the west. The closest parcel of deciduous woodland is located 66m to the south on the opposite bank of the Thames.
- 4.1.2 Twenty-eight (compared to an average of 24*) recent (within past 10 years) roosts have been recorded within a 2km radius of the site. The nearest, 642m to the north, is a house on Kidmore Road where bat droppings were found inside the property. The bat species recorded roosting within 2km of the site are common pipistrelles (*Pipistrellus pipistrellus*), soprano pipistrelles (*Pipistrellus pygmaeus*) and brown long-eared bats (*Plecotus auritus*). There is one record of a maternity roost within 2km which is of soprano pipistrelles and is within a 1km grid square centred approximately 1.50km to the northwest. Records of roosts are shown on [Figure 1](#).
- 4.1.3 CA Ecology also has four in-house records of bat roosts within 2km of the site. The closest concerns a Daubenton's bat (*Myotis daubentonii*) maternity roost 1.23km southeast of the site on the north bank of the Thames. This roost was surveyed in 2015 and 50 bats were seen to emerge. Other roosts recorded are a hibernating brown long-eared bat, hibernating bat species, and of a juvenile common pipistrelle taken into care from a property. CA Ecology records of roosts are also shown on [Figure 1](#).
- 4.1.4 The client informed CA Ecology that a bat was discovered adjacent to the southern wall of the Gazebo during a structural investigation on the 27th of November 2025 and was taken into care and confirmed to be a Nathusius's pipistrelle (*Pipistrellus nathusii*).
- 4.1.5 Fourteen (compared to an average of 5*) European Protected Species Licences (EPSL) have been granted for bats within 2km of the site. The nearest is a property 298m to the north that licensed the destruction of a resting place of common pipistrelle and brown-long eared bats in 2017. Other species named in the licences are soprano pipistrelles (*Pipistrellus pygmaeus*), serotine (*Cnephaeus serotinus*) and Daubenton's bats. The only maternity roost affected was a soprano pipistrelle roost located 1.19km west of the site. These records are shown in [Figure 1](#).
- 4.1.6 There are 276 (compared to an average of 106*) non-roost bat records within a 2km radius. Records include acoustic records of bats in flight and injured bats brought into care and are

given in Table 2.

*The average number of roosts, EPSL and non-roost records from desk studies conducted from projects across the southeast of England within the past five years from a sample of 75 projects.

Table 2: Summary of non-roost records

Conservation status	Species	Number of records
Abundant and Widespread species	Chiroptera sp.	7
	Common pipistrelle	72
	Soprano pipistrelle	51
	Pipistrelle sp.	22
	Brown long-eared	11
	Long-eared bat sp.	2
Less Abundant species	Nathusius' pipistrelle	11
	Whiskered bat	0
	Brandt's bat	0
	Daubenton's bat	26
	Natterer's bat	1
	Noctule	46
Rare/Annex II/Red List/Vulnerable species	Alcathoe bat	0
	Serotine	4
	Barbastelle	0
	Bechstein's	0
	Leisler's bat	1
	Myotis sp.	22
	Whiskered/Brandt's/Alcathoe	0
	Grey long-eared bat	0
	Greater horseshoe	0
	Lesser horseshoe	0
	Mouse-eared bat	0

Zone of influence

- 4.1.7 Given the small scale of the proposed conservation works, the Zone of Influence is considered unlikely to extend beyond the footprint of the Gazebo and the immediately adjacent habitats. No significant effects on the wider landscape are anticipated due to the confined nature of the works.

4.2 Stage 2 surveys - Emergence surveys and roost characterisation

- 4.2.1 Dusk surveys were led by Senior Ecologist Allyson Hawkins BA (hons) MSc, with four years' experience of conducting bat surveys and an accredited agent under Claire Andrews BSc (Hons) MCIEEM, a licenced bat surveyor (WML CL16, 2015-12722-CLS-CLS, 2025-86128-CL19/20-BAT) who assisted on one visit as well as trained and experienced field surveyor Gracyn Bowman BSc (Hons).
- 4.2.2 Two surveys were carried out: the first in May, and the second in June (see Appendix 1 for exact dates). Three surveyor locations, including two surveyors with cameras and a remote camera with footage later fully reviewed, were used to cover the potential roost features across the building. No bats were recorded emerging from or returning to roost within the building.
- 4.2.3 Common pipistrelles and soprano pipistrelles were recorded frequently commuting and foraging around the building on both visits and accounted for 45% and 34% of recorded activity respectively. Only a few noctule passes were recorded on the first visit but there was high foraging activity on the second visit and this species accounted for 21% of total recorded activity. Brown long-eared bats, serotines and *Myotis* bats were recorded from just one location from a single visit with four total recorded passes between them (<0.1% of recorded activity).
- 4.2.4 Surveyor locations are shown on [Figure 2](#) and full results of the survey along with weather conditions are given in Appendix 1.

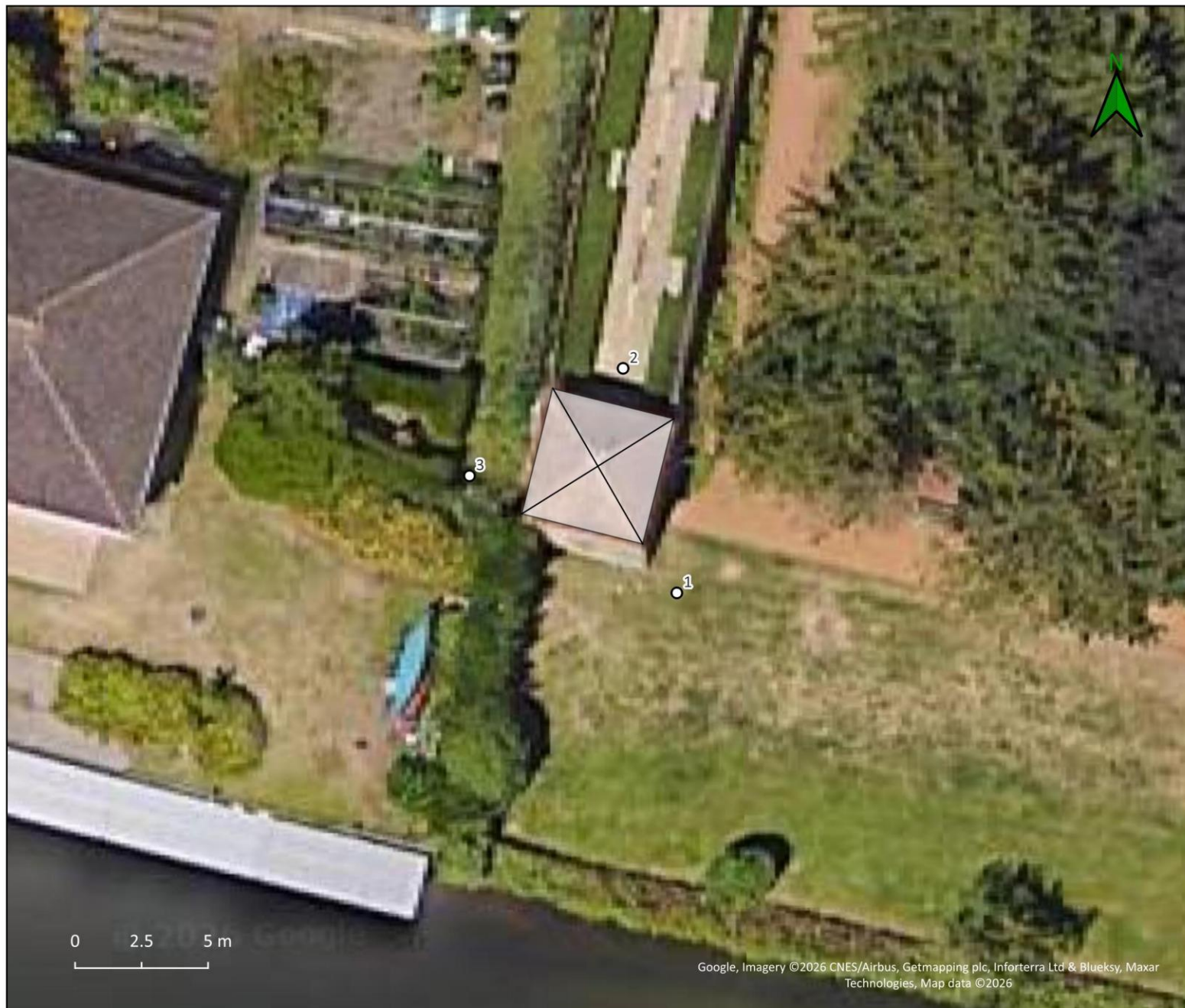


Figure 2

Client	Reading Borough Council
Project	Caversham Court Gazebo
Title	Stage 2 Survey Results
Date	June 2026

Key

○ Surveyor Locations

4.4 Limitations

- 4.4.1 The surveys were carried out with no limitations and in line with BCT Good Practice Guidelines 2023 and the Chartered Institute of Ecology and Environmental Management (CIEEM) Bat Mitigation Guidelines (Reason and Wray, 2023).

5 Evaluation, potential impacts and recommendations

5.1 Evaluation

- 5.1.1 The building was assessed as having moderate potential to support roosting bats during the active season, most likely as a summer, transitional, or day roost. No evidence of bat use was recorded during the initial survey, and the structure was considered to have limited suitability for use as a maternity roost. During the Stage 2 emergence surveys no bats were seen to emerge from or return to roost within the building, which confirms the likely absence of roosting bats from the building during the active season.
- 5.1.2 The building also offers some potential for hibernating bats. Whilst it does not represent a classic hibernation site, the substantial thickness of the walls and the relatively open nature of the structure could provide suitable conditions for winter roosting. This assessment is supported by a previous record of a Nathusius' pipistrelle being found at the base of the building in November 2025. It is considered likely that this individual was inadvertently disturbed during investigation works being undertaken at the site at that time. Where buildings are considered to offer high potential for hibernation, surveys during the winter period are generally required to inform an assessment of any impacts. In this case however the building does not offer the high potential of a classic hibernation site, but use through the winter months has not been ruled out.
- 5.1.3 Due to the potential use of the site by hibernating bats it should be considered whether there is the likelihood for autumn swarming behaviour. A swarming site is a place where large numbers of males and females gather, typically during late summer to autumn. Roosting may occur alongside the swarming activity and it is the structures used for rest and shelter within the swarming site that are the roost. Swarming behaviour is most often recorded at traditional underground hibernation sites such as tunnels, caves and mines but also at prominent structures in the landscape such as castles, apartment blocks and factory buildings Korsten et al (2016). The Gazebo is considered unlikely to support more than a few individual hibernating bats and is not a prominent structure within the wider urban area of Reading and therefore swarming surveys are not considered necessary.

5.2 Potential impacts

- 5.2.1 There are no predicted impacts of the proposed works on any summer roosts. The proposal will not cause any fragmentation or isolation as no trees or mature shrubs are to be felled.
- 5.2.2 The building has a number of roost features suitable for hibernating bats inside the ground floor and these are shown on [Figure 3](#). If work were carried out during the winter months this could lead to killing and injury of any bats present, as hibernating bats are extremely sensitive to disturbance. There could also be direct loss of roost features with hibernation potential if any of these are subject to repair.
- 5.2.3 As a result of the proposals, a small number of potential roosting opportunities will be lost. Externally these include gaps around timbers and gaps in mortar. Internally these will include a loss of access into the wall cavity and gaps in timber beams.

5.3 Recommendations

- 5.3.1 No further survey during the active season is required providing the scope of the works remains the same, planning permission is granted and works commence before the start of May 2029; after this date updated surveys may be required.
- 5.3.2 Further survey during the winter months is not considered necessary, provided that the following measures are implemented:
- No works shall be undertaken on the building between November and March inclusive.
 - None of the potential roost features considered suitable for hibernating bats will be directly affected by the proposed works. The features assessed as having potential to support hibernating bats are identified on [Figure 3](#).
- 5.3.3 Should works be required to any of the features identified as having potential to support hibernating bats, further surveys during the winter period will be required to determine the presence or likely absence of hibernating bats and to inform any necessary mitigation measures.
- 5.3.4 In line with the National Planning Policy Framework (NPPF) and local planning policy (see Appendix 2), measures to protect and enhance along with providing net gains in biodiversity on site should be incorporated into the scheme. Given that the planned conservation works will reduce the potential roosting suitability provided by the building, the scheme should include the provision of additional roosting opportunities. This can usually be achieved by providing a bat box or bat brick alongside the planned works such as a Schwegler 1ff bat box or similar. Due to the Grade II listing of the Gazebo, a more bespoke approach may be required to ensure the

building's special architectural and historic character is maintained. CA Ecology can provide advice to contractors for bespoke approaches to bat mitigation if required.



07933941470
www.caecology.co.uk
claire@caecology.co.uk

Figure 3

Client	Reading Borough Council
Project	Caversham Court Gazebo
Title	Hibernation Roost Features
Date	June 2026

Key

Numbers indicate type of PRF as follows:

- 7. Missing plaster with access to wall cavity.
- 8. Gap above doorframe into wall cavity.
- 9. Gap between timber and wall
- 10. Split in beam
- 12. Holes in wall in electrical cupboard

6 References

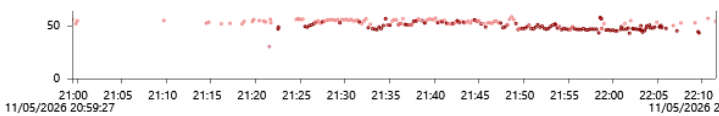
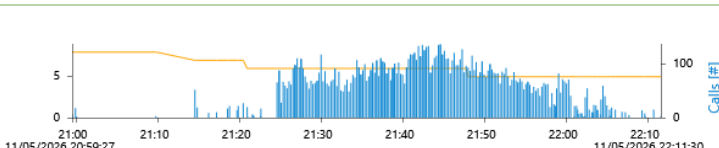
- 6.1.1 Bat Conservation Trust and Institute of Lighting Professionals (2023) Guidance Note 08/23 Bats and Artificial Lighting at Night.
- 6.1.2 Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). The Bat Conservation Trust, London.
- 6.1.3 Defra, J. a. (2012). UK Post-2010 Biodiversity Framework.
- 6.1.4 Korsten, E., Jansen, E., Boonman, M., Schillemans, M. and Limpens, H. (2016) Swarm and Switch: on the trail of the hibernating common pipistrelle. Bat News Issue 110, BCT, London. Available from: https://www.researchgate.net/publication/306098306_Swarm_and_switch_on_the_trail_of_the_hibernating_common_pipistrelle.
- 6.1.5 Lintott, P. and Mathews, F. (2018) Reviewing the evidence on mitigation strategies for bats in buildings: informing best practice for policy makers and practitioners. University of the West of England, University of Exeter and University of Sussex.
- 6.1.6 MAGIC. (accessed 17.06.26). MAGIC Map. Retrieved from (<http://magic.defra.gov.uk>)
- 6.1.7 Reason, P. F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management, Ampfield.

7 Appendix 1 – Results

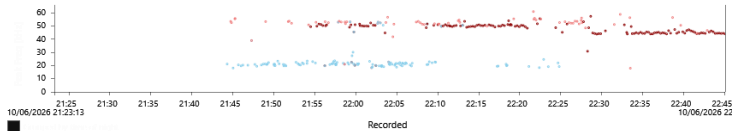
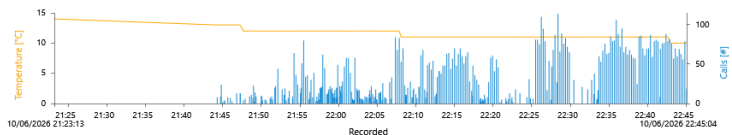
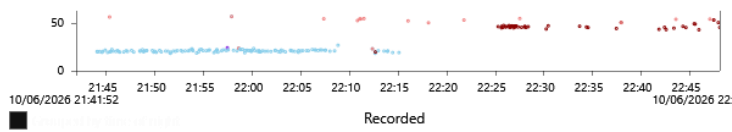
Weather conditions during the surveys

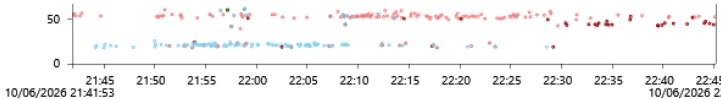
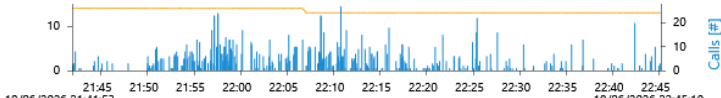
Visit	Date	Precipitation	Wind (Beaufort Scale)	Temp at sunset/sunrise	Temp at start/end	Cloud	Overall conditions
1	11.05.26	0	0	8	6	0	Suitable
2	10.06.26	0	0	15	11.7	4	Optimal

Survey results

Date	Survey location	Bat(s) emerging or returning	Screen grab of the darkest part of the survey	Incidental bat activity															
Visit 1																			
11.05.26	1 AH	None		S p e c i e s <table><thead><tr><th>Species</th><th>number of files</th><th>number of calls</th></tr></thead><tbody><tr><td>Plecotus auritus</td><td>1</td><td>6</td></tr><tr><td>Nyctalus noctula</td><td>1</td><td>93</td></tr><tr><td>Pipistrellus pygma</td><td>121</td><td>9042</td></tr><tr><td>Pipistrellus pipistrellus</td><td>127</td><td>7763</td></tr></tbody></table> F r e q / t i m e  Recorded A c t i v i t y  Recorded	Species	number of files	number of calls	Plecotus auritus	1	6	Nyctalus noctula	1	93	Pipistrellus pygma	121	9042	Pipistrellus pipistrellus	127	7763
Species	number of files	number of calls																	
Plecotus auritus	1	6																	
Nyctalus noctula	1	93																	
Pipistrellus pygma	121	9042																	
Pipistrellus pipistrellus	127	7763																	
11.05.26	2	None		S p e c i e s <table><thead><tr><th>Species</th><th>number of files</th><th>number of calls</th></tr></thead><tbody></tbody></table>	Species	number of files	number of calls												
Species	number of files	number of calls																	

Date	Survey location	Bat(s) emerging or returning	Screen grab of the darkest part of the survey	Incidental bat activity
	GB			Species # # Calls Nyctalus noctula 2 54 Pipistrellus pygma 78 442 Pipistrellus pipistrellus 179 1354 Frequency / time Recorded Activity Recorded

Date	Survey location	Bat(s) emerging or returning	Screen grab of the darkest part of the survey	Incidental bat activity															
Visit 2																			
10.06.26	1 CA	None		Species number of files number of calls <table><thead><tr><th>Species</th><th>#</th><th># Calls</th></tr></thead><tbody><tr><td>Nyctalus noctula</td><td>115</td><td>1315</td></tr><tr><td>Pipistrellus pygmaeus</td><td>70</td><td>1990</td></tr><tr><td>Pipistrellus pipistrellus</td><td>134</td><td>6497</td></tr></tbody></table> Frequency / time  Activity 	Species	#	# Calls	Nyctalus noctula	115	1315	Pipistrellus pygmaeus	70	1990	Pipistrellus pipistrellus	134	6497			
Species	#	# Calls																	
Nyctalus noctula	115	1315																	
Pipistrellus pygmaeus	70	1990																	
Pipistrellus pipistrellus	134	6497																	
10.06.26	2 Autonomous	None		Species number of files number of calls <table><thead><tr><th>Species</th><th>#</th><th># Calls</th></tr></thead><tbody><tr><td>Eptesicus serotinu</td><td>1</td><td>2</td></tr><tr><td>Pipistrellus pygma</td><td>20</td><td>101</td></tr><tr><td>Pipistrellus pipistr</td><td>73</td><td>212</td></tr><tr><td>Nyctalus noctula</td><td>144</td><td>1755</td></tr></tbody></table> Frequency / time  Activity 	Species	#	# Calls	Eptesicus serotinu	1	2	Pipistrellus pygma	20	101	Pipistrellus pipistr	73	212	Nyctalus noctula	144	1755
Species	#	# Calls																	
Eptesicus serotinu	1	2																	
Pipistrellus pygma	20	101																	
Pipistrellus pipistr	73	212																	
Nyctalus noctula	144	1755																	
10.06.26	3	None		Species number of files number of calls															

Date	Survey location	Bat(s) emerging or returning	Screen grab of the darkest part of the survey	Incidental bat activity
	AH			Species # # Calls ● Myotis spec. 2 36 ● Pipistrellus pipistrellus 62 181 ● Nyctalus noctula 129 816 ● Pipistrellus pygma 180 752 Frequency  Recorded Activity  Recorded

Notes

NSL guild are big bats from either the genus *Eptesicus* or *Nyctalus*: the three bats have distinctive echolocation calls that can be distinguished from other species by their characteristic low frequency and long duration. There is, however, a degree of overlap between the three especially when in a closed environment. Where the calls cannot be reliably separated to species level they are allocated to NSL guild.

Batloggers recorded every individual pulse, the number of pulses in an individual call or pass will vary significantly depending on a number of factors, a more reliable indicator of level of activity is therefore to look at the number of files produced. A file is produced each time a triggering event is registered (detected ultrasound signal) the shortest recording duration is 1.5 seconds, and up to 53.5 seconds, so each new file represents a bat pass unless a bat is present and constantly triggering the detector for more than 53 seconds.

Note that all passes of *Plecotus* bats are assumed to be those of brown long-eared bats, because of the geographical distribution of grey long-eared bats. The species however, cannot be confirmed from call ID alone.

In each case where a bat has emerged the call has been analysed and species identification on the basis of that call had been considered definite unless otherwise stated. The level of confidence in identifying calls is described using the criteria given in table 10.1 in the BCT Good Practice Guidelines.

8 Appendix 2 - Legislation and policy guidance

8.1 Legal protection

- 8.1.1 Bats and their roosts receive full protection (with few exceptions). Under the Conservation of Habitats and Species Regulations 2017 (as amended) * it is an offence to:
- Deliberately capture, injure or kill a bat
 - Deliberately disturb - insofar as to impair its ability to survive, reproduce or rear young, hibernate, migrate, or significantly affect distribution and abundance
 - Damage or destroy a breeding site or resting place - even if no bats present
 - Possess or control, sell, exchange, offer for sale or exchange or to transport any live or dead specimen or anything derived from a bat
- 8.1.2 Further protection is provided in England under Section 9 of the Wildlife and Countryside Act (as amended), which adds the following offences:
- To intentionally or recklessly disturb bats whilst occupying a structure or place used for shelter or protection (which means disturbance remains an absolute offence)
 - To intentionally or recklessly obstruct access to any structure or place used by bats for shelter or protection
 - To sell, advertise for sale, offer for sale, possess, or transport any live or dead or any part of a bat
- 8.1.3 Additional protection is provided for soprano pipistrelle, noctule and brown long-eared bats, all of which are included on a list of species of principal importance for the conservation of biodiversity in England, created by the Secretary of State as a requirement under section 41 (S41) of the Natural Environment and Rural Communities Act 2006 (NERC Act).
- 8.1.4 Under section 40 of the NERC Act all public bodies have a duty to have regard to conservation and biodiversity when carrying out their functions, the S41 list is a guide for decision makers when implementing their duty. This duty extends to all public bodies the duty of Section 74 of the Countryside and Rights of Way Act 2000, which placed a duty on government ministers.

* In 2019 changes were made to the 2017 regulations by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Most of these changes involved transferring functions from the European Commission to the appropriate authorities in England and Wales. All other processes or terms in the 2017 Regulations remain unchanged.

8.2 National planning policy

8.2.1 The National Planning Policy Framework (NPPF) and the supporting ODPM circular 06/2005 provides the basis for making planning decisions with respect to conserving and enhancing the natural environment. It specifically sets out how the planning system should minimise impacts on biodiversity and provide net gains, including establishing coherent ecological networks. In addition to confirming that that presence of a protected species is a material consideration in the making of planning decisions, it sets out a list of principals, which local planning authorities should follow when determining planning applications. These include:

- ‘-if significant harm resulting from a development cannot be avoided...adequately mitigated, or as a last resort compensated for, then planning permission should be refused.’
- ‘...opportunities to incorporate biodiversity in and around developments should be encouraged.’
- The circular goes on to make it clear that Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System states it is essential that the presence or otherwise of protected species and the extent that they may be affected by the proposed development, is established before planning permission is granted.

8.3 Local planning policy

8.3.1 The Reading Borough Local Plan, adopted in November 2019, sets out the planning policies that guide and manage new development within the borough up to 2036. This document replaces the previous Core Strategy and associated development plan documents. Policy M12: Biodiversity and the Green Network sets out that “on all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible.” Development should:

- Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and
- Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable.

In exceptional circumstances where the need for development clearly outweighs the need to protect the value of the site, and it is demonstrated that the impacts cannot be: 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure that there is “no net loss” of biodiversity. Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics. It should not replace existing alternative habitats, and should be provided prior to development

8.4 Biodiversity Action Plans and Biodiversity Opportunity Areas

- 8.4.1 The United Kingdom Biodiversity Action Plan (UK BAP) is a national strategy drawn up by UK Government to conserve threatened native species and habitats. The UK post-2010 Biodiversity Framework 2012 (Defra, 2012) means that the listing of species and habitats on the S41 list and its associated requirements under the NERC Act supersedes the UK BAP. However, the UK BAP action plans remain relevant to conservation aims and objectives. The UK BAP is supported by a series of Local Biodiversity Action Plans (LBAPs) which translate the targets identified in the UK BAP into targets for species and habitats appropriate to the local area. Each LBAP identifies those habitats and species considered most important in that area, commonly an LBAP will identify a number of habitats and species for which “action plans” have been prepared. In the South East region, the Biodiversity Opportunity Areas will be the focus for delivery of UK BAP habitats targets.
- 8.4.2 In 2009 The South East Biodiversity Forum has identified Biodiversity Opportunity Areas (BOAs), which represent a targeted landscape-scale approach to conserving biodiversity and the basis for an ecological network. BOAs identify where the greatest opportunities for habitat creation and restoration lie, enabling the efficient focusing of resources to where they will have the greatest positive conservation impact.