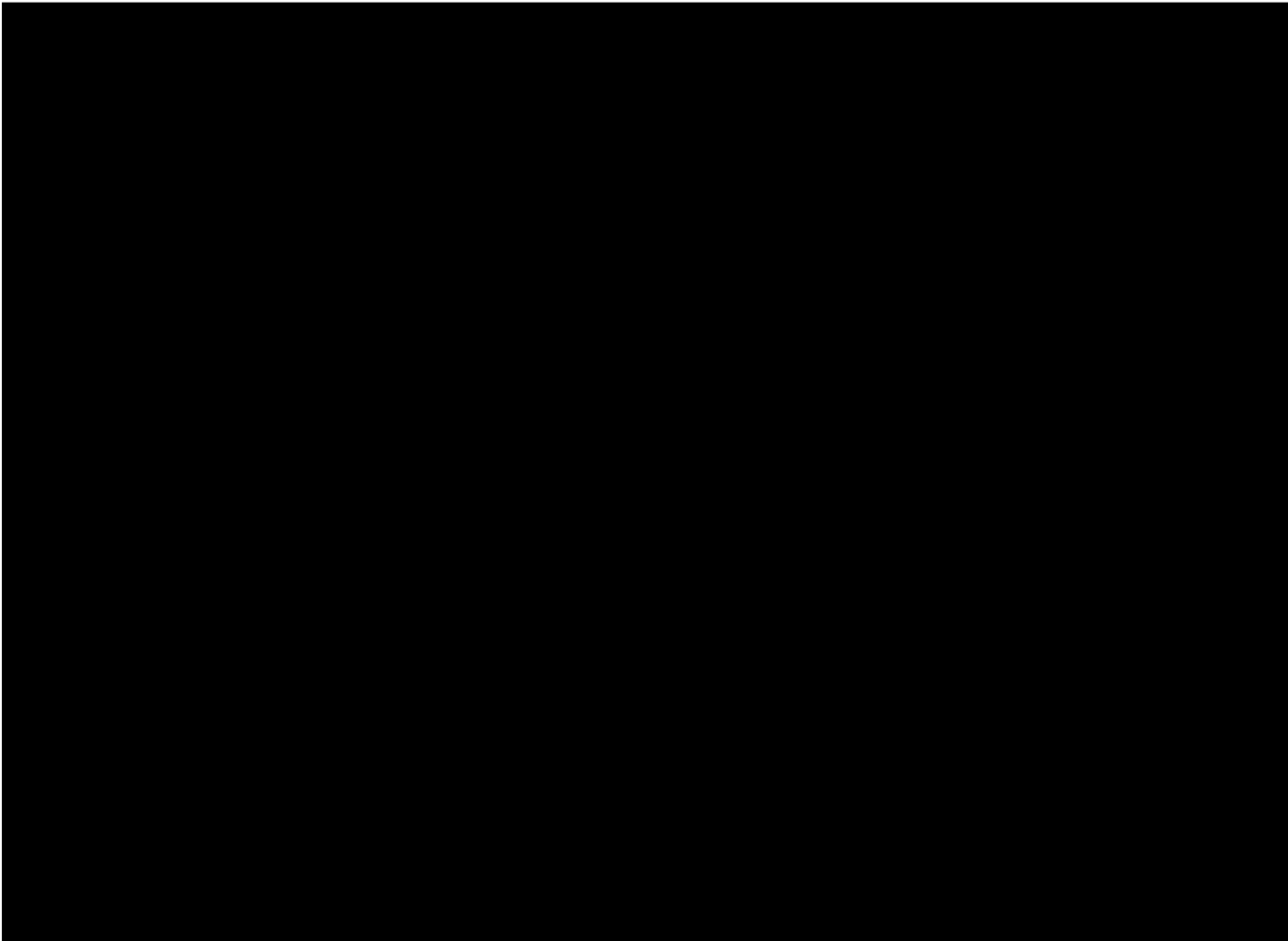




From: Clerk [REDACTED]
Sent: 09 January 2020 10:08
To: Raymond Cole <Raymond.Cole@arun.gov.uk>
Subject: RE: BN/122/19/EIS

Hi Ray

Happy New Year

Barnham and Eastergate Parish Council's Planning & Environment Committee considered the above application at the meeting held on 7th January. However the short timescale on response and the fact it was over the Christmas and New Year period made it difficult for a full and proper review of the document to be undertaken and discussed. However, those who had been able to find some time to look at the document raised the following issues/comments and asked me to forward them to you for consideration moving forward.

The Council is keen to see provision for a Tier 7 Library included somewhere – not sure if this is an appropriate comment to make at this point in time.

The need for an air quality assessment to be undertaken

Grade 1 agricultural land and flood risks

Mention was made of the minor aquifer in the area

Ancient Trees in the area need protecting

Need for sensitivity in respect of lighting provision – the Council has recently had a bat survey undertaken in the area (a copy is attached for information)

On the map it is not clear if the footpath near the roundabout is routed under the road or over

The green gap needs to be maintained and it is not clear whether or not that will be the case.

There is a sphere shape behind the industrial estate on the Barnham Road and it is unclear what that feature is.

As you can see most of these are quick comments/views gleaned from swift readings of the very large document but hopefully they can be looked at.

The bat survey is also attached.

Is it ok for me to have done it this way or do you want something put on the portal.

Thanks

Alison Crabb
Clerk, Barnham & Eastergate Parish Council

Office hours: Tuesday, Wednesday and Thursday 9.30 a.m. – 1 p.m. at Barnham Community Hall at other times I can be contacted by email: [REDACTED] or by phone on [REDACTED] where a message can be left if I don't answer.

Bat Activity Transect Survey Report

Site: Eastergate Lane to Church Lane

Client: Barnham and Eastergate Parish Council

Version 002

Issued By:
Gray's Ecology
22 Church Road
East Wittering
Chichester
West Sussex
PO20 8PS



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Life Span of Survey Data and Report			
Report	This report remains valid for 12 months from date of issue. The report, conclusions and recommendations are valid for current development plans only. If these plans are changed, it will be necessary to review this report in the context of those changes, to assess whether further desk study and survey work will need to be undertaken.		
Survey Data	Survey data are valid for 12 months from the date the survey was undertaken.		

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1 Summary

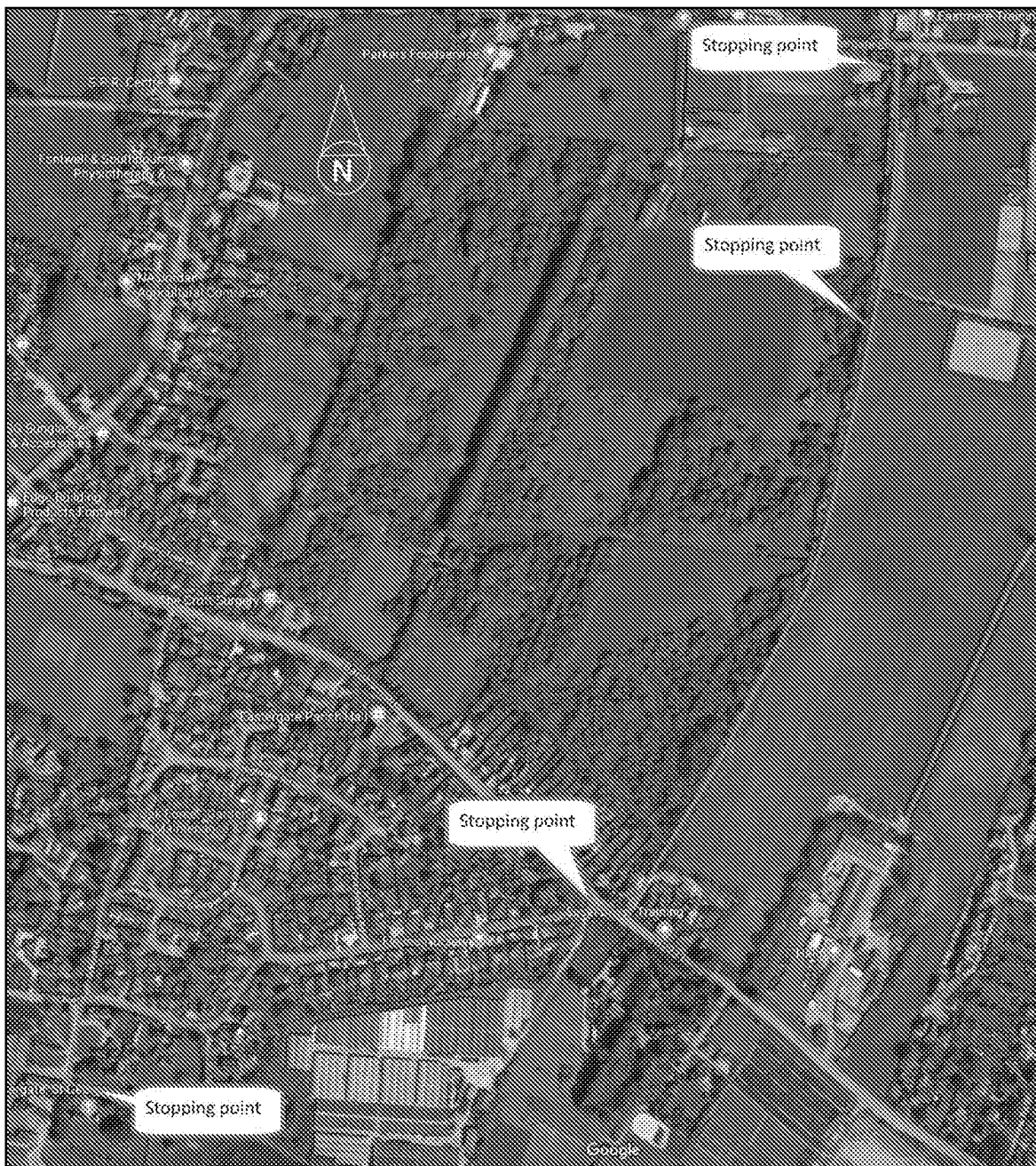
This is a brief summary of findings and recommendations made for the bat activity transect survey carried out between Eastergate Lane and Church Lane in Eastergate. Please read the report in its entirety for full details.

1. Gray's Ecology were commissioned to undertake a bat activity transect survey at the above location by Mark Wardle of Make it Wild, acting for and on behalf of Barnham and Eastergate Parish Council.
2. In line with Bat Conservation Trust guidelines, one bat survey visit was carried out at the above location during September 2019, to identify bat species and their levels of activity.
3. During the bat survey carried out at the site, seven bat species were recorded. These included high levels of common pipistrelle activity, with moderate levels of soprano pipistrelle activity and low levels of brown long-eared, Daubenton's, undifferentiated *Myotis* species, noctule and serotine bat species also recorded.
4. Bats were observed to be both commuting and foraging along the transect route, particularly at points where mature trees and shrubs were present. Strong bat social calls were detected outside of St George's Church, at the southern end of the transect route.
5. Local and neighbourhood plans should seek to avoid the loss of suitable habitat connectivity. Plans should promote the maintenance and improvement of existing habitats features for bats and other wildlife, as well as the creation of additional linear habitat features within the built environment.
6. Any reduction in existing levels of artificial lighting will be beneficial to bats. Where new lighting is proposed, it should be directed away from trees, shrubs and wetlands, and used for restricted time periods only.
7. Wildlife education for the local community and supported community habitat management and action group initiatives should be encouraged.
8. It is important that local and neighbourhood plans continue to be informed by robust baseline and ongoing monitoring data for local protected wildlife, which is essential to support good planning and development decisions within the local area.

2 Introduction

A bat activity transect survey was commissioned by Mark Wardle of Make it Wild, acting for and on behalf of Barnham and Eastergate Parish Council. The purpose of the survey was to provide data to inform the preparation of the Neighbourhood Plan, so that it can serve to guide planned development in a manner that will ensure appropriate consideration for the requirements of bats within the survey area.

Figure 1. Map showing the geographical location of the survey, with the surveyed transect route indicated by a thick red line.



(Image supplied courtesy of Google Maps, 2019)

3 Legal Protection

The following text is intended for general guidance only and does not constitute comprehensive professional legal advice. It provides a summary of the current legal protection afforded to bats.

All bat species in the UK are included in Schedule II of the Conservation of Habitats and Species Regulations 2017, which transposes Annex IV of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("The EC Habitats Directive"). As such all bat species in the UK are defined as 'European Protected Species'.

Five species of bat, Bechstein's bat (*Myotis bechsteinii*), Barbastelle bat (*Barbastella barbastellus*), greater mouse-eared *Myotis myotis*, greater and lesser horseshoe bats, (*Rhinolophus ferrumequinum*) and (*R. hipposideros*) are also listed on Annex II of the EC Habitats Directive. This requires the designation of a series of sites, which contain important populations of these species as Special Areas of Conservation (SACs).

All species of British bat are also fully protected under the Wildlife and Countryside Act 1981 (as amended), through inclusion in Schedule 5.

Seven species of bat (Barbastelle, Bechstein's, Noctule *Nyctalus noctula*, Soprano pipistrelle *Pipistrellus pygmaeus*, Brown long-eared *Plecotus auritus*, Greater horseshoe and Lesser horseshoe bat) are Priority species under the UK Biodiversity Action Plan and have also been adopted as Species of Principal Importance in England under Section 41 of the NERC Act (2006). Section 41 of the NERC Act lists the habitats and species of principle importance. This places a statutory duty on all public bodies, including planning authorities, under Section 40, to take, or promote the taking by others, steps to further the conservation of habitats and species of principal importance for the conservation of biodiversity in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers.

Under the above legislation it is an offence to:

- kill, injure or take any individual bat of any species;
- possess any part of an individual bat, either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by bats for shelter, rest, protection, or breeding;
- intentionally or recklessly disturb these species whilst using any place of shelter or protection; or
- deliberately disturb bats in such a way as to be likely to impair their ability to:
 - survive, to breed or reproduce and to rear or nurture their young;
 - to hibernate or migrate;
 - to affect significantly the local distribution or abundance of the species to which they belong;
 - keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.
- It is also an offence to set and use articles capable of catching, injuring, or killing bats (for example a trap or poison), or knowingly cause or permit such an action. Protection is afforded under Schedule 6 of The Wildlife and Countryside Act 1981 (as amended), relating specifically to trapping and direct pursuit of bats.

A bat roost is defined by the Bat Conservation Trust's Bat Surveys—Good Practice Guidelines 3rd Edition as “the resting place of a bat”. In general, the word roost is interpreted as “any structure or place, which any wild bat uses for shelter or protection.”

Bats tend to re-use the same roosts, therefore, legal opinion is guided by recent case law precedents, that a roost is protected whether or not the bats are present at the time. This includes summer roosts used for breeding, or winter roosts used for hibernating.

The National Planning Policy Framework (NPPF) 2019 sets out government policy on biodiversity in planning decisions. Under the NPPF, the presence of a protected species is a material consideration when a planning authority is considering a development proposal. The NPPF also confirms that weight may be given to policies in emerging plans following their publication.

The results of this survey determine the need for further surveys, impact avoidance measures and/or an appropriate mitigation strategy to ensure compliance with UK and EU wildlife legislation.

4 Planning policy

Both the National Planning Policy Framework 2019 (NPPF) and accompanying ODPM Circular 06/05 state that Local Planning Authorities should aim to conserve and enhance biodiversity.

This sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regard to the operation of the planning system.

The NPPF states that the wider benefits of an ecosystem should be recognised, and the presence of a protected species is a material consideration for a development proposal (Circular 06/2005, 2005).

In accordance with the NPPF, it is important that developments should contribute to and enhance the natural and local environment by:

- Minimising impacts on existing biodiversity and habitats,
- Providing net gains in biodiversity and habitats, wherever possible,
- establishing coherent ecological networks that are more resilient to current and future pressures.

In particular, regard must be given to Policy ENV SP1 of the Adoption Arun Local Plan 2011-2031 (July 2018).

5 Methodology

A single walked transect survey for bats was undertaken on the 19 September 2019, using the methodology set out in Collins, J.(ed.) (2016).

Surveyors used hand-held Elekon Bat Scanners and a Batlogger M full-spectrum bat sound recorder, which was used to record the bat sound activity taking place along the route. The entire route was walked twice at a slow and constant pace during the period of the survey, with four scheduled five-minute stopping places (indicated by the callout markers shown in Figure 1). In addition, surveyors recorded observations of bats, such as number of bats, flight direction, flight height, behaviour (e.g. commuting, foraging etc.), appearance and relative speed.

The survey was undertaken during a peak period of bat activity and in appropriate weather conditions, in accordance with best practice guidelines (Collins, 2016).

Following the Survey, a full analysis of the sound recording data was performed using Bat Explorer analysis software, version 2.1.40 (2.1.7017.34360) to help identify bat species, the numbers of bat passes and the times of passes for each bat species recorded. The results were checked and verified by Nick Gray, who is registered by Natural England to survey for bats under Bat Scientific Survey Class Licence WML CL18 (Ref. no 2017-32546-CLS-CLS).

6 Limitations of Bat Activity Transect Surveys

The results presented herein are considered to be an accurate representation of the general use of the surveyed site by commuting, foraging and roosting bats. Nevertheless, bats can use habitat features intermittently throughout the year and may be present in larger or smaller numbers depending on their breeding cycle, different weather conditions, and in response to disturbance. This survey records the activity of bats at the time of the survey visit only, representing a snapshot of bat activity at the site during that time. Bats may be present at other times and the results should therefore be viewed with some caution.

Bat surveys undertaken using bat recorder are inherently biased, as bats with louder calls (such as the *Nyctalus* species) will be recorded at a greater distance (and therefore more frequently) than species which use quiet calls such as Long-eared bat *Plecotus* sp. Long-eared bats are a genus that usually emerges in full darkness and, which has a very quiet echolocation call (often not detectable more than 3-5 m from the bat recorder).

Walked transect surveys inevitably generate a certain amount of disturbance and background noise. As a result, long-eared bats are difficult to detect during these types of bat survey and it is likely this genus is under-recorded during such surveys.

Species identification by sonogram is limited (to a certain extent) by similarities in call structure. In addition, all bats can modulate their calls according to the habitats they are navigating, their behaviour and the information that they require at the time. This imposes limitations on reliable analysis, particularly between species in the genera *Plecotus*, *Myotis* and *Nyctalus*.

The above survey limitations are unavoidable. However, it is considered that they have not affected the robustness of the survey results for the purposes of this study.

There were no limitations to the experience and competence of the surveyors conducting the survey.

7 Results of Bat Activity Surveys

7.1 Survey conditions

The dates, times, weather conditions, temperatures and personnel for the survey visit are presented in table 1 below:

Table 1. Details of survey undertaken, dates, timings, weather conditions, temperatures and personnel.

Date of survey	Survey start time/end time	Temp. degrees centigrade, weather conditions throughout survey	Surveyors
19 September 2019	Sunset 19:08 Start time: 19:08 Finish time: 21.08	Max/Min temp: 18 - 12°C 0% cloud cover, wind (Beaufort Scale) Force 0-1 Dry throughout the duration of the survey.	Nick Gray Mark Wardle Craig Stevens

7.2 Bat transect survey results

The following descriptions summarise bat activity during the survey visit 19 September 2019

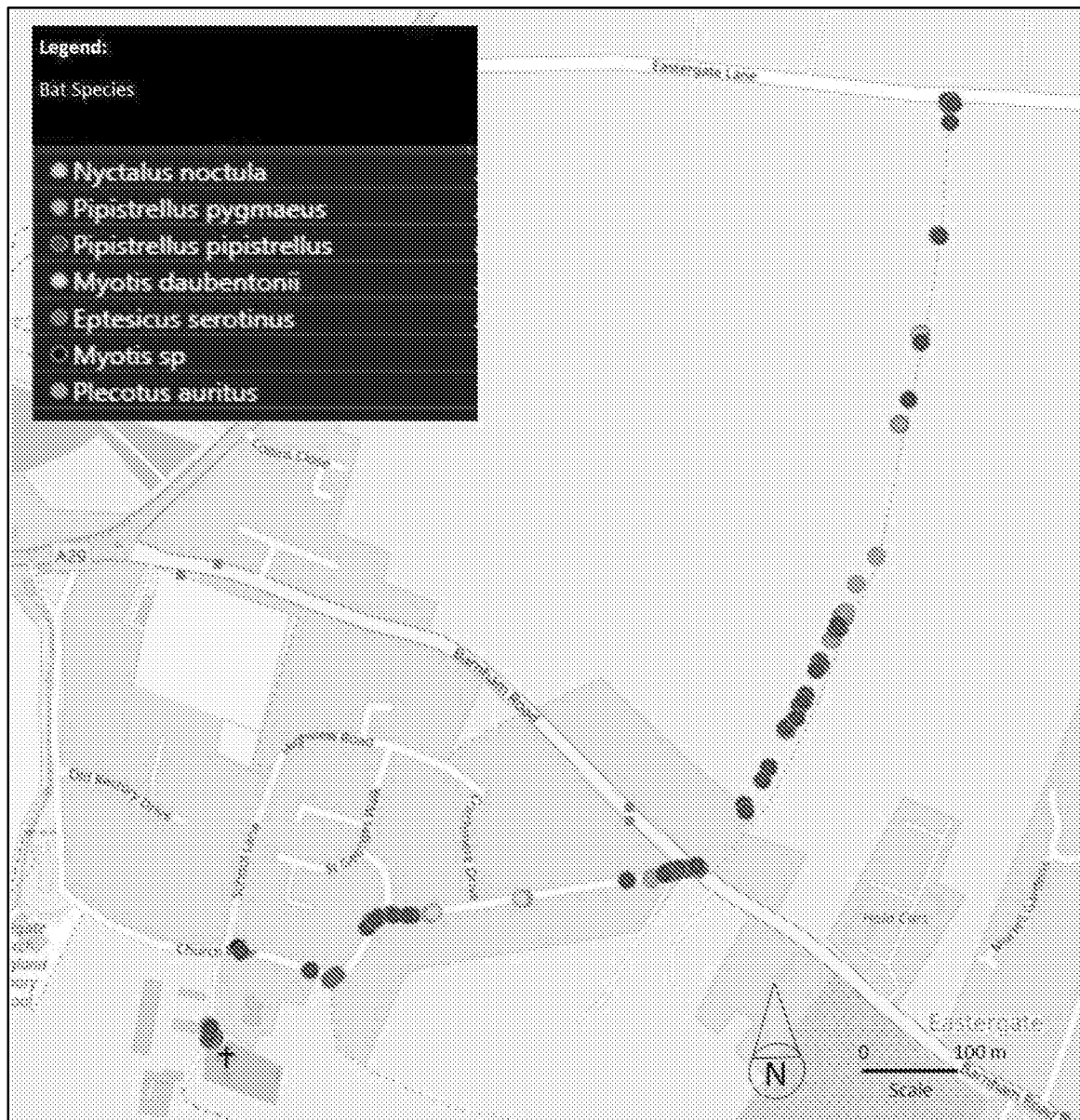
Seven bat species were recorded during the survey. These comprised a high level of common pipistrelle *Pipistrellus pipistrellus*, along with moderate levels of soprano pipistrelle and low levels of brown Long-eared, Daubenton's *Myotis daubentonii*, *Myotis* species (see Table 2), noctule and serotine *Eptesicus serotinus*.

The first bat detected during the survey was a noctule at 19:19 and the last bat detected was a common pipistrelle at 21.07.

A total of seven different bat species, including undifferentiated *Myotis* sp. (see Table 2) were recorded during the survey, with most of the bat activity found to be associated with the mature trees and hedgerow that were present along the transect route (detailed in Table 3 below). Visual sightings of bats during the survey showed them to be commuting and foraging along the route, particularly at points where mature trees and shrubs were present. Strong bat social calls were detected outside of St George's Church. This common and distinctive behaviour is indicative of bats calling to each other from outside or from within a nearby roost, particularly during the mating season.

The detailed distribution of the bats recorded during the survey are presented in Figures 2 and 3 below.

Figure 2. Results of Eastergate Lane to Church Lane bat activity transect 19 September 2019, showing bat species and the location of recordings made during the survey.



(Image supplied courtesy of OpenStreetMap 2019)

Figure 3. Results of Eastergate Lane to Church Lane bat activity transect 19 September 2019, showing a heatmap of the distribution of bats recorded during the survey.



(Image supplied courtesy of OpenStreetMap 2019)

Table 2. Myotis species native to the UK.

Common Name	Latin Name	Status in Sussex	Status in UK
Alcathoe whiskered	<i>Myotis alcathoe</i>	Very rare – hardly known	Only recently recognised in UK
Bechstein's	<i>Myotis bechsteinii</i>	Very rare	Very rare, southern
Brandt's	<i>Myotis brandtii</i>	Scarce, widespread	Widespread, scarce E/W
Daubenton's	<i>Myotis daubentonii</i>	Fairly abundant, widespread	Widespread, fairly abundant
greater mouse-eared	<i>Myotis myotis</i>	Very rare (currently only one individual)	Very rare (currently only one individual)
Natterer's	<i>Myotis nattereri</i>	Scarce, widespread	Scarce, widespread
whiskered	<i>Myotis mystacinus</i>	Scarce, widespread	Scarce, widespread, not S

Table 3. Summary results of bat activity survey visit – Eastergate Lane to Church Lane (19 September 2019).

Common Name	Latin Name	Recordings	Calls
brown long-eared	<i>Plecotus auritus</i>	1	3
common pipistrelle	<i>Pipistrellus pipistrellus</i>	83	1262
Daubenton's	<i>Myotis daubentonii</i>	3	34
<i>Myotis</i> sp	<i>Myotis</i> sp	1	10
noctule	<i>Nyctalus noctula</i>	2	10
serotine	<i>Eptesicus serotinus</i>	2	4
soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	22	315

8 Ecological Constraints

The survey results show that the route of the transect and its adjacent habitat represents a significant and important north to south corridor for bats and other wildlife.

There are 18 resident species of bat in the UK, all of which have been recorded in Sussex. Some are resident in Sussex, while others turn up occasionally or at certain times of the year - <http://www.sussexbatgroup.org.uk/batsinsussex> (accessed October 2019), along with 3 or 4 additional species, which occasionally visit the UK from mainland Europe. All European bats are protected under EU law (see Section 6 above).

All bats in the UK feed exclusively upon invertebrates and are nocturnal in habit, relying upon trees hedgerows, grasslands and wetlands for foraging, shelter and for navigation. It is therefore imperative that these areas remain undisturbed and are enhanced for bats and other wildlife wherever possible.

Any actions or developments likely to have a negative impact upon bats will need to be carried out under a European Protected Species Licence, issued by Natural England for this purpose. Wherever there is potential for a significant impact upon bats to occur, it is likely that a Reasoned Statement will be required by Natural England, which will need to show that the following 3 licensing tests can be met:

- there is a clear purpose, for example:
 - you need to preserve public health and safety
 - there's an overriding public interest, such as providing housing in an area where shortfalls have been clearly identified
- there isn't a satisfactory alternative
- the protected species won't be harmed as a result of the proposed activities

Further advice is available using the following link: <https://www.gov.uk/government/publications/reasoned-statement-to-support-a-mitigation-licence-application/protected-species-licences-when-to-include-a-reasoned-statement-with-your-application>.

9 Recommendations

Opportunities exist to maintain and improve habitat connectivity for bats and other wildlife. These should be considered at an early stage in the local community planning process. Local and neighbourhood plans should seek to avoid the loss of habitat connectivity. Plans should promote the maintenance and improvement of existing habitats features for bats and other wildlife, as well as the creation of new additional habitat features within the built environment – these might include tree-lined streets, riparian corridors, lakes and ponds, hedges, scattered trees and woodland. It is imperative that such landscape features provide unbroken connectivity with the wider rural landscape and with urban green spaces, such as parks and gardens. Further advice is available using the following link: https://cdn.bats.org.uk/pdf/Our%20Work/Landscape_and_urban_design_for_bats_and_biodiversityweb.pdf?mtime=20181101151349

Built structures can also be enhanced with the inclusion of integral bat roosting opportunities, such as bat bricks. Examples of these can be viewed using the following link: https://www.nhbs.com/bat-brick&https://www.nhbs.com/search?q=bat%20box%20built%20in&hPP=60&idx=titles&p=0&fr%5Bdoc_s%5D%5B0%5D=false&fr%5Bhide%5D%5B0%5D=false&fr%5Blive%5D%5B0%5D=true.

Many bat species and other nocturnal wildlife are vulnerable to disturbance from artificial lighting. Any reduction in existing levels of artificial lighting will be beneficial to bats. Where new lighting is proposed, it should be directed away from trees, shrubs and wetlands and used for restricted time periods only. All new developments should include a suitable lighting plan for this purpose (see Appendix 1 for further information on lighting).

Wildlife education for the local community and supported community habitat management and action group initiatives should be encouraged. These can go a long way to achieving desirable planning policy outcomes, both for wildlife and for community wellbeing. Example of successful local community groups can be viewed at <https://www.aruncountryside.org/> and <http://mwhg.org.uk/>.

10 Conclusion

The Eastergate Lane to Church Lane bat activity transect has shown the transect route to be an important commuting and foraging route for bats and may form a significant corridor for bats traveling between the South Downs National Park and the coastal plain.

It is important that local and neighbourhood plans continue to be informed by robust baseline and monitoring data for local protected wildlife, which is essential to support good planning and development decisions for wildlife within the local area.

Every effort should be made to sustain and enhance the connectivity of this route for bats into the future, in line with obligations under the NPPF (2019) and Policy ENV SP1 of the Adoption Arun Local Plan 2011-2031 (July 2018).

11 References:

Arun District Council (2018). Adoption Arun Local Plan 2011-2031 (July 2018). Available online at: <https://www.arun.gov.uk/download.cfm?doc=docm93iim4n12844.pdf&ver=12984> (accessed October 2019).

Bat Conservation Trust and Institute of Lighting Professionals 2018. Guidance Note 08/18 - *Bats and artificial lighting in the UK*. Available online at: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/> (accessed September 2019).

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Countryside and Rights of Way (CROW) Act 2000. Available online at: <https://www.legislation.gov.uk/ukpga/2000/37/contents> (accessed September 2019).

HM Government (2005) *ODPM Circular 06/05 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System* (Online). Available online at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf (accessed September 2019).

HM Government (2006). Natural Environment and Rural Communities Act 2006. Available online at: <https://www.legislation.gov.uk/ukpga/2006/16/section/41> (accessed September 2019).

HM Government (2019). *National Planning Policy Framework*. Department for Communities and Local Government (Online). Available online at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf (accessed September 2019).

HM Government, Wildlife and Countryside Act 1981 (as amended). Available on line at: <https://www.legislation.gov.uk/ukpga/1981/69> (accessed September 2019).

12 Appendix 1 – Reducing impacts of artificial light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts on other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness. Guidelines issued by the Bat Conservation Trust and Institute of Lighting Professionals should be considered while designing the lighting scheme. This includes the following measures:

- Restrict the use of excessive lighting. Use only the minimum amount of light needed for the task, taking special care not to directly illuminate bat roosts or important areas for nesting birds.
- Avoid installing lighting in ecologically sensitive areas such as: near ponds, lakes, rivers, areas of high conservation value, sites supporting particularly light-sensitive species of conservation significance (e.g. glow worms, rare moths, slow-flying bats) and habitat used by protected species.
- Avoid using reflective surfaces under lights.
- Consider employing a competent lighting designer who will apply the principals of providing the right light, in the right place, at the right time and controlled by the right system.
- Minimise the spread of light to, at, or near horizontal and ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required.
- Carefully consider the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures.
- Use alternative non-lighting solutions where possible such as white lining, good signage, and LED cats' eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times.
- Use temporary screening, such as close-boarded fencing until vegetation matures, to shield sensitive areas from lighting.
- Limit the times that lights are on to a minimum, to provide some dark periods. The task being lit often varies, for example roads are less used after 23.00hrs and car parks are empty. A lighting designer can vary the lighting levels as the use of the area changes reducing lighting levels or perhaps even switching installations off after certain times. This use of adaptive lighting can tailor the installation to suit human health and safety as well as wildlife needs.

Recommended further reading:

Bat Conservation Trust and Institute of Lighting Professionals (2018). Guidance Note 08/18 - *Bats and artificial lighting in the UK*. Available online at: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

Buglife (2011) *A review of the impact of artificial light on invertebrates*. Available online at: https://www.buglife.org.uk/sites/default/files/A%20Review%20of%20the%20Impact%20of%20Artificial%20Light%20on%20Invertebrates%20docx_0.pdf

CPRE (2014) *Shedding Light: A survey of local authority approaches to lighting in England*. Available online at: <http://www.cpre.org.uk/resources/countryside/dark-skies/item/3608-shedding-light>.

Institution of Lighting Professionals (2011) Guidance Notes for the Reduction of Obtrusive Light GN01:2011. Available online at: <https://www.theilp.org.uk/resources/free-resources/>.

Planning Practice Guidance guidance (2014) When is light pollution relevant to planning? Available online at: <https://www.gov.uk/guidance/light-pollution>.

Rich, C., Longcore, T., Eds. (2005) *Ecological Consequences of Artificial Night Lighting*. Island Press. ISBN 9781559631297.

Royal Commission on Environmental Pollution (2009) *Artificial light in the environment*. HMSO, London. Available online at: <https://www.gov.uk/government/publications/artificial-light-in-the-environment>.

End.
