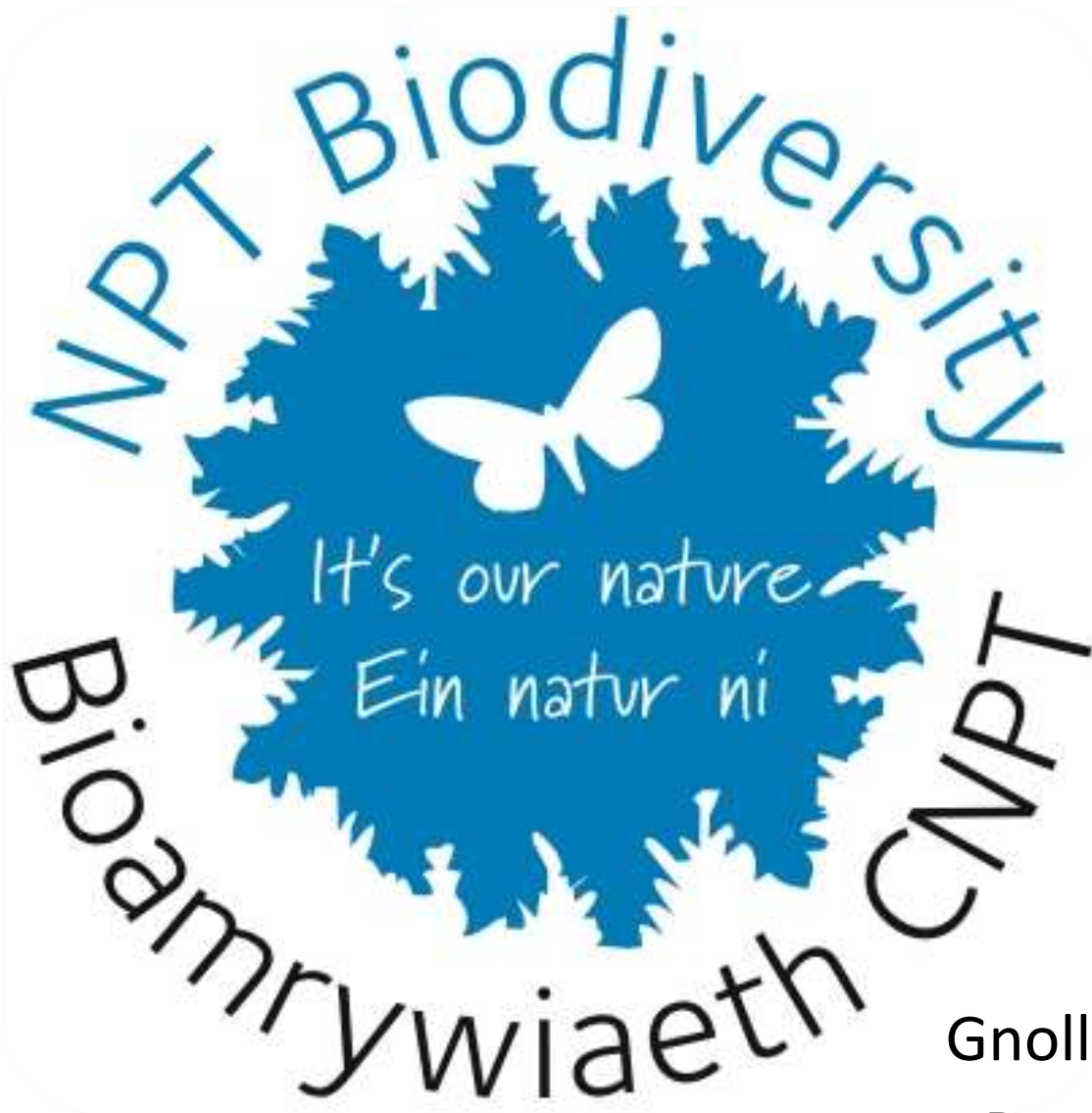




Gnoll House Cellars Bat Survey Report

Date: September 2023

by

Lewis Badham and Megan
Price
Planning Ecologist/ Ecologist
(Planning & Consultancy)
Countryside and Wildlife Team

CONTENTS

DECLARATION.....	3
EXECUTIVE SUMMARY	4
1 INTRODUCTION	5
1.1 SITE LOCATION.....	5
1.2 DESCRIPTION OF DEVELOPMENT	6
1.3 SCOPE OF SURVEY	9
2 BASELINE SURVEY RESULTS.....	10
2.1 PRELIMINARY ROOST ASSESSMENT.....	10
2.1.1 SURVEY METHOD	10
3.2 EMERGENCE SURVEY	13
3.2.1 SURVEY METHODOLOGY.....	13
3.2.2 LIMITATIONS	13
3.2.3 RESULTS.....	14
4 RECOMMENDATIONS FOR MITIGATION	14
4.1 SITE WORKS METHOD	15
4.2 ECOLOGICAL ENHANCEMENT	15
5 REFERENCES.....	16
6 APPENDICES.....	17
6 APPENDICES.....	3

DECLARATION

The information, advice and opinions which we have prepared and provided is true, and has been prepared and provided in accordance with the CIEEM's Code of Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Signed:

X L Badham

Lewis Badham

Planning Ecologist

A handwritten signature in black ink, appearing to read 'M Price', with a stylized 'M' and 'P'.

Megan Price

Ecologist (Planning & Consultancy)

The following report is considered a reasonable and true representation of the ecological situation on the site assessed. The report is however just a snapshot assessment therefore the authors are unable to guarantee that all biodiversity interest has been identified. In addition, if works are not undertaken, a programmed re-assessment will be required. The survey information is considered applicable for two years from the date of the survey.

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EXECUTIVE SUMMARY

Gnoll Country Park is currently the focus of a Levelling-up Fund grant which has been approved to improve multiple features in the Park (for full details please see The Stage 2 Report. Rev_B. Hiraeth).

The project has been subdivided up into multiple planning applications and the focus of this report is the Visitor Centre demolition and rebuild.

The finalized design is not yet available however this report is based on the most up to date plans received.

The Cellar has a maternity colony of Brown Long eared bats (*Plecotus auritus*) (up to 9 individuals recorded emerging) and Common Pipistrelles (*Pipistrellus pipistrellus*) (up to 3 individuals recorded emerging).

The plan for the inside of the Cellar is to use it for public interpretation of the historic grounds and provide an interactive experience within. To accommodate for the bats it is proposed that the cellar is split and 2 areas are partitioned off to provide bat roosting areas (enhancements will be created within these areas to compensate for the loss of overall roosting space) whilst the rest of the cellar is used as a public space.

As an enhancement to mitigate for the small loss of amenity grassland that will occur on the surface of the Gnoll House Ruins, certain areas will be managed as meadow to provide resources for local pollinator species.

An NRW Protected Species License will be required for this development.

1 INTRODUCTION

1.1 SITE LOCATION

The Cellars of Gnoll Country Park House, situated within the western portion of the Country Park, are to be subject to, at the time of writing, undetermined remedial works. Location is shown on the aerial photograph below. Grid reference for centre of site is SS 76035 97280.



Figure 1 – Location of Gnoll House Cellars

The cellars are situated below the ruins of the original country house. The cellars have four entranceways with above ground portions of the overall structure, namely the stone buildings, having corrugated metal roofs. The area within the immediate environment of the cellars is amenity grassland bordered with predominately mixed species woodland. The Gnoll Country Park Lake is situated approximately 320m east.

1.2 DESCRIPTION OF DEVELOPMENT

Current plans for the Gnoll House Cellars are yet to be finalized. Figure 2 and 3 below indicate the current design as it stands, which is very unlikely to change significantly.

An NRW Protected Species License will be required for this work. The bat roost designs will be finalised during the license application process.

Internally there will be extensive repair works to ensure that the space becomes safe for human access, is water tight and preserved for the future. The cellars will be subdivided up and two areas will create bat roosts. Bat Roost A uses the cellar access which the bats use to enter/leave the cellar currently. A small cold room space will be created in this roost to enhance roosting potential and create microclimates within. Bat Roost B is located at the opposite end of the cellar, access to the surface will be reinstated as part of this development.

The rest of the internal space will be used for public interpretation of the historic grounds and house that were present at Gnoll Country Park.

Externally the space is going to be used as a public space for events. There will be repair works to the external features of the Gnoll House Cellars.

There will be a small amount of surfacing works in the immediate vicinity of the ruins.



8 | Page

1.3 SCOPE OF SURVEY

The objectives of the survey were to obtain sufficient data to:-

1. Identify potential bat activity levels and use of buildings on site e.g. roosting within the buildings identified and/or foraging in and around the surrounding area;
2. Identify any other potential constraints to redevelopment on the site from other species present;
3. Assess whether the proposed redevelopment of the buildings on site would be likely to have an impact upon those species, if present;
4. Make recommendations for further survey work (if necessary) to establish the seasonal use of the site and to help determine the species status, if present; and
5. Recommend a mitigation strategy (where possible) for those habitats/species present that pose a constraint to the redevelopment of the site.

2 BASELINE SURVEY RESULTS

2.1 PRELIMINARY ROOST ASSESSMENT

2.1.1 SURVEY METHOD

Due to the old age of the building, its location being situated within Gnoll Country Park, and known roosting status, an internal preliminary roost assessment was not deemed necessary in this instance and flight surveys were undertaken.

Please see Table 1 below for indicative photos providing an external overview of the overall structure of the cellar complex.

Table 1. Overview of above ground structures and entranceways into cellar complex.



Internal view of north-western entrance



Stone-built building with corrugated roof
(north & western elevations)



Stone-built building with corrugated roof
(south & south-western elevations)



Entrance into cellar underneath stone
building in south-west of site



Entrance into cellar complex in south of site



Stone building with metal roof

The cellars are situated below the ruins of the original country house. The cellars have four entranceways with metal gateways with sufficient space so as to allow free access to potential roosting bats. Given the large size and extent of the cellar complex, it is assumed that the underground environment provides sufficient humidity and thermal stability for hibernating bats. The above ground portions of the overall structure, namely the stone buildings, have corrugated metal roofs and fascias, which may offer further roosting potential for crevice dwelling species.

3.2 EMERGENCE SURVEY

3.2.1 SURVEY METHODOLOGY

The surveys were conducted in accordance with the Bat Conservation Trust guidelines (Collins J. 2016). The cellar complex was assessed as having Moderate to High potential to support roosting bats. Two emergence surveys were carried out.

The first dusk emergence survey was undertaken on the 13th July 2022 (by Laura Palmer, Marie Fowler, Beth Parker, Chloe Angelone and Megan Price) in weather conditions conducive to bat activity i.e. little or no rain and temperatures in excess of 10° C. The emergence survey began approximately 30 minutes before sunset and continued for approximately 2 hours after sunset. 4 surveyors were positioned so as to cover the majority of elevations of the cellar complex.

The second dusk emergence survey was undertaken on the 28th September 2022 (by Rebecca Sharp, Beth Parker, Chloe Angelone) in weather conditions conducive to bat activity i.e. little or no rain and temperatures in excess of 10° C. The emergence survey began approximately 30 minutes before sunset and continued for approximately 2 hours after sunset. 3 surveyors were positioned strategically around the cellar complex so to have a clear view of the structures.

The third dusk emergence survey was undertaken on the 25th May 2023 (by Catherine Tucker, Lewis Badham and Rose Revera) in weather conditions conducive to bat activity i.e. little or no rain and temperatures in excess of 10° C. The emergence survey began approximately 30 minutes before sunset and continued for approximately 2 hours after sunset. 3 surveyors were positioned strategically around the cellar complex so to have a clear view of the structures.

The 4th dusk emergence survey was undertaken on the 7th June 2023 (by Rose Revera, Chloe Angelone and Lewis Badham) in weather conditions conducive to bat activity i.e. little or no rain and temperatures in excess of 10° C. The emergence survey began approximately 30 minutes before sunset and continued for approximately 2 hours after sunset. 3 surveyors were positioned strategically around the cellar complex so to have a clear view of the structures.

Each surveyor was equipped with either a SSF Bat 2 detector, Echometer Touch Pro detector and iPad or an Elekon Batscanner bat detector.

3.2.2 LIMITATIONS

There were no limitations to the survey as it was carried out at the correct time of year in conducive weather conditions.

3.2.3 RESULTS

13th July 2022

Low levels of activity were recorded on site during the initial emergence survey. An individual Brown Long-eared Bat (*Plecotus auritus*) and two Soprano Pipistrelles (*Pipistrellus pygmaeus*) were observed emerging from the north-western entrance of the cellar complex. A single Common Pipistrelle (*Pipistrellus pipistrellus*) was also observed emerging from the central entranceway into the cellars. Soprano and Common Pipistrelles were observed foraging along the tree lines which wrap around the site and Common Pipistrelles were also observed commuting north through the site. A plan highlighting surveyor positions and bat activity over the course of the survey can be found at Appendix 1. A summary table of the data collected over the course of the survey can be found at Appendix 3.

28th September 2022

Moderate levels of bat activity were recorded on site during the emergence survey. A single Brown Long-eared Bat was observed emerging from the north-western entrance of the cellar complex. Brown Long-eared Bats and Common and Soprano Pipistrelles were observed foraging along the tree lines and over the centre of the cellars complex. Common and Soprano Pipistrelles were also observed commuting south. A plan highlighting surveyor positions and bat activity over the course of the survey can be found at Appendix 2. A summary table of the data collected over the course of the survey can be found at Appendix 4.

25th May 2023

Moderate levels of activity were recorded on site during this emergence survey. 9 Brown Long-eared bats were observed emerging from the north-western entrance of the cellar complex along with 1 Common Pipistrelle. Brown Long-eared bats, Common and Soprano Pipistrelle bats were observed foraging along the tree lines and over the cellar complex.

7th June 2023

Moderate levels of bat activity were recorded on site during the emergence survey. 6 Brown-Long eared bats emerged from the north-western entrance of the cellar. Common and Soprano Pipistrelles were recorded foraging along the tree lines and around the centre of the cellar complex throughout the emergence survey.

4 RECOMMENDATIONS FOR MITIGATION

4.1 SITE WORKS METHOD

A definitive plan of works for the Cellar has not been decided upon yet and a full schedule of repairs has not been drawn up (further investigations by architects/engineers are needed). However a NRW Protected Species License will be required for the works. Due to the Cellars use as a hibernation and maternity roost for 2 species of bat, the works to create the bat roosts will be carried out in the transitional periods. Either August – end of October or March through to end of May to ensure that no harm comes to the local bat population and that the cellar space is available to be used as a hibernation/maternity roost which will mean that the local bat population is not negatively affected by the works.

External works to the Gnoll House ruin area have no such constraint on when they are carried out (as long as the entrances to the cellar are unobstructed by the works).

No night time working is predicted to occur, if this changes then consultation will be sought with the NPTC Ecologist who will advise on appropriate mitigation measures to be undertaken.

No flightlines/commuting routes will be affected by the works.

4.2 ECOLOGICAL ENHANCEMENT

In line with the general principles set out in SPG: Biodiversity and Geodiversity (May 2018) and the Environment (Wales) Act 2016 the application is required to demonstrate how biodiversity enhancement is to be achieved.

Currently the designs for this area have not been finalized however it is unlikely that they will significantly change from Figure 2 and 3 included above.

Enhancements for bats will be designed into the two bat roost areas that are being created (Bat roost A & B), these designs have not yet been finalized but will be part of an NRW Protected Species License. Bat boxes will also be installed around the Gnoll House Ruins area on the Stone wall located to the east of the area. This will provide additional roosting spaces.

There will be a minor loss of amenity grassland directly around the Gnoll House Ruin area, which is not considered to have any impact on the local biodiversity status of the area. However, as an enhancement, certain areas of these ruins will be turned into meadow and managed appropriately with mown paths through. The area to the North of the ruins is most likely to be designated as the meadow area. Further details on exact location, area and management will be provided when it has been confirmed.

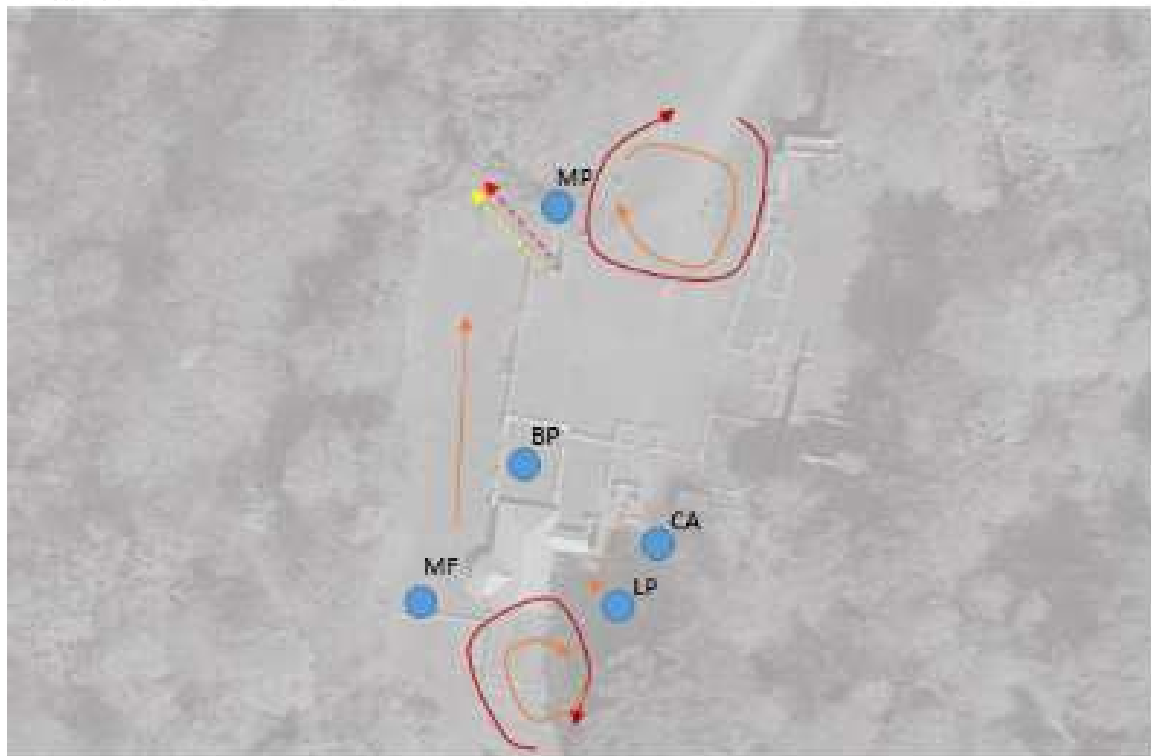
5 REFERENCES

- Anon.** HMSO, London. All legislative references. www.legislation.gov.uk
- CIEEM.** (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine
- CIEEM.** (2017). Guidelines for Preliminary Ecological Appraisals. 2nd Ed
- Collins, J. (ed.) (2016)** Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.
- Joint Nature Conservation Committee.** (1993). Handbook for Phase 1 Habitat Survey. A technique for environmental Audit.
- Wales Biodiversity Partnership.** Environment (Wales) Act 2016: Section 7 List of Species of Principal Importance for Conservation of Biological Diversity in Wales.
- Wales Biodiversity Partnership.** Environment (Wales) Act 2016: Section 7 List of Habitats of Principal Importance for Conservation of Biological Diversity in Wales.
- Wales Biodiversity Partnership.** (2008). Wildlife Sites Guidance Wales. A guide to develop local wildlife systems in Wales.

6 APPENDICES

APPENDIX 1 – 2022-07-13: FLIGHT LINES & SURVEYOR POSITIONS

2022/07/13 Emergence Survey: Cellars



APPENDIX 2 – 2022-09-28: FLIGHT LINES & SURVEYOR POSITIONS

2022/09/28 Emergence Survey: Cellars



APPENDIX 3 – 2022-07-13 SURVEY SUMMARY TABLE

<u>Dusk Emergence/ Dawn Re-entry Survey Form</u>			
Surveyors:	Laura Palmer, Beth Parker, Chloe Angelone, Marie Fowler, Meg Price		
Date:	13/07/2022		
Location/ Project:	Gnoll Cellars		
Feature/s being surveyed:	Stone Cellar Entranceways; Roofline; Holes in Stone Walls;		
Time Start:	21:15	Time Finish:	22:30
Sunset time:	21:30	Detectors Used:	Echometer Touch; Petterson; SSF2
Temperature Start (°C):	20	Temperature Finish (°C):	–
Cloud Cover (%):	0%	Cloud Cover Finish (%):	–
Humidity Start (%):	–	Humidity Finish (%):	–
Wind Start:	Light Wind	Wind Finish:	Light Wind
Precipitation:	None.		
Land Use:	Historical Stately Home (Ruin) with remaining cellar network		
Surrounding Land Use:	Parkland / Outdoor Recreation		
Surveyor:	Time:	Species:	Activity & Direction:
MF	21:29	Ppy	HNS
MF	21:48	Nn	HNS

MP	21:52	Pp	HNS
BP	21:54	Pp	Commuting
MP	21:55	Pp	Foraging
MP	21:56	Ppy	Foraging
MP	21:57	Pa	Emergence - out of cellar
MP	22:00	Ppy	Two individuals emerged from cellar
CA	22:07	Pp	Emergence - 1 individual out of cellar
BP	22:22	Nn	HNS
CA	22:26	Ppy	HNS

APPENDIX 3 – 2022-09-28 SURVEY SUMMARY TABLE

<u>Dusk Emergence/ Dawn Re-entry Survey Form</u>			
Surveyors:	Rebecca Sharp, Beth Parker, Chloe Angelone		
Date:	28/09/2022		
Location/ Project:	Gnoll Cellars		
Feature/s being surveyed:	Stone Cellar Entranceways; Roofline; Holes in Stone Walls;		
Time Start:	18:45	Time Finish:	20:15
Sunset time:	19:00	Detectors Used:	Echometer Touch; Petterson; SSF2
Temperature Start (°C):	12	Temperature Finish (°C):	10
Cloud Cover (%):	1%	Cloud Cover Finish (%):	1%
Humidity Start (%):	73	Humidity Finish (%):	82
Wind Start:	Light Wind	Wind Finish:	Light Wind
Precipitation:	None.		
Land Use:	Historical Stately Home (Ruin) with remaining cellar network		
Surrounding Land Use:	Parkland / Outdoor Recreation		
Surveyor:	Time:	Species:	Activity & Direction:
RS, CA	18:57 - 19:06	Pp	Foraging
CA	19:06	Ppy	Foraging

RS	19:10 - 19:28	Pp, Ppy	Foraging
BP	19:18	Pp	Commuting south
CA	19:25	Pa	Emergence - 1 individual
CA	19:41	Pa	Light sampling in cellar entrance
CA	19:47	Pa	Emergence - 1 individual
RS	20:09	Pa	Foraging

APPENDIX 3 – 2023-05-25 SURVEY SUMMARY

<u>Dusk Emergence/ Dawn Re-entry Survey Form</u>			
Surveyors:	Catherine Tucker, Rose Revera Lewis Badham		
Date:	25/05/2023		
Location/ Project:	Gnoll Cellars		
Feature/s being surveyed:	Stone Cellar Entranceways; Roofline; Holes in Stone Walls;		
Time Start:	21:00	Time Finish:	23.00
Sunset time:	21:15	Detectors Used:	Echometer Touch; Petterson; SSF2
Temperature Start (°C):	18	Temperature Finish (°C):	18
Cloud Cover (%):	25	Cloud Cover Finish (%):	80
Humidity Start (%):	69	Humidity Finish (%):	67

Wind Start:	Light Wind	Wind Finish:	Light Wind
Precipitation:	None.		
Land Use:	Historical Stately Home (Ruin) with remaining cellar network		
Surrounding Land Use:	Parkland / Outdoor Recreation		
Surveyor:	Time:	Species:	Activity & Direction:
LB	21:26	Pp	HNS
RR	21:26	Pp	Commuting along northern edge of cellar area
CT	21:32	Pp	Foraging along NW tree line
LB	21:37-21:48	Pp & Ppy	Foraging over grassland to west of cellar area
CT	21:43	Pa & Pp	Emerged from NW cellar entrance and flew to N tree line
CT	21:48	Pa	Emerged from NW cellar entrance and flew to adjacent tree line
CT	21:50	Pa	Emerged from NW cellar entrance and flew to adjacent tree line
CT	21:56	Pa x3	Emerged from NW cellar entrance and flew to adjacent tree line
CT	21:57	Pa x2	Emerged from NW cellar entrance and flew to E open area
CT	22:00	Pp	Foraging along tree line
CT	22:04	Pa	Emerged from NW cellar entrance – foraging along adjacent tree line
CT	22:24-22:52	Pp	Foraging over cellar area.

APPENDIX 3 – 2023-06-07 SURVEY SUMMARY

<u>Dusk Emergence/ Dawn Re-entry Survey Form</u>			
Surveyors:	Marie Fowler, Rose Revera, Lewis Badham		
Date:	07/06/2023		
Location/ Project:	Gnoll Cellars		
Feature/s being surveyed:	Stone Cellar Entranceways; Roofline; Holes in Stone Walls;		
Time Start:	21:15	Time Finish:	23.00
Sunset time:	21:29	Detectors Used:	Echometer Touch; Petterson; SSF2
Temperature Start (°C):	20	Temperature Finish (°C):	17
Cloud Cover (%):	30	Cloud Cover Finish (%):	-
Humidity Start (%):	60	Humidity Finish (%):	70
Wind Start:	Light Wind	Wind Finish:	Light Wind
Precipitation:	None.		
Land Use:	Historical Stately Home (Ruin) with remaining cellar network		
Surrounding Land Use:	Parkland / Outdoor Recreation		
Surveyor:	Time:	Species:	Activity & Direction:
LB	21:45	Pp	Foraging over open cellar area
RR	21:50	Pp & Ppy	Foraging over cellar area

MF	21:52	Pp & Ppy	Foraging over open area and sheltered area to the E
RR	21:53	Pa	Light sampling in NW cellar entrance
RR	21:55	Pa	Emerged from NW cellar entrance, flew to W tree line
RR	21:56	Pa	Emerged from NW cellar entrance, flew to W tree line
RR	21:58	Pa	Emerged from NW cellar entrance, flew to W tree line
RR	21:59	Pa	Emerged from NW cellar entrance, Flew to W tree line
RR	22:02	Pa	Emerged from NW cellar entrance, flew to E, open area
RR	22:03	Ppy	Foraging along W tree line
RR	22:07	Pa	Emerged from NW cellar entrance, flew to W tree line.
RR	22:16	Ppy	Foraging along W edge of site