



ECOLOGY REPORT

**Land at Abenhall Road
Mitcheldean
Glos**

April 2024

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 **Environmental
Methods**
Ecology & Environmental Consultancy

REPORT SUMMARY

1. PROPOSAL

The owner of land at Abenhall Road proposes to construct a scheme of residential housing at the north end of the field.

Environmental Methods Consultancy was appointed to survey the site and assess its potential for use by protected species or species of conservation concern.

2. SURVEY METHOD AND RESULTS

Walkover survey was carried out in April 2023 (and throughout the following summer) to identify relevant features, habitats and any species of conservation concern. The site context merited scoping and impact assessments for the following:

- **Bats** – The site is within a ‘very sensitive location’ for horseshoe bats, relating to the Forest of Dean bats sites SAC. Comprehensive automated and transect surveying was carried out over 2023/4 to investigate use of the site by bats.

It was established that the site is used regularly by likely one common pipistrelle and very occasionally by other species. Use by horseshoe bats is absent.

- **Great crested newts** – Following mapping and site vicinity searches, no waterbodies are evident within a 500m radius. The NatureSpace Partnership risk zone map shows the site lying within a green zone – denoting modelled moderate habitat suitability.
- **Trees at the boundary** – Trees will require barrier protection during works.

3. RECOMMENDATIONS

Tree protection

- The root protection area of the trees at the north-west boundary corner will be protected during the construction by the installation of robust demarcation fencing (such as Heras fencing panels). This will be positioned beneath the edge of the canopy spread of the trees and remain in place for the duration of works.

Biodiversity enhancement

- Details will be provided at reserved matters stage.

1.0 Introduction

The owner of a field at Abenhall Road proposes to construct a scheme of residential housing at the north end of the field.

Environmental Methods Consultancy was appointed to survey the site and assess its potential for use by protected species or species of conservation concern.

2.0 Site location and habitat context

The site is located at the eastern edge of Mitcheldean town. The surrounding landscape comprises built-up town areas to the north and west, and farmland mosaic with linking hedgerows and occasional lines of trees to the east.

The landscape is moderately connected, with surrounding habitat of moderate quality for supporting bats and potentially great crested newts (species of relevance in this case).



Figure 1 – Aerial view of the site, with proposed development area outlined red

2.1 Property location



Figure 2 – Aerial view showing wider landscape setting

- OS grid ref: **SO 66532 18208**

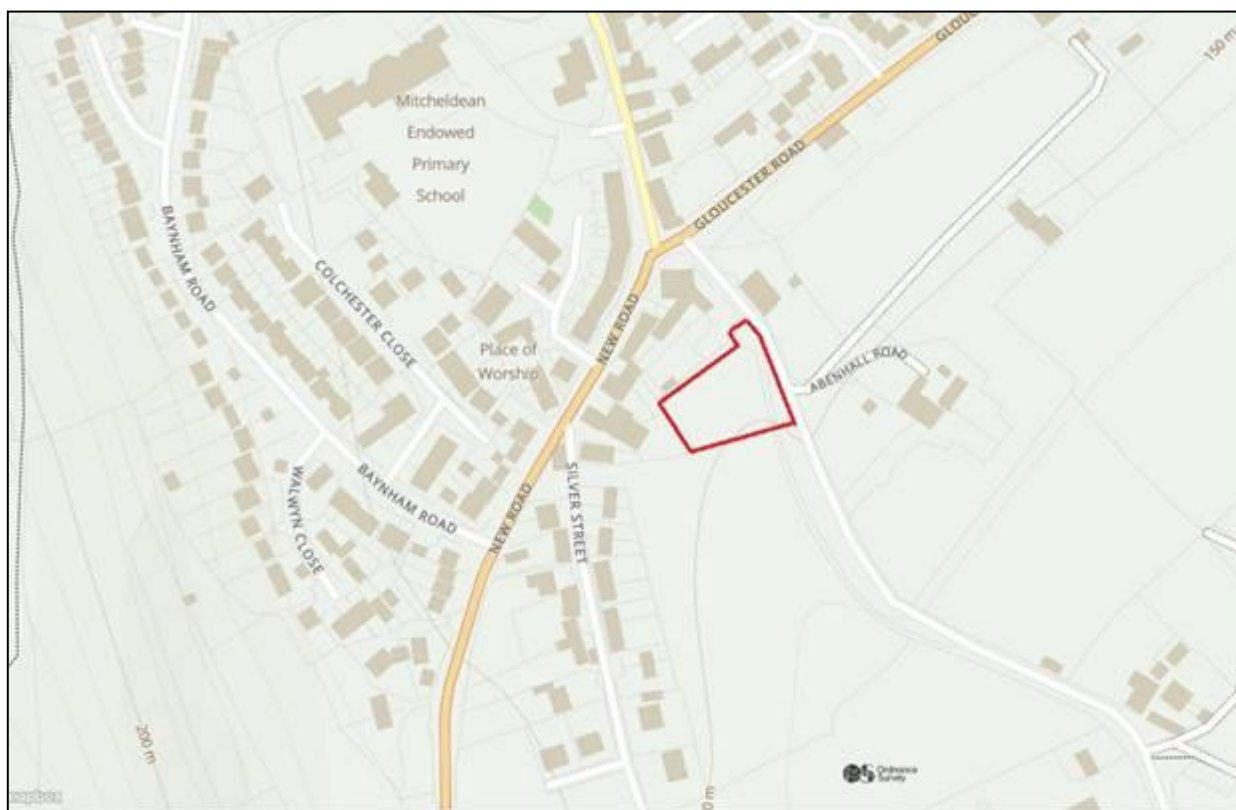


Figure 3 – Ordnance Survey map showing site location

3.0 Survey objectives

- a) Assess the presence of noteworthy habitat and/or species, particularly those of conservation concern or those protected by law whose disturbance may require legal consent (The Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 as amended), including evaluation of nearby associated features as relevant ecologically linked habitats.
- b) Determine material considerations for the planning proposal and assess any implications. Provide recommendations for species and/or habitats protection where necessary.

4.0 Methodology

4.1 Data search

Following the site inspection survey and given the small size of the development and focussed scope of assessment, a procured local records centre data search with its associated cost for the owner was deemed disproportionate and unnecessary.

A desk study was undertaken using the Nature on the Map website to establish the presence of statutory conservation sites within 2km of the site as well as establishing whether any European Protected Species (EPS) licences have been granted within 2km of the scheme.

4.2 Site walk-over survey

The initial daylight walkover survey was undertaken by the author in clear weather in April 2023. The survey was undertaken in accordance with the following published methodologies:

- Handbook for Phase 1 habitat survey (Joint Nature Conservation Committee, 2010) (noting dominant species; and providing target notes where appropriate to identify particular features/species);
- Guidelines for Preliminary Ecological Appraisal (Institute of Ecology and Environmental Management, 2012);

During the survey, the following investigations were undertaken in respect of the presence of legally protected species:

- Assessment of suitable habitats for nesting birds;
- A search for signs of badger activity including setts, tracks, snuffle holes and latrines within the application site and up to 50 m outside the application site (where access permitted);
- Assessment of habitat potential for reptiles and amphibians (including great crested newts);
- Assessment of habitat potential for dormice;
- Search for evidence of the presence of invasive plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 and subject to strict legal control.

4.3 Constraints

The survey methodology is a walkover search and assessment. It can only be a snapshot in time of habitat features and species that can be seen during the search. It was considered however that the site conditions and evidence were sufficient to enable a meaningful assessment to be made.

5.0 Site habitat description

5.1 Development site

The development site comprises a 0.25ha northern area of a wider poor semi-improved pasture field.

The field has been used for grazing and annually mown for silage/haylage making for many years.



Photo 1 – General view of site looking west

Western boundary

The western boundary comprises a close-boarded timber fence with domestic housing and car parking beyond:



Photo 2 – Western fence boundary looking south

Southern boundary

The southern boundary comprises a post and wire fence with intact scrub hedge beyond, of dominant bramble with occasional hazel and buddleia. 1m high, average 1.8m wide. Two cherry trees and one large cherry laurel sit towards the corner of these two boundaries.



Photo 3 – South boundary looking west

North boundary

This comprises an intact closely managed hedgerow with embedded chain-link fence, with a footpath and the Abenhall Road beyond. Hawthorn is the dominant species, with occasional hazel and elder. Average 1.7m high, 1.2m wide.



Photo 4 – North hedgerow looking north

East boundary – this is not yet formed - open to the wider field.

5.2 Grassland

The grassland is of poor diversity with the following vegetative species inventory recorded:

Field vegetative community		
Common name	Scientific name	DAFOR
Perennial ryegrass	<i>Lolium perenne</i>	D
Cocks foot	<i>Dactylis glomerata</i>	O
Yorkshire fog	<i>Holcus lanatus</i>	O
Meadow buttercup	<i>Ranunculus acris</i>	O
White clover	<i>Trifolium repens</i>	O
Broad leaved dock	<i>Rumex obtusifolius</i>	R
Common dandelion	<i>Taraxacum officinale</i>	R
Yarrow	<i>Achillea millefolium</i>	R
Hogweed	<i>Heracleum sphondylium</i>	R

The survey concluded that the grassland is poor semi-improved neutral grassland of no particular conservation merit or concern.

6.0 Desk top data search results

6.1 Desk top data search

Data search for the immediate location and a 1km search radius for bat species records, a 2km radius search area for statutory habitat site/land designations, and a 500m radius for local designations. A summary of the data is provided as follows:

Statutory sites related to bats within the search radius:

SAC

Site name	Distance from grid (m)
Wye Valley & Forest of Dean Bat Sites	1175

SSSIs

Site name	Distance from grid (m)
Edgehills Quarry	1385
Westbury Brook Ironstone Mine	1175
Stenders Quarry	785
Wigpool Ironstone Mine	1640

Locally designated site:

GWT Nature Reserve

Site name	Location	Feature	Distance from grid (m)
Stenders Quarry SSSI & GWT Nature Reserve	SO659183 Mitcheldean	Geological exposures, limestone grassland, woodland and scrub. Small bat roost.	700

Bat records

There are 68 records for bats at the Westbury Brook Ironstone Mine SSSI and Wigpool Mine SSSI, comprising lesser and great horseshoe, Natterer's Daubenton's, whiskered, brown long-eared, Brandt's and Bechstein's bats.

A further 49 records from 12 sites also exist, for lesser and great horseshoe, common and soprano pipistrelles, Natterer's, Daubenton's, whiskered, brown long-eared and Brandt's bats.

7.0 Habitats plan



Figure 4 – Phase 1 habitats plan with the site habitat features annotated

8.0 Scoping and impact assessments

The site habitat and linkage context indicates consideration for the following:

European Protected Species

Such species and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).

8.1 Great crested newt habitat assessment

8.1.1 Habitat evaluation

All ponds are potentially suitable as breeding waterbodies for great crested newts (GCN). Most of the year newts live on land generally within 250m dispersal range of their breeding waterbodies if that terrestrial habitat is of sufficiently quality for them.

The NatureSpace Partnership risk zone map shows the site lying within a green zone – denoting modelled moderate habitat suitability. However, following ground truthing comprising mapping and site vicinity searches, no waterbodies are evident within a 500m radius.

The site boundary hedges will not be affected by the development, and the semi-improved grassland provides only moderate potential habitat value for foraging and dispersal.

It is highly unlikely that GCN would be present at the site, and therefore no further survey or consideration is necessary for this species.

8.2 Bats

8.2.1 Habitat evaluation

The site hosts no buildings or nearby trees with roosting potential.

However, the site has the potential to be used for commuting and possibly foraging by light-sensitive species, particularly horseshoe bats.

The site lies within the horseshoe bat rich landscape found in the Wye Valley and Forest of Dean. Impact assessment is necessary for developments within the Wye Valley and Forest of Dean Bat Sites Special Area of Conservation (SAC). The site lies within the following:

- 1km maternity landscape buffer zone – LHS
- 3km hibernation buffer – both horseshoe bats

Development proposals that could affect the SAC trigger the requirements for a Habitats Regulations Assessment. On the basis of evidence provided, the local planning authority will consider whether the proposed development is likely to impact on horseshoe bats and therefore the SAC; requiring a Habitats Regulations Assessment (HRA).

As such, in accordance with the *Horseshoe Bat activity survey and assessment guidance, July 2021*, the site is within a band A 'very sensitive location'.

8.2.2 Survey method

A survey method was designed in accordance with the above guidance to investigate presence and use of the site for horseshoe (and other) bats. This comprised the following:

Survey timing	Automated detector surveys	Transect surveys
Active season (April to October)	<ul style="list-style-type: none"> • 20 days spring (April-May) • 15 days summer (June-August) • 15 days autumn (Sept-October) <p>Total 50 days</p>	<p>One survey each month –</p> <p>Total 7</p>
Winter season (Nov to March)	<ul style="list-style-type: none"> • 10 days December • 10 days February <p>Total 20 days</p>	<p>One survey in each December and February.</p> <p>Total 2</p>
Equipment used		
	<ul style="list-style-type: none"> • Wildlife Acoustics SM2BAT+ Rev1 Full spectrum recording. • Peersonic RPA2 in automated detector mode with waterproof case. Full spectrum recording. 	<ul style="list-style-type: none"> • Wildlife Acoustics Echometer Touch Pro II. Full spectrum. and • BatBox Duet

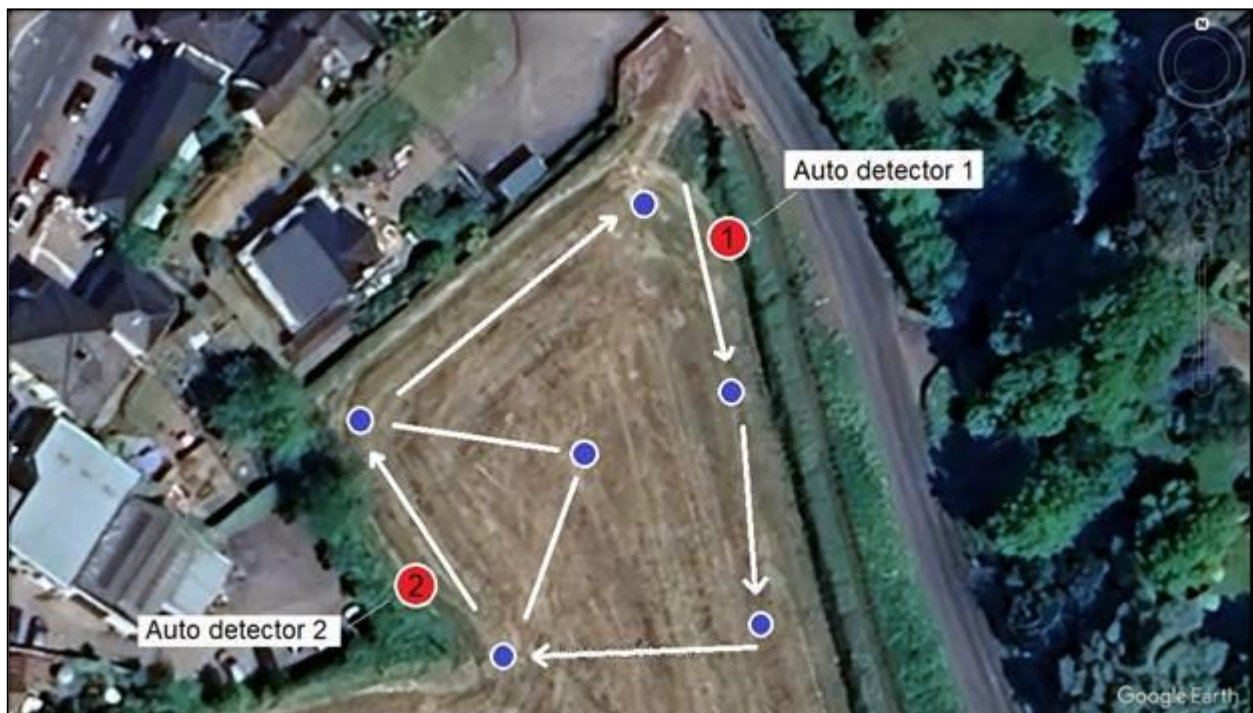


Figure 5 – Plan showing transect route and detector locations

The above plan shows the locations of the two automated detectors, at the west and east boundaries of the site. These provide coverage for the two potential landscape commuting features at the site.

West position: SO 66516 18179

East position: SO 66550 18230

The detectors were positioned approx. 1.5m height with microphones angled slightly downwards (at the hedge boundaries as shown in photos 3 & 4 above).

Transect surveys

These were carried out as detailed in the table above. The route was walked for three hours from sunset, stopping at each point shown above for approx. 2 to 5 minutes before moving on. The weather conditions for these and the automated surveys are shown in the table at **Appendix 2** below. The contemporaneous survey record sheet for each transect survey are displayed at **Appendix 3** below.

8.2.3 Results and discussion

Detailed results are provided at **Appendix 1** below. The vast majority of calls recorded at both east and west positions were from common pipistrelle bat/s. One weak lesser horseshoe bat call was detected at the north boundary during a transect survey at 23:41hrs on the 25/07/23. The bat was not seen, so it cannot be determined if the bat was present within the site.

Considering the length of time that the automated detectors were deployed, the presence of species other than c. pipistrelle is minimal. This is most likely due to the bright illumination of the site from the double luminaire LED street lighting at the east boundary. These lamps very brightly illuminate the footpath that leads to and from the nearby secondary school premises.



Photo 5 – Bright street lamps spilling light into the site

The image below shows the extent of the light spill at night which is bright enough to illuminate the interior of the site. This accounts for the very low use of the site by bats, other than the light-tolerant common pipistrelle.

This single bat was observed during the transect surveys foraging up and down the east hedge line, biasing its activity towards the south end of the hedge boundary, outside of the development site area.



Photo 6 – *Bright illumination into the field site.*

8.2.4 Impact assessment

The new dwellings will introduce a low level of lighting – light glow from windows and any external lamps that may be used. However, the site as existing is illuminated by the adjacent bright street lighting.

Comprehensive surveying has demonstrated that the site is used regularly by a light-tolerant common pipistrelle bat, with very little use by other species. Other than one detection of a lesser horseshoe bat on one evening, use of the site by horseshoe bats is absent.

The proposed development will therefore present no adverse impact on the use of the site by bats.

Non-European protected species

8.3 Badgers

No evidence of badgers using the site was recorded (setts, tracks, latrines, snuffle holes etc).

8.4 Reptiles

8.4.1 Habitat evaluation

The site comprises managed grassland. The sward is uniform with no structural diversity. There are no tussocks or other habitat features providing shelter or hibernation potential. The site habitats provide negligible potential for reptile species.

8.5 Trees

Large laurels and a bird cherry sit on the far side of the west boundary hedge at the north-west corner of the site.

No parts of the boundary hedges or the trees are proposed for removal or reduction (other than occasional maintenance trimming). The root protection area of the trees will require basic protection during the construction works.

This will be achieved by the installation of robust demarcation fencing (such as Heras fencing panels) that will be positioned beneath the edge of the canopy spread of the trees.

9.0 Report conclusions

9.1 Bats

Comprehensive surveying has demonstrated that the site is used regularly by a single common pipistrelle bat, with very little use by other species. Other than one detection of a lesser horseshoe bat on one evening, use of the site by horseshoe bats is absent.

The proposed development will present no adverse impact on the use of the site by bats.

9.2 Tree protection

The three trees at the west boundary hedge will require protection of their rooted areas during construction activities. This can be achieved by the installation of robust demarcation fencing.

10.0 Recommendations

10.1 Tree protection

The root protection area of the trees at the north-west boundary corner will be protected during the construction by the installation of robust demarcation fencing (such as Heras fencing panels). This will be positioned beneath the edge of the canopy spread of the trees and remain in place for the duration of construction works.

10.2 Biodiversity enhancement

For any new development, national planning policy seeks to reverse the current decline in biodiversity by enhancing habitats for wildlife. Details of permanent features will be provided at reserved matters stage of the development control process.

11.0 References

- Great Crested Newt Mitigation Guidelines, English Nature
- Natural England Excel GCN Method Statement
- Amphibian Identification, *Amphibian and Reptile Conservation & Fred Holmes (2014)*
- Herpetofauna Groups of Britain and Ireland (1998) *Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards*
- Bat Surveys for Professional Ecologists – Good Practice Guidelines, Bat Conservation Trust, third edition 2016;
- Bat Workers Manual, Ed: T. Mitchell-Jones & A. P. McLeish, JNCC 2001
- Bat Mitigation Guidelines version Jan 2004 A.J.Mitchell-Jones, English Nature 2004, ISBN 1 85716 781 3
- Wye Valley and Forest of Dean Bat SAC, Development Management – Horseshoe Bat activity survey and assessment guidance, Version date: July 2021
- Natural England website: www.naturalengland.org.uk
- Legislation.gov.uk website: www.legislation.gov.uk

12.0 Surveyor

Haydn Brookes BSc (Hons) REnvH MCIEH

- Over ten years' experience of conservation field study and ecological consultancy surveying, including training for Phase 1 habitat surveys, SSSI impact assessments, reptile, badger and bat surveys;
- Member of Gloucestershire Bat Group (Chairman 2018, Underground Secretary 2014-18);
- Natural Resources Wales bat licence to disturb and take (science, education and conservation) **no. S085825/1**;
- Natural England Volunteer Bat Roost Visitor licence registration number **2016-15125-CLS-CLS**;
- Natural England Level 2 Bat Class Survey Licence registration number **2016-15126-CLS-CLS**;
- Local authority Environmental Protection and Licensing Officer/Manager 2000 to 2015;
- Fully EBLV vaccinated with experience of handling many bat species. Registered bat carer.

APPENDIX 1

- All automated detector calls were analysed by AnalookW software

Survey dates	No. of nights	No. of detected calls by species		Notes	No. of horseshoe calls
		Detector 1	Detector 2		
28 th April to 12 th May	14	C. pip: 1365	--	--	0
25 th May to 31 st May	6	C. pip: 775 S. pip: 1 Myotis sp. : 2	C. pip: 44 S. pip: 49	Many indistinct 40ishHz detections for D2 – likely distant/behind mic.	0
25 th June to 2 nd July	7	C. pip: ~650	C. pip: ~104 S. pip: 1 Myotis sp.: 3 Noctule: 4	Many indistinct 40ishHz detections for D1 & D2 – likely distant/behind mic.	0
24 th July to 1 st Aug	8	C. pip: ~900 S. pip: 1 Myotis sp. : 1	C. pip: ~121 S. pip: 1 Myotis sp.: 4 BLE: 1	Many indistinct 40ishHz detections for D1 & D2 – likely distant/behind mic.	0
23 rd Sept to 8 th Oct	15	C. pip: ~800 S. pip: 1 Myotis sp.: 3 Noctule: 1	C. pip: 7 S. pip: 4 Myotis sp.: 4	Some indistinct 40ishHz detections for D1 & D2 – likely distant/behind mic.	0
15 th to 25 th Dec	10	0	0	--	0
11 th to 21 st Feb	10	0	0	--	0

APPENDIX 2 – Weather conditions during automated detector surveys

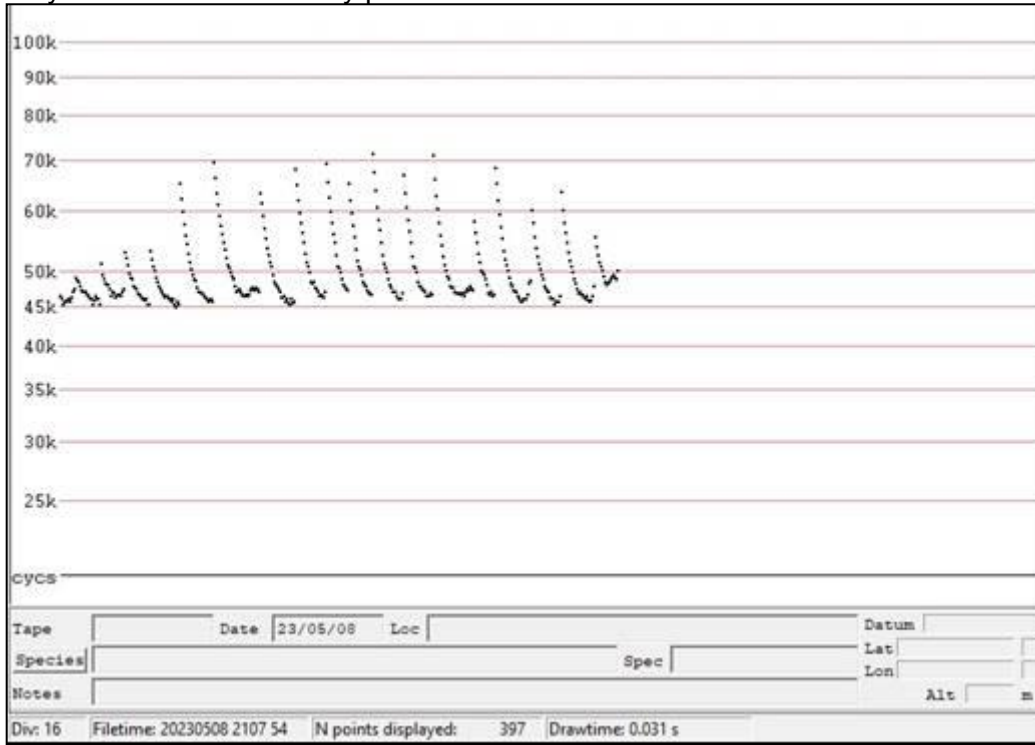
Survey dates	Weather conditions on the numbered consecutive survey nights										
	1	2	3	4	5	6	7	8	9	10	11
28 th April to 12 th May	Max: 16°C Min: 12 °C No rain	Max: 15°C Min: 12 °C Showers	Max: 14°C Min: 13 °C No rain	Max: 16°C Min: 10 °C No rain	Max: 15°C Min: 10 °C No rain	Max: 16°C Min: 14 °C Rain	Max: 15°C Min: 13 °C Showers	Max: 15°C Min: 11 °C No rain	Max: 16°C Min: 13 °C No rain	Max: 14°C Min: 13 °C Rain	Max: 11°C Min: 10 °C Showers
25 th May to 31 st May	Max: 16°C Min: 12 °C No rain	Max: 14°C Min: 5 °C No rain	Max: 18°C Min: 10 °C No rain	Max: 16°C Min: 7 °C No rain	Max: 15°C Min: 7 °C No rain	Max: 20°C Min: 10 °C No rain	Max: 20°C Min: 10 °C No rain	-	-	-	-
25 th June to 2 nd July	Max: 17°C Min: 12 °C No rain	Max: 20°C Min: 13 °C No rain	Max: 21°C Min: 15 °C No rain	Max: 20°C Min: 12 °C Light rain	Max: 20°C Min: 10 °C No rain	Max: 18°C Min: 14 °C No rain	Max: 19°C Min: 12 °C Showers	Max: 19°C Min: 13 °C No rain	-	-	-
24 th July to 1 st Aug	Max: 19°C Min: 10 °C No rain	Max: 19°C Min: 14 °C Showers	Max: 20°C Min: 13 °C No rain	Max: 20°C Min: 13 °C No rain	Max: 19°C Min: 11 °C Showers	Max: 19°C Min: 14 °C No rain	Max: 20°C Min: 14 °C Showers	Max: 15°C Min: 11 °C No rain	Max: 20°C Min: 13 °C No rain	-	-
23 rd Sept to 8 th Oct	Max: 16°C Min: 12 °C No rain	Max: 18°C Min: 13 °C No rain	Max: 18°C Min: 12°C No rain	Max: 18°C Min: 11 °C Showers	Max: 15°C Min: 10 °C No rain	Max: 17°C Min: 11 °C Rain	Max: 16°C Min: 12 °C No rain	Max: 16°C Min: 9 °C No rain	Max: 16°C Min: 13 °C No rain	Max: 16°C Min: 11 °C Showers	Max: 17°C Min: 10 °C Showers
15 th to 25 th Dec	Max: 10°C Min: 7 °C No rain	Max: 11°C Min: 8 °C No rain	Max: 11°C Min: 8 °C No rain	Max: 13°C Min: 6 °C No rain	Max: 11°C Min: 3 °C Showers	Max: 12°C Min: 6 °C No rain	Max: 14°C Min: 5 °C No rain	Max: 12°C Min: 6 °C No rain	Max: 13°C Min: 5°C Showers	Max: 12°C Min: 2 °C Showers	Max: 11°C Min: 5 °C No rain
11 th to 21 st Feb	Max: 10°C Min: 3 °C No rain	Max: 10°C Min: 2 °C No rain	Max: 12°C Min: 6 °C Light rain	Max: 14°C Min: 8 °C Showers	Max: 17°C Min: 9 °C Showers	Max: 13°C Min: 7 °C No rain	Max: 14°C Min: 5°C No rain	Max: 9°C Min: 4 °C No rain	Max: 12°C Min: 7 °C No rain	Max: 12°C Min: 9 °C No rain	Max: 13°C Min: 8 °C Showers

Appendix 3

Transect survey record sheets

Appendix 4 – Example sonograms

May 2023 – East boundary position



May 2023 – West boundary position

